SUBCHAPTER B

Solid Wastes

VOLUME 6A-2

VOLUME 6A-2a

PART 360

SOLID WASTE MANAGEMENT FACILITIES

(Statutory authority: Environmental Conservation Law, § 1-0101, art. 3, title 3, §§ 8-0113, 11-0325, 11-1905, art. 17, titles 3, 5, 7, 8, §§ 19-0301, 19-0303, 19-0304, 19-0306, 19-0310, 19-0306, 23-2305, 23-2307, 23-2308, art. 23, title 23, art. 27, titles 1, 3, 5, 7, 9, 13, §§ 27-1514, 27-1515, 52-0107, 52-0505, 54-0505, art. 70, title 1, § 71-2201, art. 71, titles 27, 35; Federal Water Pollution Control Act, 33 USC 1251, *et. seq.*)

Subpart 360-17 Regulated Medical Waste Treatment Facilities

Historical Note

Part (§ 360.1) filed Oct. 15, 1970; renum. Part 454, Title 9, filed Sept. 1971; new (§§ 360.1-360.5) filed April 28, 1972; repealed, new (§§ 360.1-360.3) filed Aug. 30, 1973; repealed, new (§§ 360.1-360.8) filed June 28, 1977; Part (*Solid Waste Management Facilities*, §§ 360.1-360.9) repealed, new Subparts (360-1—360-14) filed Oct. 28, 1988 eff. Dec. 31, 1988.

SUBPART 360-1

GENERAL PROVISIONS

Sec.

Historical Note

Subpart (§§ 360-1.1—360-1.14) filed Oct. 28, 1988 eff. Dec. 31, 1988.

§ 360-1.1 Purpose and applicability.

(a) *Purpose.* The purpose of this Part is to regulate solid waste management facilities, other than hazardous waste management facilities that are subject to Parts 372, 373, 376, or Subparts 374-1 and 374-3 of this Title and facilities managing radioactive materials, naturally-occurring and accelerator-produced radioactive (NARM) waste and low-level radioactive waste that are subject to Parts 380, 382 and 383 of this Title and located partially or wholly within the State of New York. Hence, except where the context indicates otherwise, the term *solid waste management facility* refers to facilities that are not subject to Parts 372, 373, 376, 380, 382, 383 or Subparts 374-1 and 374-3 of this Title.

(b) *Applicability.* All solid waste other than low-level radioactive waste and NARM waste as defined in Part 382 of this Title which is required to be disposed of at a land disposal facility subject to regulation under Parts 382 and 383 of this Title and other than hazardous waste as defined in Part 371 which is required to be managed at a facility subject to regulation under Parts 372, 373, 376, or Subparts 374-1 and 374-3 of this Title must be transferred, processed, recovered, stored, reclaimed or disposed of in a manner consistent with this Part. However, the management of nonhazardous solid waste in a portion of a facility that also handles hazardous waste is subject to the requirements of Part 373 of this Title unless exempted under that Part. Any facility authorized under Part 373, 382, 383, Subpart 374-1 or 374-3 of this Title is not regulated under this Part. Regulations governing collection and transportation of industrial-commercial waste, waste tires, regulated medical waste, septage and sludges are set forth in Part 364 of this Title; regulations governing collection and transportation of used oil are set forth in Part 364 and

section 374-2.5 of this Title; however, disposal activities involving those wastes are regulated under this Part and Parts 373 and 374 of this Title.

Historical Note

Sec. filed Oct. 28, 1988; amds. filed: Aug. 5, 1993; March 13, 2006 eff. 60 days after filing. Amended (a), (b).

§ 360-1.2 Definitions.

The following terms have the following specific meanings when used in this Part:

(a) *Solid waste and related terms.* (1) *Solid waste* means, except as described in paragraph (4) of this subdivision, any garbage, refuse, sludge from a wastewater treatment plant, water supply treatment plant, or air pollution control facility and other discarded materials including solid, liquid, semi-solid, or contained gaseous material, resulting from industrial, commercial, mining and agricultural operations, and from community activities, but does not include solid or dissolved materials in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges that are point sources subject to permit under 33 USC 1342, as amended (86 Stat. 880), or source, special nuclear or by-product material as defined by the Atomic Energy Act of 1954, as amended (68 Stat. 923) except as may be provided by existing agreements between the State of New York and the government of the United States (see section 360-1.3 of this Subpart).

(2) A material is discarded if it is abandoned by being:

(i) disposed of;

(ii) burned or incinerated, including being burned as a fuel for the purpose of recovering usable energy; or

(iii) accumulated, stored or physically, chemically or biologically treated (other than burned or incinerated) instead of or before being disposed of.

(3) A material is disposed of if it is discharged, deposited, injected, dumped, spilled, leaked or placed into or on any land or water so that such material or any constituent thereof may enter the environment or be emitted into the air or discharged into groundwater or surface water.

(4) The following are not solid waste for the purposes of this Part:

(i) domestic sewage;

(ii) any mixture of domestic sewage and other wastes that pass through a sewer system to a publicly owned treatment works for treatment, except for any material that is introduced into such system in order to avoid the provisions of this Part;

(iii) industrial wastewater discharges that are actual point source discharges subject to permits under ECL article 17. Industrial wastewaters, while they are being collected, stored or treated before discharge, and sludges that are generated by industrial wastewater treatment are solid wastes and are regulated by this Part;

(iv) irrigation return flows;

(v) radioactive materials which are source, special nuclear or byproduct material as defined by the Atomic Energy Act of 1954, as amended (see section 360-1.3 of this Subpart);

(vi) materials subject to *in situ* mining techniques which are not removed from the ground as part of the extraction process;

(vii) discarded materials that the department has determined are being beneficially used pursuant to section 360-1.15 of this Subpart;

(viii) materials including source separated recyclables that have been traditionally incorporated as a secondary material in the manufacturing process. In this context, manufacturing processes may include, but not be limited to, the production of: inorganic chemicals; iron, steel and iron and steel products; leather and leather products; nonferrous metals and nonferrous metal products; organic chemicals; plastic products and plastic resins; pulp and paper products; rubber and miscellaneous plastic products; textiles and textile products; household and business products; and, transportation equipment; and

(ix) material dredged or excavated from the waters of the State and placed or disposed in accordance with a permit(s) issued under article 15, 24, 25, or 34 of the Environmental Conservation Law or a water quality certification issued under section 401 of the Federal Water Pollution Control Act to the extent that both the excavation and disposal of the material is regulated by such permit(s) or certification. However, any excavation or disposal not regulated by such permits remains subject to regulation under this Part. Dredge or excavated material generated by manufacturing or industrial processes are industrial waste subject to regulation under this Part.

(b) *Other definitions of general applicability.* Unless otherwise noted, all words and terms contained in this Part are defined by their plain meaning. The terms defined in this subdivision appear throughout this Part. Additional terms specific to a Subpart are defined in that Subpart.

(1) *Above ground tank* means any stationary tank in which the entire tank volume is above final ground elevation or any tank that can be inspected in a subterranean vault. For the purpose of this Part, the bottom of the aboveground tank can be visually inspected.

(2) *Accuracy* means a measurement of the bias resulting from the sampling and analytical processes. Accuracy may be assessed, in part, by evaluating the results of field/trip blanks for field sampling and by using known and blind quality control samples and matrix spikes for analytical work.

(3) *Active life* means that period of time during which solid waste is or will be routinely and regularly received. In the case of landfills, active life ends at completion of closure activities.

(4) *Active portion* means that portion of a solid waste management facility where treatment, storage or disposal operations are being or have been conducted and which is not an inactive or, in the case of landfills, a closed portion.

(5) *Airport* means a public-use airport open to the public without prior permission and without restrictions within the physical capabilities of available facilities; and an active military airfield.

(6) *Apparent opening size* means the number of the U.S. Bureau of Standards sieve, or its opening size in millimeters or inches, having openings closest in size to the diameter of uniform particles which will allow five percent or less by weight to pass through.

(7) *Applicant* means the person applying for a permit under this Part and must be the owner or operator of the solid waste management facility.

(8) *Approved design capacity* means the average daily tonnage to be received at the solid waste management facility during the quarter in which the most waste is anticipated to be received, as approved by the department. For solid waste incinerators or refuse-derived fuel processing facilities, or pyrolysis facilities, *approved design capacity* means the annual rated throughput capacity of the unit or units for treatment of solid waste as approved by the department.

(9) *Approved design volume* means the maximum in-place volume of solid waste, including cover material, to be received at the solid waste management facility during its active life, as approved by the department.

(10) *Aquifer* means a consolidated or unconsolidated geologic formation, group of formations or part of a formation capable of yielding a significant amount of groundwater to wells or springs. Two types of highly productive aquifers in unconsolidated (nonbedrock) formations are defined in subparagraphs (i) and (ii) of this paragraph. The ultimate determination of the presence and extent of these aquifers rests with the department.

(i) *Primary water supply aquifer* or *primary aquifer* means a highly productive aquifer which is presently used as a source of public water supply by major municipal water supply systems.

(ii) *Principal aquifer* means a formation or formations known to be highly productive or deposits whose geology suggests abundant potential water supply, but which is not intensively used as a source of water supply by major municipal systems at the present time. Some water supply development has taken place in some of these areas but it is generally not as intensive as in the primary aquifer areas.

(11) *Asbestos waste* for the purposes of this Part is friable solid waste that contains more than one percent asbestos by weight and can be crumbled, pulverized or reduced to powder, when dry, by hand pressure. *Asbestos waste* also includes any asbestos-containing solid waste that is collected in a pollution control device designed to remove asbestos.

(12) *As-built* means a record copy of all drawings, specifications, addenda, written amendments, change orders, work directive changes, field orders and written interpretations and clarifications in good order and annotated to show all changes made during construction. These record documents, together with all approved samples and shop drawings that show the character and scope of work performed, constitute as-builts.

(13) *Ash residue* means all the solid residue and any entrained liquids resulting from the combustion of solid waste or solid waste in combination with fossil fuel at a solid waste incinerator, including bottom ash, boiler ash, fly ash and the solid residue of any air pollution control device used at a solid waste incinerator.

(14) *Authorized representative* means the individual responsible for the overall operation of a solid waste management facility or an operational unit of a facility, such as the plant manager, superintendent or individual of equivalent responsibility who has authority and knowledge to make and implement decisions regarding operating conditions at the facility.

(15) *Automobile dismantler* means a facility that processes motor vehicles by dismantling or processing their associated component parts after dismantling.

(16) *Automobile junk yard* means a facility that stores, takes apart and scavenges parts from motor vehicles for subsequent sale or reuse.

(17) *Baseline parameters* means the list of standard chemical species or other samples listed in the Baseline Parameters Table of the Water Quality Analysis Tables in section 360-2.11(d)(6) of this Part.

(18) *Bedrock* means cemented or consolidated earth materials exposed on the earth's surface or underlying unconsolidated earth materials, including decomposed and weathered rock and saprolite.

(19) *Bird hazard* means an increase in the likelihood of bird/aircraft collisions that may cause damage to the aircraft or injury to its occupants, attributable to the solid waste management facility attracting birds.

(20) *Bottom ash* means the ash residue remaining after combustion of solid waste or solid waste in combination with fossil fuel in a solid waste incinerator that is discharged through and from the grates, combustor or stoker.

(21) *By or on behalf of a municipality,* in the context of a permit application that entails the construction of a solid waste management facility, means:

(i) a municipality is an applicant or a co-applicant with one or more other applicants;

(ii) the applicant is not a municipality but the applicant's project is partially funded by the 1972 Environmental Quality Bond Act or the Solid Waste Management Act of 1988, or constructed pursuant to and in accordance with a construction contract with a municipality pursuant to Town, Village, County or General Municipal Law; or

(iii) in the case of a proposed facility with a proposed service area that only includes municipalities within a single planning unit, the applicant is not a municipality but has a contractual or other relationship with one or more municipalities within the planning unit, such that the capacity of the proposed facility will be designed, used, or designated primarily (more than two-thirds) for solid waste received from those municipalities; in the case of a proposed facility with a proposed service area that includes municipalities from two or more planning units, the applicant is not a municipality but has a contractual or other relationship with one or more municipalities in any one planning unit, such that the capacity of the proposed facility will be designed, used or designated primarily (more than two-thirds) for solid waste received from those municipalities. Examples of contractual or other relationships include, but are not limited to, put-or-pay contracts, waste supply guarantees, long-term contracts for the delivery of waste, waste processing guarantees, long-term leases and flow control ordinances.

(22) *Bypass waste* means any solid waste that is either within the control of the operator of a solid waste incinerator or refuse-derived fuel processing facility or pyrolysis facility, or

within the control of another person, that is destined for treatment at the facility but cannot be so treated, and includes:

(i) *downtime waste,* meaning any treatable or burnable solid waste accumulated during a scheduled or unscheduled maintenance period of the facility; or

(ii) *excess waste,* meaning solid waste which cannot be treated because the facility is operating at the approved design capacity.

For purposes of this definition, *control* means control exercised by contract, local law or any other means.

(23) *Cathodic protection* means corrosion protection for a metal tank or pipe caused by a continuous electrical current flowing from one or more electrodes or a sacrificial anode to the protected structure.

(24) *Certification* means a statement of professional opinion based upon investigation, analysis, knowledge and belief that is stated to be true and accurate.

(25) *Closed portion* means that portion of a solid waste management facility which has been closed in accordance with the department-approved closure plan for such facility and all applicable closure requirements.

(26) *Coal combustion* means the combustion of coal or the combustion of coal along with department-approved alternate fuels, such as tires, at an energy generation facility provided that alternate fuels comprise no greater than 30 percent of the fuel burned at the facility.

(27) *Coefficient of permeability* and *hydraulic conductivity* mean the rate of laminar flow of water through a unit cross-sectional area of a porous medium under a unit hydraulic gradient at a standard temperature.

(28) *Combined ash* means the mixture of bottom ash and fly ash.

(29) *Combustion* means the thermal treatment of solid waste in a device which uses elevated temperatures as the primary means to change the chemical, physical, or biological character or composition of the waste. Examples of combustion processes include incineration, pyrolysis and fluidized bed.

(30) *Commercial waste* means solid waste generated by stores, offices, restaurants, warehouses and nonmanufacturing activities at industrial facilities.

(31) *Commissioner* means the Commissioner of Environmental Conservation or his duly designated representative.

(32) *Comparability* means a qualitative parameter expressing the confidence with which one data set can be correlated with another based upon, among other criteria, the similarities of sample collection and analysis techniques from one sampling event to another.

(33) *Completeness* means the percentage of measurements made which are judged to be valid measurements and indicate the contaminant level of the medium being sampled.

(34) *Composting facility* means a solid waste management facility used to provide aerobic, thermophilic decomposition of solid organic constituents of solid waste to produce a stable, humus-like material.

(35) *Confined aquifer* means an aquifer bound above and below by impermeable beds or by beds of distinctly lower permeability than that of the aquifer itself; or an aquifer containing groundwater whose potentiometric head lies above the top of the aquifer itself.

(36) *Construction* means any physical modification to the site at which an existing or proposed solid waste management facility is or will be located, including, but not limited to site preparation (*e.g.*,clearing and grading, excavation of borrow material for daily cover, etc.).

(37) *Construction certification report* means a report submitted to the department upon completion of the construction of a solid waste management facility which includes the resulting information prepared in accordance with the requirements of this Part.

(38) *Construction and demolition (C&D) debris* means uncontaminated solid waste resulting from the construction, remodeling, repair and demolition of utilities, structures and roads; and uncontaminated solid waste resulting from land clearing. Such waste includes, but is not

limited to bricks, concrete and other masonry materials, soil, rock, wood (including painted, treated and coated wood and wood products), land clearing debris, wall coverings, plaster, drywall, plumbing fixtures, nonasbestos insulation, roofing shingles and other roof coverings, asphaltic pavement, glass, plastics that are not sealed in a manner that conceals other wastes, empty buckets 10 gallons or less in size and having no more than one inch of residue remaining on the bottom, electrical wiring and components containing no hazardous liquids, and pipe and metals that are incidental to any of the above. Solid waste that is not C&D debris (even if resulting from the construction, remodeling, repair and demolition of utilities, structures and roads and land clearing), includes but is not limited to asbestos waste, garbage, corrugated container board, electrical fixtures containing hazardous liquids such as fluorescent light ballasts or transformers, fluorescent lights, carpeting, furniture, appliances, tires, drums, containers greater than 10 gallons in size, any containers having more than one inch of residue remaining on the bottom and fuel tanks. Specifically excluded from the definition of construction and demolition debris is solid waste (including what otherwise would be construction and demolition debris) resulting from any processing technique, other than that employed at a department-approved C&D debris processing facility, that renders individual waste components unrecognizable, such as pulverizing or shredding. Also, waste contained in an illegal disposal site may be considered C&D debris if the department determines that such waste is similar in nature and content to C&D debris.

(39) *Construction and demolition debris processing facility* means a processing facility that receives and processes construction and demolition debris by any means.

(40) *Construction quality assurance (CQA)* means a planned system of activities that provides assurance that the facility was constructed as specified in the design. CQA includes inspections, verifications, audits, and evaluations of materials and workmanship necessary to determine and document the quality of the constructed facility. CQA refers to measures taken by the CQA organization to assess if the installer or contractor is in compliance with the plans and specifications and permit for the project. This can also include quality control for those actions taken before construction to ensure that the materials chosen and workmanship comply with the department-approved engineering plans, reports and specifications.

(41) *Construction quality control (CQC)* means a planned system of inspections that are used to directly monitor and control the quality of a construction project. CQC includes those actions normally performed by the installer to achieve the highest quality in the constructed or installed system. CQC refers to measures taken by the installer or contractor to determine compliance with the requirements for materials and workmanship as stated in the plans and specifications for the project.

(42) *Container* means any portable device in which a material is stored, transported, treated, disposed of or otherwise handled.

(43) *Contamination,* as applied to surface water and groundwater, means an exceedance of water quality standards specified in Part 701, 702 or 703 of this Title or groundwater protection standards which is attributable to the solid waste management facility; a significant rise in the measured parameters above existing groundwater quality attributable to the solid waste management facility or a statistically significant rise in the concentration of measured parameters attributable to the solid waste management facility using statistical tests specified or approved by the department.

(44) *Contingency plan* means a document describing organized, planned and technically coordinated and financially feasible courses of action to be followed in case of emergency or other special conditions including but not limited to, equipment breakdowns, fire, odor, vectors, explosion, spills, receipt or release of hazardous or toxic materials or substances, groundwater, surface water or air contamination attributable to a solid waste management facility and other incidents that could threaten human health or safety or the environment.

(45) *Contingency water quality* means the chemical composition of ground or surface water when contamination has been detected in environmental monitoring points at a solid waste management facility.

(46) *Cover material* means soil or other suitable material, or a combination of same, acceptable to the department that is used to cover compacted solid waste in a landfill.

(47) *Critical stratigraphic section* means all stratigraphic units, both unconsolidated deposits and bedrock including but not limited to the unsaturated zone, uppermost aquifer and first water-bearing unit into which facility-derived contaminants that escape from a solid waste management facility might reasonably be expected to enter and cause contamination during the active life or within 30 years following closure of the facility.

(48) *Daily cover* means a compacted layer of at least six inches of cover material, unless otherwise approved by the department, that is placed on all exposed solid waste at the end of each working day of operation at a landfill.

(49) *Department* means the New York State Department of Environmental Conservation.

(50) *Dike* means an embankment or ridge of either natural or synthetic materials used to prevent, control or confine the movement of liquids or solids.

(51) *Discharge* means the accidental or intentional spilling, leaking, pumping, pouring, emitting, emptying or dumping of any solid waste, or solid waste constituent, including leachate, into or on any air, land or water.

(52) *Disposal facility* means a solid waste management facility or part of one in or on which solid waste is intentionally placed, including any land or water, and at which solid waste will remain after closure.

(53) *Domestic sewage* means water-carried human and animal wastes from residences, buildings, industrial establishments or other places, together with such groundwater infiltration and surface waste as may be present.

(54) *ECL* means chapter 43-B of the Consolidated Laws of the State of New York, entitled the Environmental Conservation Law.

(55) *Endangered* or *threatened species* has the meaning given in Part 182 of this Title.

(56) *Energy recovery* means the treatment by which energy is extracted and marketed from solid waste in excess of that required to operate the facility.

(57) *Energy recovery incinerator* means an incinerator in which household waste and/or nonhazardous industrial/commercial waste are combusted for energy recovery.

(58) *Environmental monitoring points* means designated locations, monitoring wells and devices for sampling air, soil, groundwater or surface water outside of the containment system of a solid waste management facility.

(59) *Existing water quality* means the chemical composition of ground or surface water before deposition of solid waste in a solid waste management facility.

(60) *Expanded parameters* means the list of standard chemical species or other samples listed in the Expanded Parameters Table of the Water Quality Analysis Tables in section 360-2.11(d)(6) of this Part.

(61) *Expansion* means, in the case of solid waste incinerators, transfer stations, processing and construction and demolition debris processing facilities, an increase in the approved design capacity beyond the limits approved in the permit; and, in the case of all other solid waste management facilities, except for landfills located in Nassau and Suffolk Counties, means a horizontal or vertical increase in size of a solid waste management facility beyond the limits approved in the permit. The term *expansion* is also defined in Subpart 360-8 of this Part, for the specific purposes of that Subpart.

(62) *Facility monitoring points* means designated locations for sampling leachate or other media within the containment system of a solid waste management facility.

(63) *Farm* means the raising or harvesting of any agricultural or horticultural commodity through the cultivation of the soil, aquacultural product or the raising, shearing, feeding, caring for, training or management of livestock, bees, poultry, furbearing animals, fish, domestic animals or wildlife.

(64) *Fault* means a fracture or a zone of fractures in any geologic materials or formation along which there has been displacement of the sides relative to one another parallel to the fracture.

(65) *First water bearing unit* means the first major water bearing geologic unit, group of units or portion of a unit likely to be impacted by contamination from the facility. This includes the migration pathway to that unit and extends to the first demonstrated aquiclude, aquitard or other demonstrable change in groundwater flow which will impede contaminant migration to lower units.

(66) *Final cover system* means an engineered layer of materials approved by the department that is placed on any surface of a landfill where no additional solid waste will be deposited within one year and serves to restrict infiltration, support vegetation, control landfill gas and promote surface drainage.

(67) *Floodplain* means the land susceptible to being inundated by a flood that has a one percent or greater chance of recurring in any given year (or 100-year floodplain).

(68) *Fly ash* means the ash residue from the combustion of solid waste or solid waste in combination with fossil fuel that is entrained in the gas stream of the solid waste incinerator and removed by the air pollution control equipment.

(69) *Food chain crops* means tobacco, crops grown for human consumption and crops grown for feed for animals whose products are consumed by humans.

(70) *Food processing waste* means waste resulting solely from the processing of fruits, vegetables, grains, dairy products and related food products. *Food processing waste* includes but is not limited to:

(i) vegetative residues that are recognizable as part of a plant, fruit or vegetable (*e.g.*, corn husks, cabbage leaves, grape and apple pomace, bean snips, and carrot, tomato and potato skins); or

(ii) any solid, semisolid or liquid food sludge or residue that is nonrecognizable but identifiable by analysis or is certified as solely a byproduct of plant, fruit, vegetable or dairy processing (*e.g.*, milk and cheese whey, whey permeate or lactose, brewery and winery waste, and byproducts from canned, frozen or preserved fruit and vegetable processing operations).

(71) *Freeboard* means the vertical distance between the lowest elevation of the top of a tank, surface impoundment, or dike, and the highest level of the surface of the solid waste contained therein.

(72) *Free liquids* means liquids which readily separate from the solid portion of a solid waste under ambient temperature and pressure.

(73) *Garbage* means putrescible solid waste including animal and vegetable waste resulting from the handling, storage, sale, preparation, cooking or serving of foods. Garbage originates primarily in home kitchens, stores, markets, restaurants and other places where food is stored, prepared or served.

(74) *Generator* means any person whose act or process produces a solid waste or whose act first causes solid waste to be subject to regulation under this Title.

(75) *Geocomposite* means a manufactured material using geotextiles, geogrids, geomembranes or combinations of same in a laminated or composite form.

(76) *Geogrid* means a deformed or nondeformed netlike polymeric material used with foundation, soil, rock, earth or any other geotechnical engineering-related material as an integral part of the structure or system to provide reinforcement to soil slopes.

(77) *Geomembrane* means an essentially impermeable membrane used with foundation, soil, rock, earth or any other geotechnical engineering-related material as an integral part of a structure or system designed to limit the movement of liquid or gas in the system.

(78) *Geonet* means a type of a geogrid that allows planar flow of liquids and serves as a drainage system.

(79) *Geosynthetics* means the generic classification of all synthetic materials used in geotechnical engineering applications, including geotextiles, geogrids, geomembranes and geocomposites.

(80) *Geotextile* means any permeable textile used with foundation, soil, rock, earth or any other geotechnical engineering-related material as an integral part of a structure or system designed to act as a filter to prevent the flow of soil fines into drainage systems, to provide planar flow for drainage, or to serve as a cushion to protect geomembranes or to provide structural support.

(81) *Groundwater* means water below the land surface in a saturated zone of soil or rock. This includes perched water separated from the main body of groundwater by an unsaturated zone.

(82) *Groundwater table* means the surface of a body of unconfined groundwater between the zone of saturation and zone of aeration at which the pressure is equal to that of the atmosphere. Groundwater table does not include the potentiometric head level in a confined aquifer.

(83) *Hazardous waste* means a hazardous waste as defined in Part 371 of this Title.

(84) *Household medical waste* means household solid waste which, but for its point of generation, would be a regulated medical waste.

(85) *Household hazardous waste* means household waste which but for its point of generation, would be a hazardous waste under Part 371 of this Title, including pesticides as defined in ECL, article 33.

(86) *Household waste* means solid waste discarded from single or multiple dwellings, hotels, motels, campsites, public and private recreation areas, ranger stations and other residential sources.

(87) *Incinerator* means an enclosed device using controlled flame combustion to thermally break down solid waste, including refuse-derived fuel, to an ash residue that contains little or no combustible materials.

(88) *Industrial waste* means solid waste generated by manufacturing or industrial processes. Such processes may include, but are not limited to the following: electric power generation; fertilizer/agricultural chemicals; inorganic chemicals; iron and steel manufacturing; leather and leather products; nonferrous metals manufacturing/foundries; organic chemicals; plastics and resins manufacturing; pulp and paper industry; rubber and miscellaneous plastic products; stone, glass, clay and concrete products; textile manufacturing; transportation equipment; and water treatment. The forms of such wastes are exemplified by but not limited to: liquids such as acids, alkalis, caustics, leachate, petroleum (and its derivatives), and processes or treatment wastewaters; sludges which are semi-solid substances resulting from process or treatment operations or residues from storage or use of liquids; solidified chemicals, paints or pigments; and dredge spoil generated by manufacturing or industrial processes, foundry sand, and the end or by-products of incineration or other forms of combustion. This term does not include oil or gas drilling, production, and treatment wastes (such as brines, oil, and frac fluids); overburden, spoil, or tailings resulting from mining; or solution mining brine and insoluble component wastes.

(89) *Infiltration* is water ordinarily derived from precipitation that permeates a soil layer or solid waste.

(90) *Installer* means the person responsible for the field handling, storing, placing, seaming and other installation aspects of geosynthetic panels.

(91) *Intermediate cover* means a compacted layer of at least 12 inches of cover material, unless otherwise approved by the department, placed where no additional solid waste has been deposited or will be deposited within a period of 30 days.

(92) *Intermediate processor* means any person who receives separated recyclables only from registered recyclables handling and recovery facilities within New York State or facilities

otherwise acceptable to the department if located outside of New York State, and then markets same to other intermediate processors, brokers or manufacturers.

(93) *Land application facility* means a site where solid waste is applied to the soil surface or injected into the upper layer of the soil to improve soil quality or provide plant nutrients. Solid waste suitable for this purpose includes, but is not limited to, certain food processing waste, sewage treatment plant sludge and septage.

(94) *Land clearing debris* means vegetative matter, soil and rock resulting from activities such as land clearing and grubbing, utility line maintenance or seasonal or storm-related cleanup such as trees, stumps, brush and leaves and including wood chips generated from these materials. Land clearing debris does not include yard waste which has been collected at the curbside.

(95) *Landfill* means land or a disposal facility or part of one where solid waste or its residue after treatment is intentionally placed and which is not a land application facility, surface impoundment, injection well or waste pile.

(96) *Landfill gas recovery facility* means a facility in which gases produced from the decomposition of solid wastes are collected for the purpose of energy recovery.

(97) *Landfill subcell* means a discrete portion of a landfill which uses a liner and leachate collection and removal system to provide operational isolation from adjacent subcells or solid waste.

(98) *Leachate* means any solid waste in the form of a liquid, including any suspended components in the liquid, that results from contact with or passage through solid waste.

(99) *Lift* means the vertical thickness of compacted solid waste and the cover material immediately above it.

(100) *Liner system* means a continuous layer of natural and/or synthetic materials, beneath or on the sides of a surface impoundment, landfill, or landfill cell, that restricts the downward or lateral escape of solid waste, any constituents of such waste, or leachate and that complies with this Part.

(101) *Lower explosive limit* means the lowest percentage by volume of a mixture of explosive gases which will propagate a flame in air at 25°C and atmospheric pressure.

(102) *Metal salvage facility* means a facility that separates for recycling or reuse various types of metals from other types of metals or from equipment, appliances and fixtures.

(103) *Mixed solid waste* means combinations of putrescible and nonputrescible waste materials.

(104) *Monofill* means a landfill or landfill cell into which only one type of waste, as recognized by the department, is placed.

(105) *Municipality* means a county, village, town, city, any designated agency thereof, a solid waste management district, a public benefit corporation having power granted otherwise than under ECL, article 51, to construct, operate and maintain a solid waste management facility, including a public corporation created pursuant to agreement or compact with another state; or any combination thereof.

(106) *Municipal solid waste* means combined household, commercial and institutional waste materials generated in a given area.

(107) *Off-site* means any property which is not on-site.

(108) *On-ground tank* is a tank that is situated in such a way that its bottom is on the same elevation as the adjacent land surface. For the purposes of this Part, the entire bottom surface of the tank cannot be visually inspected.

(109) *On-site* means the same or geographically contiguous property under the control or ownership of the same person. It may be divided by public or private rights-of-way, provided the entrance and exit between the properties is at a crossroads intersection, and access is gained by crossing, as opposed to going along, the right-of-way. Noncontiguous properties owned by the same person, but connected by a right-of-way which that person controls and to which the public does not have access, are also considered on-site property.

(110) *Open burning* means the combustion of any material or solid waste in the absence of any of the following characteristics:

(i) control of combustion air to maintain adequate temperature for efficient combustion;

(ii) containment of the combustion reaction in an enclosed device to provide sufficient residence time and mixing for complete combustion; or

(iii) control of emissions of the gaseous combustion products.

(111) *Operation* means, in the case of a solid waste incinerator or processing facility or composting facility, operation after startup; and in the case of any other solid waste management facility, operation of the facility after initial receipt of solid waste.

(112) *Operational water quality* means the chemical quality of ground or surface water once deposition of solid waste has begun at the solid waste management facility.

(113) *Operator* or *facility operator* means the person responsible for the overall operation of a solid waste management facility or a part of a facility with the authority and knowledge to make and implement decisions, or whose actions or failure to act may result in noncompliance with the requirements of this Part or the department-approved operating conditions at the facility or on the property on which the facility is located.

(114) *Owner* means a person who owns a solid waste management facility or part of one.

(115) *Partial closure* means the closure of a discrete part of a solid waste management facility in accordance with the applicable closure requirements of this Part.

(116) *Permittee* means the person who has received a permit under this Part.

(117) *Person* means any individual, public or private corporation, political subdivision, government agency, authority, department or bureau of the State, municipality, industry, partnership, association, firm, trust, estate or any other legal entity whatsoever.

(118) *Point source* means any discernible, confined and discrete conveyance from which pollutants are or may be discharged. Sources of discharge include, but are not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation or vessel or other floating craft. This term does not include return flow from irrigated lands.

(119) *Precision* means a quantitative measure of the variability of a set of analytical data compared to their average value. Precision is generally stated in terms of standard deviation, but other estimates such as coefficient of variation (relative standard deviation), range (maximum value minus minimum value) and relative range can be used.

(120) *Processing facility* means a combination of structures, machinery or devices, other than collection and transfer vehicles, utilized to reduce or alter the volume or the chemical or physical characteristics of solid waste through processes such as, but not limited to separating, crushing, screening, baling or shredding before its delivery to any solid waste management facility.

(121) *Project engineer* means the official representative of the permittee who is licensed to practice engineering in the State of New York, who is responsible for observing, documenting, and certifying that activities related to the quality assurance of the construction of the solid waste management facility conform to the engineering design contained in the permit to construct and operate and the regulations specified in this Part. All certifications must bear the seal, signature and the date of certification.

(122) *Publicly owned treatment works (POTW)* means any device or system used in the treatment (including recycling and reclamation) of municipal sewage or industrial wastes of a liquid nature that is owned by a state or municipality (as defined in section 502[4] of the Federal Water Pollution Control Act, as amended; see section 360-1.3 of this Part). This definition includes sewers, pipes or other conveyances only if they convey wastewater to a publicly owned treatment works providing treatment.

(123) *Public water supply* means a public water system as defined in the State Sanitary Code (10 NYCRR Part 5).

(124) *Public water supply stabilized cone of depression area* means the surface and subsurface area between a public water supply well or wellfield and the 99 percent theoretical maximum extent of the stabilized cone of depression of that well or wellfield considering all flow system boundaries and seasonal fluctuations.

(125) *Putrescible* means the tendency of organic matter to decompose with the formation of malodorous byproducts. For the purpose of this Part, wood is not considered to be putrescible.

(126) *Putrescible waste* means solid waste that contains organic matter capable of being decomposed by microorganisms and of such a character and proportion as to be capable of attracting or providing food for disease vectors.

(127) *Qualified groundwater scientist* means a scientist or engineer who has received a baccalaureate or post-graduate degree in the natural sciences or engineering and has sufficient training and experience in groundwater hydrology and related fields to enable that individual to make sound professional judgments regarding hydrogeological investigations, groundwater monitoring, contaminant fate and transport and corrective action.

(128) *Recover* means any act or process by which recyclables or reusables are separated from the solid waste stream.

(129) *Recycle* means to use recyclables in manufacturing a product.

(130) *Recyclable* means solid waste that exhibits the potential to be used repeatedly.

(131) *Recyclables handling and recovery facility* means a solid waste processing facility, other than collection and transfer vehicles, at which nonputrescible recyclables are separated from the solid waste stream or at which previously separated nonputrescible recyclables are processed.

(132) *Refuse* means anything putrescible or nonputrescible that is discarded or rejected as useless or worthless.

(133) *Refuse-derived fuel* means treated solid waste that is used as a fuel. Off-products of pyrolysis are not considered refuse-derived fuel.

(134) *Refuse-derived fuel processing facility* means the combination of structures, machinery or devices utilized to reduce or alter the volume of mixed solid waste before delivery to a solid waste incinerator or pyrolysis facility.

(135) *Regulated wetland* means a wetland area regulated pursuant to ECL, article 24 (Freshwater Wetlands) or ECL, article 25 (Tidal Wetlands).

(136) *Remediation* means the actions taken to correct or prevent a release or threatened release of a contaminant into the environment.

(137) *Representativeness* means the degree to which analytical data accurately and precisely represent parameter variations at a sample location or the level of contaminants in the medium being sampled (*i.e.*, groundwater or surface water).

(138) *Representative sample* means a sample collected from a population or whole that exhibits the average or typical properties of the larger population or whole.

(139) *Residuals* means sludge, sewage sludge, septage, air pollution control facility waste or any other such waste having similar characteristics or effects; and solid waste remaining after the processing of solid waste by composting methods that was not suitable for use.

(140) *Residue* means all solid waste remaining after treatment and, includes but is not limited to ash residue and other solid waste that is not recovered or combusted.

(141) *Resource recovery facility* means a combination of structures, machinery or devices utilized to separate, process, modify, convert, treat or prepare collected solid waste so that component materials or substances or recoverable resources may be recovered or used as a raw material or energy source.

(142) *Routine parameters* means the standard chemical species or other samples listed in the Routine Parameters Table of the Water Quality Analysis Tables in section 360-2.11(d)(6) of this Part.

(143) *Run-off* means any rainwater, leachate, or other liquid that drains over land from any part of a solid waste management facility.

(144) *Run-on* means any rainwater, leachate or other liquid that drains over land onto any part of a solid waste management facility.

(145) *Salvage area* means a controlled, segregated area at a solid waste management facility where the facility owner or operator authorizes salvaging.

(146) *Salvaging* means the incidental removal of solid waste for reuse under the control of the facility owner or operator.

(147) *Saprolite* means disintegrated and decomposed rock that lies in its original place.

(148) *Saturated zone* means that part of the earth's crust in which the interconnected voids are completely filled with water at a pressure equal to or greater than atmospheric pressure. The interface between the saturated zone and the unsaturated zone is the groundwater table.

(149) *Scrap metal processor* means a facility that processes only scrap metal materials destined for recycling.

(150) *Sensitive environment* means a site where a solid waste management facility poses a specific threat to the environment or to the public health because a small contaminant release could have a significant impact. This may be due to proximity to other sensitive environments which include, but are not limited to: principal or primary water supply aquifers and public water supply wellhead areas; areas requiring special protection (such as regulated wetlands or the critical habitat of an endangered species); areas containing highly permeable soils or bedrock formations (such as karst carbonate formations or bedrock formations that are serving as major public water supply aquifers and which can readily be contaminated from the surface); or other special circumstances.

(151) *Septage* means the contents of a septic tank, cesspool, or other individual sewage treatment facility that receives domestic sewage wastes.

(152) *Service area* means the geographical area serviced by a solid waste management facility from which solid waste is generated and collected for delivery to that facility.

(153) *Sewage sludge* means the accumulated semi-solids or solids resulting from treatment of wastewaters from publicly or privately owned or operated sewage treatment plants. Sewage sludge does not include grit or screenings or ash generated during the incineration of sewage sludge.

(154) *Site* means the geographically contiguous property of a solid waste management facility and includes the land area of that facility and its access roads, appurtenances and land buffer areas.

(155) *Sludge* means any solid, semi-solid or liquid waste generated from a wastewater treatment plant, water supply treatment plant or air pollution control facility but does not include the treated effluent from a wastewater treatment plant.

(156) *Soil moisture holding capacity* and *field capacity* mean the ratio of the total volume of water that a soil retains after gravity drainage to the total volume occupied by the soil.

(157) *Solid waste incinerator* means an incinerator combusting solid waste or solid waste in combination with fossil fuel with or without energy recovery.

(158) *Solid waste management facility* means any facility employed beyond the initial solid waste collection process and managing solid waste, including but not limited to: storage areas or facilities; transfer stations; rail-haul or barge-haul facilities; landfills; disposal facilities; solid waste incinerators; refuse-derived fuel processing facilities; pyrolysis facilities; C&D debris processing facilities; land application facilities; composting facilities; surface impoundments; used oil storage, reprocessing, and rerefining facilities; recyclables handling and recovery facilities; waste tire storage facilities; and regulated medical waste treatment facilities. The term includes all structures, appurtenances, and improvements on the land used for the management or disposal of solid waste.

(159) *Solid waste incinerator process train* means the solid waste incineration chute to stack equipment. This equipment would generally include a feed chute or charging hopper, combustion system, boiler, air pollution control devices and ash residue system.

(160) *Source separation* means dividing solid waste into some or all of its component parts at the point of generation, including the separation of recyclables from each other or the separation of recyclables from other solid waste. The residue remaining after recyclables are removed from the waste stream is not considered source separated material.

(161) *Spare parts* means those essential or integral components of machinery or equipment that are kept in reserve as replacements for the original components.

(162) *Stabilized sludge* means sludge that has been digested or otherwise treated to reduce putrescibility and odor, reduce pathogenic organisms and, except for lime stabilization, reduce the volatile solids content.

(163) *Startup* means that period of time (not to exceed 180 days) starting with the initial receipt of solid waste, refuse-derived fuel or regulated medical waste at the facility in which a solid waste incinerator, refuse-derived fuel processing facility, pyrolysis unit or regulated medical waste treatment and destruction facility is breaking in and adjusting equipment before long-term operation. This period provides for equipment adjustment and owner acceptance testing.

(164) *Storage* means the containment of any solid waste in a manner which does not constitute disposal under section 360-1.2(a)(3) of this Subpart; provided, however, that any accumulation of solid waste for a period in excess of 18 months shall be deemed to constitute disposal.

(165) *Surface impoundment* means a solid waste management facility or part of one that is a natural topographical depression, excavation, or diked area formed primarily of earthen materials (although it may be lined with synthetic materials), that is designed to hold solid waste in semi-solid or liquid form and that is not an injection well. Examples of surface impoundments are holding, storage, setting, and aeration pits, ponds and lagoons.

(166) *Surface water* means lakes, bays, sounds, ponds, impounding reservoirs, perennial streams and springs, rivers, creeks, estuaries, marshes, inlets, canals, the Atlantic Ocean within the territorial limits of New York State, and all other perennial bodies of surface water, natural or artificial, inland or coastal, fresh or salt, public or private. Surface impoundments at solid waste management facilities are not surface waters.

(167) *Surface waters that are actively used as sources of municipal supply* means those waters that are currently used as a source of municipal drinking water supply and all perennial streams tributary to those waters.

(168) *Taking of endangered or threatened species* means harassing, harming, pursuing, hunting, wounding, killing, trapping, capturing or collecting of endangered or threatened species, or attempting to engage in such conduct.

(169) *Tank* means a stationary device designed to contain an accumulation of solid waste or leachate which is constructed primarily of nonearthen material (*e.g.*, wood, concrete, steel, plastic) that provides structural support.

(170) *Tire retreader* means a facility with equipment capable of retreading tires that converts waste tires into usable tires in accordance with a valid registration with the U.S. Department of Transportation as a tire retreader.

(171) *Title* means Title 6 of the *Official Compilation of Codes, Rules and Regulations of the State of New York.*

(172) *Transfer station* means a solid waste management facility other than a recyclables handling and recovery facility, used oil facility, or a construction and demolition debris processing facility, where solid waste is received for the purpose of subsequent transfer to another solid waste management facility for further processing, treating, transfer or disposal. Transfer of solid waste from vehicle to vehicle for the purpose of consolidating loads, as part of the initial collection process, is not considered a transfer station provided the transfer activity

occurs along the collection route where the point of transfer changes from day to day. Transfer of leakproof, closed containers of solid waste from vehicle to vehicle, including truck to train, for the purpose of consolidating loads for shipment to an authorized disposal or treatment facility, is not considered a transfer station provided: the contents of each container remain in their closed container during the transfer between vehicles; storage remains incidental to transport at the location where the containers are consolidated; containers are acceptable to the department and maintained in a safe, nuisance-free (*e.g.,* dust, odor, noise, etc.) manner; and, the transfer location is under the ownership or control of the transporter.

(173) *Transporter* means a person engaged in the off-site transportation of solid waste by air, rail, highway or water.

(174) *Treatment* means, except in the case of regulated medical waste, any method, technique or process designed to change the physical, chemical, or biological character or composition of any solid waste to recover energy or materials from it to render it safer to transport, store, or dispose of, or to make amenable for reuse, recovery, storage, or reduction in volume. Treatment of regulated medical waste is defined in section 360-17.2 of this Part.

(175) *Unadulterated wood* means wood that is not painted or treated with chemicals such as glues, preservatives or adhesives. Any painted wood or chemically treated wood (*e.g.,* pressure treated wood, treated railroad ties) or wood containing glues or adhesives (*e.g.,* plywood, particle board) is considered adulterated wood.

(176) *Underground injection* means the subsurface emplacement of semi-solid or liquid solid waste through a bored, drilled or driven well or through a dug well, where the depth of the dug well is greater than the largest surface dimensions.

(177) *Underground tank* means any stationary tank completely or partially covered with earth or other material.

(178) *Unsaturated zone* means any zone between the land surface and the zone of saturation in which the interconnected void spaces in soil or rock are only partially or intermittently filled with water.

(179) *Upgradient water quality* means the chemical composition of water in the stream or groundwater that is hydraulically upgradient (in the direction of increasing static head) of the facility and which is representative of the flow system before it has passed by or beneath the facility.

(180) *Uppermost aquifer* means the geologic formation nearest the natural ground surface that is an aquifer, as well as lower aquifers that are hydraulically interconnected with the aquifer within the facility's property boundary.

(181) *Vector* means a carrier that is capable of transmitting a pathogen from one organism to another, including but not limited to flies and other insects, rodents, birds and vermin.

(182) *Vehicle* means any motor vehicle, trailer, water vessel, railroad car, airplane or other device for transporting solid waste.

(183) *Waste tire* means any solid waste which consists of whole tires or portions of tires. For the purposes of this Part, tire casings separated for retreading and tires with sufficient tread for resale shall be included under this term, however, crumb rubber shall not be considered a solid waste.

(184) *Working face* means that portion of a landfill where solid waste is discharged and compacted before placement of cover material.

(185) *Yard waste* means leaves, grass clippings, garden debris, tree branches, limbs and other similar materials, such as aquatic weeds.

(186) *Zone of aeration* means a subsurface zone which may contain water under pressure lower than that of the atmosphere, including water held by capillarity, and containing air or gases generally under atmospheric pressure.

(187) *Zone of saturation* means a subsurface zone in which all the interstices are filled with water under pressure greater than that of the atmosphere.

Historical Note

Sec. filed Oct. 28, 1988; amds. filed: May 16, 1989 as emergency measure; Aug. 10, 1989 as emergency measure; Oct. 6, 1989 as emergency measure; Dec. 5, 1989 as emergency measure; Jan. 26, 1990 as emergency measure; Jan. 26, 1990; Nov. 26, 1991; Aug. 5, 1993; Sept. 27, 1996; Jan. 7, 2003 eff. 60 days after filing. Amended (b)(70)(ii), (185).

§ 360-1.3 References.

(a) *Federal.* The following documents are incorporated by reference and are on file with the New York State, Department of State. The documents are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402 and for inspection and copying at the department's offices at 625 Broadway, Albany, NY 12233-4010 in the office of the Division of Solid Waste.

(1) Federal laws:

(i) Section 11 of the Atomic Energy Act of 1954 (42 USC 2014), as amended through January 20, 1986.

(ii) Section 502(4) of the Federal Water Pollution Control Act (33 USC 1362[4]), as amended through January 20, 1986.

(iii) Sections 110 and 111 of the Clean Air Act (42 USC 7410-7411), as amended through November 15, 1990.

(iv) Sections 300f-300j of the Public Health Service Act (Safe Drinking Water Act, 42 USC 300), as amended through October 31, 1988.

(v) Section 401 of the Federal Water Pollution Control Act as amended by the Clean Water Act (33 USC section 1251 *et seq.*) through October 1, 1984.

(2) *Code of Federal Regulations* (CFR):

(i) 29 CFR - title 29 of the *Code of Federal Regulations* (Labor):

(*a*) parts 1900 through 1910, revised as of July 1, 1987; and

(*b*) part 1926, revised as of July 1, 1988.

(ii) 40 CFR - title 40 of the *Code of Federal Regulations* (Protection of Environment):

(*a*) parts 53 through 80, revised as of July 1, 1985;

(*b*) parts 100 through 149, revised as of July 1, 1993;

(*c*) parts 190 through 259, revised as of July 1, 1993;

(*d*) parts 260 through 299, revised as of July 1, 2002;

(*e*) parts 300 through 399, revised as of July 1, 1993; and

(*f*) parts 700 through end, revised as of July 1, 1987.

(iii) 49 CFR - title 49 of the *Code of Federal Regulations* (Transportation), revised as of October 1, 1987:

(*a*) parts 100 through 177; and

(*b*) parts 178 through 199.

(3) United States Environmental Protection Agency:

(i) *Test Methods for Evaluating Solid Waste Physical/Chemical Methods,* EPA publication SW-846 (Second Edition, 1982 as amended by Update I [April 1984] and Update II [April 1985]).

(ii) *Methods for Chemical Analysis of Water and Wastes* (EPA-600/4-79-020) March 1979, revised March 1983.

(iii) *A Procedure for Estimating Monofilled Solid Waste Leachate Composition,* Technical Resource Document, EPA publication SW-924 (Second Edition, January 1986).

(b) *Other.* The following documents also are incorporated by reference and are on file with the Department of State.

(1) NFPA-30. It is available from the National Fire Protection Association, Batterymarch Park, Quincy, MA 02269 and for inspection and copying at the department' s offices at 625 Broadway, Albany, NY 12233-4010 in the office of the Division of Solid Waste; National Fire Protection Association (NFPA): *Flammable and Combustible Liquids Code,* NFPA-30, 1990.

(2) NFPA 231D. It is available from the National Fire Protection Association, Batterymarch Park, Quincy, MA 02269 and for inspection and copying at the department's offices at 625 Broadway, Albany, NY 12233-4010 in the office of the Division of Solid Waste; National Fire Protection Association (NFPA): *Standards for Storage of Rubber Tires,* NFPA 231D, 1989 edition.

(3) API Publication 1509. It is available from the American Petroleum Institute, 1220 L Street, NE, Washington, DC 20005 and for inspection and copying at the department's offices at 625 Broadway, Albany, NY 12233-4010 in the office of the Division of Solid Waste; Engine Service Classification System and Guide to Crankcase Oil Selection (API Publication 1509), Eleventh Edition, July 1988.

(4) Natural Resources Conservation Service (NRCS). Conservation Practice Standard Waste Management System (number) Code NY313. Available from the NRCS, One Clinton Square, Room 333, Albany, NY 12207-2350 and for inspection and copying at the department's offices at 625 Broadway, Albany, NY 12233 in the Division of Water.

Historical Note

Sec. filed Oct. 28, 1988; amds. filed: Aug. 5, 1993; Nov. 15, 1994; Sept. 27, 1996; June 19, 2001; March 13, 2006; April 18, 2013 eff. 60 days after filing. Added (b)(4).

§ 360-1.4 Enforcement, inspection and reporting.

(a) *Enforcement.* (1) Every solid waste management facility in this State is subject to every applicable requirement identified in this Part pertaining to the type of facility in question, subject to a demonstration to the department by its owner or operator that the facility is clearly exempt from regulation under or from the requirement in question that is contained in this Part.

(i) The department may disapprove a registration or withdraw registered status if the department determines that the activity to which a registration is applicable poses the potential for a significant adverse impact on public health, safety, or welfare, the environment or natural resources or violates a registration condition.

(ii) Owners or operators of registered solid waste management facilities must comply with the applicable operational requirements of a regulated facility of the same type or, if the same type does not exist, a similar type as determined by the department.

(iii) Owners and operators of registered solid waste management facilities shall allow inspection of such facilities by authorized department staff as allowed by law.

(iv) The owner or operator of a registered solid waste management facility shall not violate the conditions for qualification for such registration; violate any condition imposed by the department pursuant to its approval of such registration; violate any applicable operational requirement; or operate the registered activity in a manner which poses a significant adverse impact on public health, safety, or welfare, the environment or natural resources. Violations of applicable operational requirements by the owner or operator shall subject the owner or operator to penalties and other sanctions authorized pursuant to Environmental Conservation Law. In the event that the owner or operator fails to comply with the requirements of this Part, or operates the registered facility in a manner which poses a significant impact on public health safety or welfare, the environment or natural resources, the owner and/or operator is subject to one or more of the following:

(*a*) withdrawal of registration, in which case the owner or operator shall be required to obtain a permit for the previously registered activity from the department before such activity may be continued;

(*b*) assessment of penalties for any identified violations, including violations of the qualifications for registration; and

(*c*) imposition of additional conditions on the registered activity, including, but not limited to imposition of financial assurance requirements.

(2) Any person who violates any provision of or who fails to perform any duty imposed by this Part; or any term or condition of any permit issued pursuant to this Part; or any final determination or order of the commissioner issued pursuant to any statutory authority under which this Part is promulgated is subject to all applicable civil, administrative and criminal sanctions set forth in ECL, article 71 and, as appropriate, the Clean Water Act.

(b) *Inspection.* The commissioner or authorized department staff may enter and inspect a solid waste management facility, any property, premises, books, papers, documents, or records of that facility, at all reasonable times, locations, and hours, whether announced or unannounced, for the purpose of ascertaining compliance or noncompliance with a permit, the ECL, and this Title. The construction or operation of a solid waste management facility in this State is deemed to constitute consent to such inspection. The refusal to consent to such inspection, established after an opportunity for a hearing, shall result in revocation of any and all permits issued by the department under this Part pertaining to that facility as well as any other penalties the commissioner may impose under the circumstances. With respect to the issue of revocation, the hearing shall be limited to the following issues:

(1) whether the permittee was given sufficient warning in clear or unequivocal language before the refusal, that the refusal could result in revocation of those permits; and

(2) whether the permittee refused to consent to the inspection.

(c) *Reporting.* Any person owning or operating a solid waste management facility must submit to the department, within the time period specified by the department, any information which the department requires by regulation, permit, or order to determine whether cause exists to modify, suspend or revoke a permit or order, or to determine compliance with the permit, the ECL and this Title. In the case of a quarterly report, the report must provide information on activities occurring during the quarter in question (January 1st to March 31st, April 1st to June 30th, July 1st to September 30th, October 1st to December 31st) and must be submitted no later than 60 days after the last day in the quarter in question. In the case of an annual report, the report must be submitted no later than 60 days after the first day of January following each year of operation. Reports on forms acceptable to or provided by the department must be kept on the facility's premises and must be submitted at a frequency specified by the department. The department may at any time waive or modify standard reporting requirements under this Part under circumstances it deems appropriate and will notify the facility owner in writing of any such change.

Historical Note

Sec. filed Oct. 28, 1988; amds. filed: Aug. 5, 1993; Sept. 27, 1996 eff. 60 days after filing. Amended (c).

§ 360-1.5 Prohibited disposal.

(a) *Solid waste disposal facilities.* Except as provided for in Subparts 360-10 and 360-17 of this Part, no person shall dispose of solid waste in this State except at:

(1) a disposal facility exempt from the requirements of this Part; or

(2) a disposal facility authorized to accept such waste for disposal pursuant to this Part or to a department-issued or court-issued order.

(b) *Hazardous waste disposal facilities.* No hazardous waste that is required to be managed at a facility subject to regulation under Part 373 or 374 of this Title and no radioactive materials, NARM waste or low-level radioactive waste as defined in Parts 380, 382 and 383 of this Title that is required to be managed or disposed of at a land disposal facility subject to regulation under Parts 380, 382 and 383 of this Title shall be treated or disposed of at a solid waste management facility.

Historical Note

Sec. filed Oct. 28, 1988; amd. filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-1.6 Severability.

If any provision of this Part or its application to any person or circumstance is held invalid, the remainder of this Part, and the application of those provisions to persons or circumstances other than those to which it is held invalid, shall not be affected thereby.

Historical Note

Sec. filed Oct. 28, 1988 eff. Dec. 31, 1988.

§ 360-1.7 Permit requirements, exemptions and variances.

(a) *Permit requirements.* (1) Except as provided for in subdivisions (b) and (c) of this section, section 360-1.13 of this Subpart or otherwise provided for in the applicable Subpart pertaining to the type of solid waste management facility in question, no person shall:

(i) construct or operate a solid waste management facility, or any phase of it, except in accordance with a valid permit issued pursuant to this Part; or

(ii) modify or expand any aspect of the approved construction or operation of a solid waste management facility except in accordance with the approval of the department.

(2) Prohibited siting.

(i) Agricultural land. The department shall not issue a permit for a new solid waste management facility or a lateral expansion of an existing one if the land upon which that facility or lateral expansion is to be located, was, or is proposed to be, taken through the exercise of eminent domain; consists predominantly of agricultural soil group 1 or 2 (Land Classification System as certified by the New York State Commissioner of Agriculture and Markets); and is within an agricultural district formed pursuant to the Agriculture and Markets Law. The department shall not issue a permit for a new solid waste management facility or a lateral expansion of an existing one within an agricultural district unless compliance with the requirements of section 305 of the Agriculture and Markets Law has been demonstrated.

(ii) Floodplains. New solid waste management facilities and expansions of existing ones, except land application facilities, must not be constructed or operated on floodplains unless provisions have been made to prevent the encroachment of flood waters upon those facilities. Such facilities must not pose a significant hazard to human life, wildlife, fisheries, or land or water resources.

(iii) Endangered species. Solid waste management facilities must not be constructed or operated in a manner that causes or contributes to the taking of any endangered or threatened species or to the destruction or adverse modification of their critical habitat.

(iv) New solid waste management facilities must not be constructed or operated within the boundary of a regulated wetland.

(v) Horizontal separation distances between permitted land application and composting facilities, and permitted landfills, which are located hydraulically upgradient from reservoirs, reservoir stems or controlled lakes, located in watersheds which are managed pursuant to a filtration avoidance determination issued pursuant to the Safe Water Drinking Act (see section 360-1.3 of this Part) must be sufficient to preclude contravention of State surface water quality standards in those surface waters. A determination of the minimum separation distance required must be approved by the department and in no case may be less than 100 feet. For the purposes of this subparagraph, the following terms have the following meanings:

(*a*) *Controlled lakes* means a lake from which a purveyor of water supply may withdraw water pursuant to rights acquired by the purveyor of water supply or as a right of ownership.

(*b*) *Reservoir* means any natural or artificial impoundment of water owned or controlled by a purveyor of water supply which is tributary to the water supply system.

(*c*) *Reservoir stem* means any watercourse segment which is tributary to a reservoir and lies within 500 feet of the reservoir.

(3) Transition. The following transition rules shall not be construed to relieve the owner or operator of a municipal solid waste landfill accepting waste on or after October 9, 1993 from meeting the applicable requirements of 40 CFR part 258 (see section 360-1.3 of this Part). Except as otherwise provided in this Part, the following constitute the transition rules for this Part.

(i) Existing facilities with permits. This subparagraph applies only to a solid waste management facility having a permit to construct or operate in effect on the day before the effective date of this Part whose expiration date is on or after the effective date of this Part. Nothing in this subparagraph shall be construed to to limit or prohibit department-initiated modification of such a permit under the provisions of Part 621 of this Title.

(*a*) Each solid waste management facility permit in effect on the day before the effective date of this Part is hereby continued until the expiration date set forth on the permit.

(*b*) Except in the case of landfills, a permit to construct a solid waste management facility in effect on the day before the effective date of this Part authorizes the permittee to construct the facility in accordance with the design approved under the permit to construct issued before the effective date of this Part if construction is completed within the term of the permit to construct. If construction is not completed within the term of the permit to construct, upon renewal the department shall modify the permit to require the design and construction of that part of the facility not yet constructed to satisfy the applicable requirements of this Part. In the case of landfills, a permittee holding a permit to construct that was issued before the effective date of this Part that authorizes the construction of an area must satisfy the appropriate requirements of this Part for those areas not yet constructed but approved for subsequent development.

(*c*) The permittee of a permit to operate that was issued before the effective date of this Part must comply with the conditions of the permit and the solid waste management facility regulations in effect on the day when such permit was issued for the duration of that permit. In the event of renewal or expansion, the permittee must comply with the operational requirements of this Part.

(*d*) A solid waste management facility other than a landfill without a department-approved closure plan on the effective date of this Part is subject to the closure and post-closure requirements of this Part pertaining to that type of facility. In the case of landfills, subparagraph (vii) of this paragraph applies.

(*e*) Retrofitting of facilities (or stages of ones) that were constructed pursuant to a permit issued before the effective date of this Part, in order to comply with the design and construction requirements of this Part, is not required, except for expansions of such facilities.

(*f*) Upon renewal or modification of an existing permit to construct, the department may consolidate all construction and operation requirements into a single permit. All new solid waste management facility permits issued on or after the effective date of this Part must contain all relevant construction and operation requirements within a single permit.

(ii) Existing facilities subject to an order. Each order in effect on the day before the effective date of this Part pertaining to a solid waste management facility is hereby continued until the order expires, provided that the facility is in full compliance with the terms and conditions of the order. If the respondent fails to comply with any term or condition, the solid waste management facility that is covered by the order must comply with the operational, closure and post-closure requirements of this Part for that type of facility.

(iii) Existing facilities currently in violation. A facility constructed, operated or closed in violation of the solid waste management facility regulations in effect on the day before the effective date of this Part is subject to the requirements of this Part as of its effective date. Each enforcement action pending on the day before the effective date of this Part is hereby continued and the standards for compliance shall be those contained in this Part. In the case of landfills, subparagraph (viii) of this paragraph applies.

(iv) Existing facilities for which permits were not previously required. This subparagraph pertains only to solid waste management facilities existing on the effective date of this Part that require a permit to operate under this Part but, under the solid waste management facility regulations in effect on the day before the effective date of this Part, did not require a permit. For such facilities:

(*a*) The owner or operator must submit a letter to the department within 60 days after the effective date of this Part that references this subparagraph and describes the location, size and type of solid waste management facility being operated, the characteristics and quantities of solid waste received there, and the facility's waste processing equipment. The letter must be sent by certified mail, return receipt requested, and the following words must be placed on the outside of the envelope: "solid waste management facility notification enclosed".

(*b*) The department will review the information submitted and will acknowledge receipt of the letter in writing to the facility owner or operator.

(*c*) The owner or operator must submit a complete application for a permit no later than six months after the date of the department's acknowledgment letter or two years after the effective date of this Part, whichever is sooner.

(*d*) If the information identified in clause (*a*) of this subparagraph is not submitted within the 60-day period described in that clause, the owner or operator must close the facility in accordance with the provisions of this Part no later than six months after the last day of such 60-day period.

(*e*) The owner or operator of a facility described in this subparagraph must comply with the operation, closure and post-closure requirements set forth in this Part pertaining to the type of solid waste management facility in question.

(*f*) In addition, the owner or operator must inform the department at least 30 days in advance if it intends to change any of the reported facility characteristics after the initial submission of information.

(v) Existing facilities for which permits are no longer required. Existing facilities that were previously permitted, but no longer require a permit or registration under this Part, are not required to renew such permits. However, such facilities must comply with all other applicable requirements as indicated in the appropriate Subparts of this Part.

(*a*) Existing facilities for which permits were required before the effective date of this Part, but which now require registration under this Part, are not required to renew such permits, provided the owner or operator registers the facility in accordance with the requirements of section 360-1.8(h) of this Subpart. All such facilities may submit a completed registration form at any time after the effective date of this Part, but are required to submit a completed registration form not less than 30 days prior to the expiration date of their current Part 360 permit. If the facility owner or operator does not submit a completed registration form acceptable to the department, the owner or operator is subject to the enforcement provisions of section 360-1.4(a) of this Subpart and other sanctions pursuant to Environmental Conservation Law.

(*b*) Existing facilities that were wholly or partially exempt from the Part 360 permitting requirements before the effective date of this Part, but that are now required to be registered under this Part, are required to register the facility in accordance with the requirements of section 360-1.8(h) of this Subpart within 180 calendar days after the effective date of this Part. If the facility owner or operator does not submit a completed registration form acceptable to the department, the owner or operator is subject to the enforcement provisions of section 360-1.4(a) of this Subpart and other sanctions pursuant to Environmental Conservation Law.

(vi) Complete applications pending on the effective date of this Part. If an application for a permit to construct or operate a solid waste management facility was complete pursuant to Part 621 of this Title on or before the effective date of this Part, the department will review the application for compliance with the solid waste management facility regulations in effect

on the day before the effective date of this Part. However, if a permit is issued following the effective date of this Part, the permittee must comply with the operational, closure, and post-closure requirements set forth in this Part pertaining to the type of solid waste management facility in question.

(vii) Applications that were not complete on the effective date of this Part. An application for a permit to construct or to operate a solid waste management facility that was not complete pursuant to Part 621 of this Title on the day before the effective date of this Part must satisfy the completeness requirements identified in this Part. However, any component of a complete application that the department determined in writing before the effective date of this Part as satisfying a particular application requirement identified in the solid waste management facility regulations in effect at the time of acceptance shall be deemed to satisfy the equivalent completeness requirement under this Part, but only if a complete application is submitted to the department no later than one year after the effective date of this Part.

(viii) Landfills shall meet the following closure and post closure requirements:

(*a*) unlined landfills operating on or after October 9, 1993 that have underlying soils with a coefficient of permeability of 1×10^{-7} centimeters per second or greater, and lined landfills that are operating on or after October 9, 1993 and have only a soil barrier liner with a coefficient of permeability of 1×10^{-7} centimeters per second or greater, must meet the applicable closure and post-closure requirements set forth in sections 360-2.14, 360-2.15 and Subpart 360-7 of this Part. Those landfills required to meet the closure requirements of section 360-2.15 may conform either to the low permeability barrier soil cover layer, geomembrane, or composite cover requirements of section 360-2.15(d)(2)(i) of this Part;

(*b*) all other landfills that are operating on or after October 9, 1993 must meet the applicable closure and post-closure requirements of sections 360-2.14, 360-2.15 and Subpart 360-7 of this Part. Those landfills required to meet the closure requirements of section 360-2.15 must conform to section 360-2.15(d)(2)(ii) of this Part;

(*c*) landfills without an approved closure plan that have ceased to accept waste before October 9, 1993 must meet the closure and post-closure requirements of the regulations in effect the day before the effective date of this Part; or

(*d*) landfills with an approved closure plan that have ceased to accept waste before October 9, 1993 must meet the closure and post-closure requirements of the regulations in effect the day the closure plan was approved.

(ix) Existing facilities that closed in compliance with the solid waste management regulations in effect on the day before the effective date of this Part remain subject to all the requirements in effect on the date of closure.

(b) *Exemptions.* The solid waste management facilities identified in this subdivision that do not manage used oil are exempt from this Part:

(1) Disposal areas located within the property boundaries of a single family residence or farm for solid waste generated from that residence or farm.

(2) Disposal areas for waste pesticides by the farmer who used them if the farmer complies with sections 325.4 and 325.5 of this Title.

(3) Disposal areas located within the property boundaries of a farm for crop residuals, animal and aquacultural manure, animal and aquacultural carcasses and parts generated from a farm and other similar solid waste generated by farm activities.

(4) Transfer, temporary storage, treatment, incinerator and processing facilities (including mobile processing facilities which are temporarily brought onto the site), located at a single or multiple family residence, school, park, industry, hospital, commercial establishment, correctional facility, government facility or farm and used exclusively for the management of solid waste generated at a location under the same ownership within a single region of the department, except:

(i) regulated medical waste treatment facilities;

(ii) composting or other class A processing facilities for sewage sludge, septage, or other sludges; and

(iii) in certain cases where the department determines that these activities pose an adverse impact on public health, safety, or the environment, the department may set time limitations on the activities covered under this exemption. For excavated petroleum contaminated soils, on-site storage is limited to 60 days unless otherwise approved by the department.

(5) Transfer, storage, treatment, incinerator and processing facilities, except composting or other distribution and marketing facilities, located at publicly owned treatment works or other sewage treatment plants, and used exclusively for sewage sludge, septage or leachate. Storage is limited to less than 18 months.

(6) The initial site used for the collection of household hazardous waste and household medical waste for a cleanup day or similar event sponsored or cosponsored by a community or governmental organization on a not-for-profit basis, and designed to assist the public in disposing of unwanted pesticides and other household hazardous and medical waste if:

(i) the sponsoring organization submits a detailed written plan at least 60 days before the date of the event and receives written approval prior to the event from the regional director of the department's region where the cleanup will take place. The plan must contain:

(*a*) measures to be taken to ensure that all such waste comes from households or farmers, or is a regulated waste exempt from regulation under Part 364 of this Title;

(*b*) a specific waste determination, segregation and packaging plan, including the identification of qualified individuals who will be present during collection hours to segregate wastes based on their chemical and physical properties and to properly package, label and manifest the waste for shipment. The individual's qualifications to conduct these activities must be included in the written plan;

(*c*) a spill prevention and control plan; and

(*d*) a site security plan, including additional precautions to be taken if wastes are to be stored overnight;

(ii) all wastes are removed from the site within three days of collection;

(iii) wastes are packaged, labeled and manifested in accordance with the requirements of section 364.9 or sections 372.2 and 372.3 of this Title;

(iv) all transportation of the wastes from the collection point is done in accordance with a permit issued pursuant to Part 364 of this Title; and

(v) the requirements of Part 617 of this Title are met.

(7) A transporter storing shipments of nonputrescible industrial and nonputrescible commercial waste, other than regulated medical waste, in containers or in vehicles at its own transfer facility for a period of five calendar days or less, if the transporter:

(i) maintains a log of the time and date on which each container or transport vehicle of waste is received or shipped;

(ii) does not open any container or transport vehicle for any purpose, including sampling, transfer, treatment or addition of absorbent;

(iii) stores the waste in a containers or transport vehicle that meets the design requirements specified by the United States Department of Transportation for each type of waste stored. During storage and shipment, these containers or transport vehicles must be packaged, labeled and marked in accordance with 49 CFR, parts 171, 173, 178 and 179 (see section 360-1.3 of this Subpart);

(iv) stores containers or transport vehicles in a manner which will not rupture the container or transport vehicle or cause it to leak;

(v) complies with the standards for hazardous waste discharges from transporters specified in section 372.3(d) of this Title;

(vi) immediately notifies the appropriate regional office of the department in which a spill or leak occurs of that spill or leak; and

(vii) inspects the containers or transport vehicles daily for leaks and deterioration, caused by corrosion or other factors, and keeps a written log of the inspections.

(8) A facility that exclusively treats wastewater that is regulated under Parts 750 through 757 of this Title.

(9) Solid waste from nonhazardous inactive landfills which has been excavated as part of a construction project and is being returned to the same excavation or other excavation containing similar solid waste or otherwise relocated within the landfill' s existing footprint, provided the handling, relocation and disposal practices are deemed acceptable to the department in writing in advance.

(10) Disposal areas for road-killed animals on local roads and State and county highways under the jurisdiction of government agencies, except for the disposal of carcasses and parts of animals of the Genus Cervus or the Genus Odocoileus from a CWD containment area, as provided under section 189.7 of this Title. Such disposal areas must, however, be located on property owned by the government agency and within the highway right-of-way. Disposal areas must be a minimum of 50 feet from any residence, surface water or any other disposal area for road-killed animals. No more than 10 road-killed animals may be placed in a single disposal area. Road-killed animals placed in disposal areas must be covered with at least three feet of excavated soil material and in no case shall be placed within groundwater. Mass burial of road-killed animals is not exempt from the provisions of this Part. Acceptable alternatives for the disposal of road-killed animals include disposal at a department-approved solid waste landfill, disposal at a rendering facility or other means as approved by the department.

(11) Open burning of solid waste conducted in compliance with a restricted burning permit issued by the department.

(12) Individual graves for burial of animals, including pet cemeteries, provided mass burial of animal carcasses is not practiced.

(c) *Variances.* (1) Unless otherwise precluded by law, the department may, upon written application from any person who is subject to this Part, grant a variance from one or more specific provisions of this Part under the conditions set forth in this subdivision. In any event, no variance will be granted which would authorize a municipal solid waste landfill to be designed, constructed or operated at standards less stringent then those defined under 40 CFR part 258, *Criteria For Municipal Solid Waste Landfills.*

(2) Every application for a variance must:

(i) identify the specific provisions of this Part from which a variance is sought;

(ii) demonstrate that compliance with the identified provisions would, on the basis of conditions unique to the person's particular situation, and to impose an unreasonable economic, technological or safety burden on the person or the public; and

(iii) demonstrate that the proposed activity will have no significant adverse impact on the public health, safety or welfare, the environment or natural resources and will be consistent with the provisions of the ECL and the performance expected from application of this Part.

(3) In granting any variance under this subdivision, the department will impose specific conditions necessary to assure that the subject activity will have no significant adverse impact on the public health, safety or welfare, the environment or natural resources.

Historical Note

Sec. filed Oct. 28, 1988; amds. filed: Nov. 26, 1991; Aug. 5, 1993; Sept. 27, 1996; Jan. 7, 2003; April 29, 2005 as emergency measure; July 12, 2005 eff. July 27, 2005. Amended (b)(10).

§ 360-1.8 Permit application and registration procedures, generally.

(a) *Uniform Procedures Act.* (1) An application for a permit under this Part must be submitted on a form prescribed by the department. In order to be determined complete, the application must satisfy the requirements established in Part 621 of this Title and include the plans, reports, and other supporting information required by this Part.

(2) The procedures of Part 621 of this Title govern the processing and review of permit applications and variances under this Part and the modification, renewal, suspension and revocation of permits issued pursuant to this Part.

(b) *SEQRA review.* The review procedures required pursuant to the State Environmental Quality Review Act (article 8 of the ECL) apply to activities subject to the permit requirements of this Part. With regard to any permit application under this Part, the applicant may be required to submit information necessary for compliance with that act in addition to information required under this Part or Part 621 of this Title.

(c) *Preapplication meetings.* Preapplication meetings between the department and the prospective applicant are encouraged to address, among other things, the development of a complete application pertaining to the prospective applicant's project.

(d) *Permits, generally.* (1) Issuance of a permit entitles the permittee to construct the solid waste management facility as identified in the application, subject to any appropriate conditions the department may impose. If the facility is to be constructed in stages, the initial application must contain the conceptual design for the entire facility and the detailed construction plans for the initial stage. In addition, detailed construction plans may be submitted covering all other stages that will be constructed during the first 10 years of facility operation. The permit will identify the extent of each permitted stage and the specific time frames within which construction activities must begin and end for each stage. Construction of a subsequent stage requires department approval of the detailed construction plans for the stage, as specified in the Subpart for the specific type of facility. Those plans and the construction of that stage must comply with all requirements of the ECL and of this Title applicable at the time department approval is granted.

(2) A permitted facility cannot begin operation until the permittee has demonstrated to the department's satisfaction that the facility has been constructed in accordance with the permit issued for that facility and that the criteria for permit issuance provided in section 360-1.10 of this Subpart have been satisfied. If a facility is to be constructed in stages, the department must determine that each specific stage has been constructed in accordance with the approved plans and permit conditions before operation will be permitted in that specific stage.

(e) *Permit modifications.* (1) For the purposes of Part 621 of this Title, an application to modify a permit for a solid waste management facility must be treated as a new application if any of the following thresholds are met or exceeded:

(i) Expansion of operation. Expansion of the disposal operation beyond the limits of the solid waste authorized by the existing permit.

(ii) Increase in quantity of solid waste received. In the event no approved design capacity is set forth in the permit; any increase of the total quantity of solid waste received during any quarter at the facility by 50 percent or more over the total quantity of solid waste received during the comparable quarter of the preceding year. In the event an approved design capacity is set forth in the permit; any increase that results in the exceedance of the approved design capacity by 50 percent.

(iii) Installation of additional equipment. Expansion of the facility by the installation of additional processing or treatment equipment that increases the approved design capacity of the facility or changes in the facility process that may result in a significant adverse environmental impact.

(2) Retrofit of existing solid waste incinerators. For the purposes of this Part, retrofit of air pollution control equipment to comply with Part 219-8 of this Title shall not be considered as a new application for a permit.

(f) *Permit renewals.* (1) Filing for renewal. Any permittee intending or required to continue construction or operation beyond the permitted period must file a complete application for renewal of the permit at least 180 days before the existing permit expires. A complete application for renewal of the permit must be made on forms authorized by the department and must include the information identified in subdivision 360-1.9(d) of this Subpart pertaining to the type of solid waste management facility covered by the permit.

(2) Continued operation. A permittee may continue construction or operation as authorized under the expiring permit under the provisions of section 401.2 of the State Administrative Procedure Act only if the permittee files a timely and complete renewal application as provided for under paragraph (1) of this subdivision. Such authority does not extend to any modification of the terms and conditions of the existing permit.

(g) *Local solid waste management plan.* On or after April 1, 1991 a permit application made by or on behalf of a municipality in a planning unit for the construction of a solid waste management facility shall not be complete until a local solid waste management plan that contains all of the elements, including any required plan modifications or updates, set forth in paragraph (b) of subdivision (1) of section 27-0107 of the ECL and Subpart 360-15 of this Part is in effect for such municipality provided, however, that this requirement may be waived by the commis-

sioner for a permit to construct and operate a solid waste management facility designed for the treatment, storage or disposal of sewage sludge and needed to implement a project described in subparagraph (1) of paragraph (c) of subdivision (3) of section 97-m of the State Finance Law that will expedite compliance with the Federal Ocean Dumping Ban Act of 1988.

(h) *Registration of facilities.* (1) Certain regulated solid waste management facilities may be eligible for registration rather than the permit requirements of this Part, under prescribed thresholds and conditions specified in this subdivision and under each appropriate Subpart of this Part.

(2) Registrations are ministerial actions for purposes of Part 617 (State Environmental Quality Review) of this Title.

(3) Registrations are not subject to Part 621 (Uniform Procedures) of this Title.

(4) Registration forms must be submitted to the office of the department administering the region in which the facility is to be located, on a form prescribed by or acceptable to the department, at least 30 days prior to undertaking the activity proposed for registration.

(5) The owner or operator may not undertake a registered activity until they have received a validated copy from the department of their registration. If a facility proposed for registration requires other department permits, or otherwise does not meet the conditions and requirements specified in this Part, the department may disapprove a registration and require a permit application rather than a registration.

(6) Registrations for appropriate facilities are generally valid for the life of the registered facility and may be transferred only upon prior written approval by the department.

(7) Registered facilities may not be exempt from other applicable requirements of this Part.

(8) Registered facilities must submit an annual report, on forms prescribed by or acceptable to the department, to the department's central office and the office of the department administering the region in which the facility is located, no later than 60 days after the first day of January following each year of operation. The report must include, but not be limited to: the total annual amount of waste received by weight or volume, compiled by type and quantity received during each calendar quarter; the origin of the waste received; the destination of the waste removed; the weight or volume and type of each material recovered; and, a description of any problems encountered and methods for resolution and any changes in operation that have occurred in the previous year.

(9) Registered facilities remain subject to the operational requirements of section 360-1.14(b), (d), (e), (i), (j), (k), (l), (m), (p), (r), (s) and (w) of this Subpart.

Historical Note

Sec. filed Oct. 28, 1988; amd. filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-1.9 Contents of applications, generally.

(a) *Initial permits and level of detail.* (1) An application for an initial permit must include all applicable information identified in this Subpart and other Subparts of this Part pertaining to the type of facility for which the permit is being sought.

(2) The information in every application submitted under this Part must be of sufficient detail so as to allow the department to fulfill its responsibilities under the ECL and this Part by:

(i) having detail sufficient to be readily understood by the persons using the documents contained in the application to enable them to determine how the facility will be constructed, operated and closed and how it will be monitored and maintained after closure;

(ii) providing the department with sufficient detail to ascertain the environmental impact of the proposed project; and

(iii) providing sufficient detail to demonstrate that the design, construction, operation, closure and post-closure monitoring and maintenance of the facility will be capable of compliance with the applicable requirements of this Part.

(b) *Nonspecific facilities.* (1) Complete applications for initial permits to construct and operate a solid waste management facility not specifically addressed in a Subpart of this Part must include and address the following, in addition to the requirements described elsewhere in this section:

(i) an engineering report, plans and specifications that must comprehensively describe and address the project in its environmental setting and the project's design, construction, operation, closure and post-closure monitoring;

(ii) an operation and maintenance plan; and

(iii) a waste control plan.

(2) Combination facilities. Complete applications for initial permits to construct and operate a solid waste management facility having components of its intended operation addressed in different Subparts of this Part must contain:

(i) a discussion in an engineering report, plans and specifications that comprehensively describes and addresses the project's overall design, construction, operation, closure and post-closure monitoring; and

(ii) all those matters required to be submitted had each component been proposed to be undertaken at a separate facility, independent of the other components.

(c) *Modification applications.* An application to modify a permit issued pursuant to this Part must include and address the following:

(1) a description of the proposed modification;

(2) the reasons for the proposed modification;

(3) a description of the impacts from the proposed modification upon the facility as presently permitted; and

(4) a demonstration that, as modified, the facility will be capable of compliance with the applicable requirements of the ECL and this Part.

(d) *Renewal applications.* An application to renew a permit issued pursuant to this Part must include and address the following:

(1) unless previously submitted to and accepted by the department, all information required to be contained in an application for the initial permit;

(2) a compliance report that contains:

(i) a statement certifying that the facility's construction and operation have been undertaken in compliance with the terms and conditions of the expiring permit; or

(ii) a compliance report specifying any changes proposed by the applicant to, and detailing any changes in circumstance that may affect the design, construction, operation, closure or post-closure monitoring of the facility and describing how compliance with the applicable requirements of the ECL and this Part will be assured. (This provision is intended to assist the department in determining the proper processing of the application. The application with any such changes will be processed in accordance with Part 621 of this Title); and

(3) a description of how the facility is consistent with the State solid waste management policy identified under subdivision (1) of ECL section 27-0106.

(e) *Engineering plans, reports and specifications.* All engineering plans, reports, drawings, and specifications must comply with the requirements of section 7209 of the Education Law, other appropriate provisions of this Part and this subdivision. Engineering plans, reports, drawings, specifications, programs and manuals submitted to the department must be prepared and certified by an individual licensed to practice engineering in the State of New York.

(1) Unless otherwise specified in this Part, the plans and drawings for all solid waste management facilities must be submitted using the following format:

(i) The sheet size with title blocks must be 22 by 34 inches or 24 by 36 inches.

(ii) The cover sheet must include the project title, applicant's name, sheet index, legend of symbols, and the engineer's name, address, signature, date of signature and seal.

(iii) The plans relating the project to its environmental setting must include:

(*a*) a regional plan or map (having a minimum scale of 1:62,500);

(*b*) a vicinity plan or map (having a minimum scale of 1:24,000); and

(*c*) an overall site plan (having a minimum scale of 1:2,400 with five-feet minimum contour intervals).

(2) Site plans must contain the location of all property boundaries certified by an individual licensed to practice land surveying in the State of New York.

(3) The engineering reports for all solid waste management facilities must:

(i) contain a cover sheet stating the project title and location, the applicant's name, and the engineer's name, address, signature, date of signature and seal;

(ii) have its text printed on 8 1/2 by 11 inch pages (paginated consecutively);

(iii) contain a table of contents or index describing the body of the report and the appendices;

(iv) include a body of report; and

(v) include all appendices.

(4) The engineering report submitted with a permit application for the construction of a solid waste management facility must:

(i) demonstrate an ability to operate in accordance with the applicable requirements of the ECL, section 360-1.14 of this Subpart and the Subpart of this Part pertaining to such a facility;

(ii) identify the facility's proposed service area;

(iii) for all applications submitted before April 1, 1989, demonstrate that the project is consistent with the applicable goals and objectives of solid waste management plans in the proposed service area of the facility and of the New York State Solid Waste Management Plan in effect at the time of permit application;

(iv) for all applications submitted after April 1, 1989, describe how the proposed facility is consistent with the State solid waste management policy identified in section 27-0106 of the ECL;

(v) for applications submitted by or on behalf of a municipality in a planning unit after April 1, 1991, demonstrate that the proposed facility is consistent with the local solid waste management plan in effect for the municipality; and

(vi) for applications which are not submitted by or on behalf of a municipality in a planning unit, include an assessment of the proposed facility's impact on the local solid waste management plans, if any, of the planning unit in which the facility is located and the planning units from which solid waste is expected to be received.

(5) Appendices submitted as part of an engineering report submitted with an application to construct or expand a solid waste management facility must contain, where required under the applicable Subpart:

(i) appropriate charts and graphs;

(ii) copies of record forms used at the facility;

(iii) test pit logs, soil boring logs and geological information (such as stratigraphic sections, geophysical and geochemical surveys and water quality analyses);

(iv) engineering calculations (including the raw data from which they were made);

(v) where State funds are anticipated, copies of contracts between the municipality and the architect/engineer; and

(vi) other supporting data, including literature citations.

(f) *Comprehensive recycling analysis.* In the case of applications that are submitted by or on behalf of a municipality for initial permits to construct and operate or to renew a permit (unless otherwise determined by the department) for a landfill (other than one exclusively for ash residue, clean fill or construction and demolition debris), a solid waste incinerator (other than one used exclusively to incinerate regulated medical waste), a refuse-derived fuel processing facility, a construction and demolition debris processing facility, a mixed solid waste composting facility or a transfer station, (other than one used exclusively for transfer of regulated medical waste), the applicant must submit as part of a complete application a comprehensive recycling analysis, unless (for the service area for the proposed facility) such an analysis had been previously submitted and approved by the department; or a local solid waste management plan is in effect that addresses all components of such an analysis. The comprehensive recycling analysis must include the following:

(1) Identification of the actual or estimated quantity of recyclables, by type, that could potentially be recovered (whether or not feasible at the time of application), reflecting the State's solid waste management policy identified in section 27-0106 of the ECL and (for applications submitted before April 1, 1989) the goals and objectives of the New York State Solid Waste Management Plan in effect at the time of permit application. This identification must be determined by means of the following:

(i) an analysis of the composition (i.e., quantity and characteristics) of the solid waste presently generated within the facility's service area and projections for future waste generation including data which accounts for seasonal variations. This analysis may be based upon applicable published information. These projections must include a year-by-year evaluation of the solid waste stream generation for the expected life of the project;

(ii) an identification and evaluation of the types of solid waste contained in the overall waste stream (such as newsprint, corrugated and other grades of paper, glass, aluminum, ferrous and nonferrous metals, construction and demolition debris, rubber, tires, batteries, plastics, yard wastes) and, if the application pertains to a solid waste incinerator, (its residue) that could be reused, recovered as recyclables or composted; and

(iii) a description of the various strategies to achieve a reduction in the amount of solid waste destined for disposal including, but not limited to residential source separation and collection, intermediate processing, industrial and commercial recyclables recovery efforts, composting, and public education efforts describing the benefits of reuse and recyclables recovery.

(2) An evaluation of existing efforts to recover recyclables. This evaluation must include the following:

(i) identification of existing municipal, commercial, industrial and private efforts to recover recyclables. Data must include quantity and types of recyclables recovered, and a description of recyclables recovery programs used; and

(ii) an assessment of the impact of the proposed recyclables recovery effort on existing recyclables recovery programs.

(3) Identification of available and potential markets for recovered recyclables. This identification must be determined by means of the following:

(i) a review of available information to identify potential markets;

(ii) a survey of potential markets for recovered recyclables, an identification of all local and regional markets contacted, and the results of the survey. Survey data also must include material quality requirements and market pricing structures, if available;

(iii) an identification of the types of processing necessary for separation and upgrading of recovered recyclables to assure market acceptance;

(iv) an identification of market services available for assistance in preparation and transportation of recovered recyclables; and

(v) an identification of current and future restrictions to market development.

(4) Identification of alternative source separation/recyclables recovery programs considered, the proposed program and reasons for selection of the proposed program. This must contain the following:

(i) if a solid waste incinerator is the subject of the application, an engineering analysis of the Btu value of the solid waste before and after recyclables recovery for the proposed life of the project to determine if increases in recyclables recovery activities will necessitate changes in facility size and capacity; and

(ii) full documentation of the relationship between the solid waste incinerator, processing facility, or landfill size and capacity, the size and capacity of the selected recyclables recovery program and the effect of the implementation of that recyclables recovery program over the life of the solid waste management facility in question.

(5) Recyclables recovery program implementation in terms of:

(i) a detailed description of the procedures for implementation of the selected recyclables recovery program including: plan and scope of operation, equipment to be used, collection arrangements, processing and storage procedures, market agreements, funding sources, the entity responsible for program operation and management, and the availability of staff for program implementation;

(ii) the inclusion of a schedule with specific dates for implementation of the selected program (including dates to attain specified, progressively increasing percentages of the waste stream that will be recovered as recyclables) and a description of the proposed service area to be included in the selected program;

(iii) the inclusion of actions to be taken to maximize, to the extent practicable, the development and enhancement of economic markets for recyclables recovered within the service area under local laws or ordinances adopted or to be adopted under section 120-aa of the General Municipal Law; and

(iv) identification of the specific public relations and education programs to be undertaken for implementation of the recyclables recovery program.

(6) Legal/institutional analysis, including:

(i) an identification of the laws, rules, regulations, or ordinances which could cause potential constraints to the selected recyclables recovery program; and

(ii) the inclusion of a schedule and description of appropriate local laws or ordinances, if any, that must be adopted to facilitate the implementation of the selected recyclables recovery program and to develop and enhance economic markets for recyclables recovered within the service area.

(7) A discussion of possible future actions in the facility's service area to further the objectives of the State's solid waste management policy identified in section 27-0106 of the ECL. This discussion must include:

(i) a discussion pertaining to the scope of existing or new recyclables recovery programs;

(ii) after completing an engineering analysis as required by paragraph (4) of this subdivision, a determination that the facility has been properly sized, taking into account the potential for recyclables recovery and expanding the facility's service area;

(iii) a discussion of other means of program enhancement to promote recyclables recovery; and

(iv) a discussion of procurement practices to encourage the use of products containing recyclables.

(g) *Inactive hazardous waste disposal and corrective action sites.* (1) If the facility is proposed to be located at an inactive hazardous waste disposal site classified as Class 1, 2, 3 or 4 in the department's *Registry of Inactive Hazardous Waste Disposal Sites;* or if it is proposed to be located next to one and less than 150 feet separate the boundary of the facility and the border of the classified site that abuts the facility boundary, the applicant must submit as part of

a complete application sufficient information to allow the department to determine whether the proposed activity would interfere significantly with any potential, ongoing or completed inactive hazardous waste disposal site remedial program at the classified site or would expose the environment or public health to a significantly increased threat of harm. This information must be submitted in the form of a report prepared by an individual licensed to practice engineering in the State of New York, in which that individual concludes and substantiates that the proposed activity will neither interfere significantly with any potential, ongoing or completed inactive hazardous waste disposal site remedial program at the classified site, nor expose the environment or public health to a significantly increased threat of harm. That report must include, but is not limited to, the following:

(i) a general description of the hydrogeologic setting, including descriptions of the geology in the vicinity of the inactive hazardous waste disposal site, the occurrence of ground water in the vicinity of the site, the direction of ground water flow, and the extent and direction of movement of the contaminant plume, if any;

(ii) descriptions and evaluations of the effectiveness of any remedial actions taken to date at the classified site and/or discussions and preliminary evaluations of appropriate alternative remedial programs or supplemental remedial programs that would provide the required remediation of the classified site;

(iii) a discussion of the effects the proposed activity may have on any completed remediation and a discussion of the constraints the proposed activity may have on the alternative or supplemental remedial programs conceptualized in subparagraph (ii) of this paragraph, including: preclusion of alternatives and the availability of sufficient land to implement, monitor, operate, maintain and modify, if necessary, an alternative remedial program; and

(iv) in the case only of a landfill proposed to be located at a Class 1 or 2 inactive hazardous waste disposal site, or next to one where less than 150 feet separate the boundary of the facility and the border of the classified site that abuts the facility boundary, a detailed and data-supported assessment of the hydrogeological and environmental effects that the landfill will have on the remediation of the inactive hazardous waste disposal site during the landfill's operating life and post-closure period. This assessment must include modeling acceptable to the department and also must include, but not be limited to the following: behavior of the groundwater flow system under anticipated seasonal and long-term fluctuations of groundwater recharge and discharge (including any groundwater withdrawals associated with remediation of the inactive hazardous waste disposal site or construction of the proposed landfill), the transport and fate of contaminants in the subsurface (with particular emphasis on groundwater resources or users), the ongoing monitorability of the proposed landfill and the inactive hazardous waste disposal site, the continued effectiveness of remediation, and any other factors which may bear on the assessment of risk to public health and the environment from any reciprocal effects between the proposed landfill and the inactive hazardous waste disposal site.

(2) If a new facility or an expansion of an existing facility is proposed to be located at an inactive hazardous waste disposal site classified 2a in the department's *Registry of Inactive Hazardous Waste Disposal Sites,* or is proposed to be located next to such a site where less than 150 feet separate the boundary of the facility and the border of the classified site that abuts the facility boundary, the applicant must submit as part of a complete application, sufficient information to enable the department to classify the site in question as Class 1, 2, 3, 4 or 5 or to delete the site from the *Registry.* This information must be submitted in a report prepared by an individual licensed to practice engineering in the State of New York in which that person recommends and substantiates the proposed classification of the site or the deletion of the site from the *Registry.* That report must include, but is not limited to, the following:

(i) preliminary characterizations of hazardous waste present at this site;

(ii) identification of potential pathways of pollutant migration from this site;

(iii) a description of how the disposal area was used or operated at the time hazardous waste was or may have been disposed of;

(iv) identification of the source of the hazardous waste that was, or is suspected to have been, deposited at the site; and

(v) any additional information the department may request, including but not limited to geochemical or soil-gas investigations, geophysical survey using electronic and electromagnetic equipment and remote sensing analysis to study the geology of the site and to identify possible areas with buried drums or tanks or possible paths of contaminated plumes, and a sampling and analysis of samples from groundwater, surface water, sediments, lagoons and remaining wastes.

(3) If, after evaluating the information submitted pursuant to paragraph (2) of this subdivision, the department classifies the site described in that paragraph as Class 1, 2, 3 or 4 in the department's *Registry of Inactive Hazardous Waste Disposal Sites,* the commissioner shall not issue a decision on whether the permit shall be issued unless the applicant submits sufficient information to allow the department to determine whether the proposed activity would interfere significantly with any potential, ongoing or completed inactive hazardous waste disposal site remedial program at the classified site or would expose the environment or public health to a significantly increased threat of harm. This information must be submitted in the form of the report described in paragraph (1) of this subdivision.

(4) The requirements of paragraphs (1)-(3) of this subdivision do not apply if the classified site is delisted from the department's *Registry of Inactive Hazardous Waste Disposal Sites,* or reclassified as Class 5 on that *Registry.*

(5) If the facility is or is proposed to be located at a site subject to corrective action under title 9 of ECL, article 27 or if it is or is proposed to be located next to such a corrective action site and less than 150 feet separate the boundary of the facility and the border of the corrective action site that abuts the facility boundary, the applicant must submit as part of a complete application sufficient information to allow the department to determine whether the proposed activity would interfere significantly with any potential, ongoing or completed corrective action or would expose the environment or public health to a significantly increased threat of harm. This information must be submitted in the form of the report described in paragraph (1) of this subdivision.

(h) *Contingency plan.* Every application for a permit identified in this Part must include a contingency plan.

(1) This contingency plan must include, but is not limited to:

(i) a description of arrangements between the applicant and local police departments, fire departments, hospitals, contractors, equipment suppliers, and State and local emergency response teams to coordinate emergency services and familiarize them with the layout of the facility, properties of the solid waste handled at the facility and associated hazards, places where facility personnel normally would be working, entrances to and roads inside the facility, and possible evacuation routes, as appropriate;

(ii) a list of names, addresses and telephone numbers (office and home) of all individuals qualified to act as an emergency coordinator. Where more than one individual is listed, the primary coordinator must be listed first and the others listed in the order in which they will assume responsibility as alternates;

(iii) a list of all relevant emergency equipment maintained at the facility (such as, but not limited to, fire extinguishing systems, spill control equipment, and internal and external communications and alarm systems) and the location and a physical description of each item of emergency equipment with a brief outline of its capabilities; and

(iv) an evacuation plan for facility personnel, including a description of signals to be used to begin evacuation and of the primary and alternate evacuation routes.

(2) Additional requirements for such a plan for specific types of solid waste management facilities are found in the Subpart pertaining to the type of facility in question.

(i) *Signature and verification of applications.* (1) All applications for permits must be accompanied by evidence of authority to sign the application and must be signed by the applicant as follows:

(i) in the case of corporations, by a duly authorized principal executive officer of at least the level of vice president;

(ii) in the case of a partnership or limited partnership, by a general partner;

(iii) in the case of a sole proprietorship, by the proprietor; or

(iv) in the case of a municipal, State, or other governmental entity, by a duly authorized principal executive officer or elected official.

(2) Applications must be sworn to by, or on behalf of, the applicant, in respect to the veracity of all statements therein; or must bear an executed statement by, or on behalf of, the applicant as provided in section 210.45 of the Penal Law to the effect that false statements made therein are made under penalty of perjury.

Historical Note

Sec. filed Oct. 28, 1988; amds. filed: Nov. 26, 1991; Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-1.10 Permit issuance criteria.

(a) *Construction.* The department may issue a permit to authorize the construction of a new solid waste management facility or expansion of a facility only if the application's engineering and hydrogeological data and construction plans and specifications required by this Part substantiate that the proposed facility meets the requirements of the ECL and this Part; demonstrate an ability to operate in accordance with the requirements of the ECL and this Part; (for applications submitted before April 1, 1989) demonstrate consistency with the New York State Solid Waste Management Plan in effect at the time of application; describe how the proposed facility is consistent with the State's solid waste management policy identified in section 27-0106 of the ECL, and for applications submitted by or on behalf of a municipality in a planning unit after April 1, 1991, demonstrate that construction of the proposed facility is consistent with the local solid waste management plan in effect for the municipality.

(b) *Operation.* A permittee may not operate a solid waste management facility until if the permittee demonstrates to the department's satisfaction that the facility's construction is in accordance with the terms of the permit (and plans approved thereunder) issued pursuant to this Part; certification of construction has been submitted in accordance with section 360-1.11 of this Part and the department has inspected the facility and finds it to be in compliance with the permit (and plans approved thereunder); and a form of financial assurance or financial responsibility, if required, has been filed with the department.

Historical Note

Sec. filed Oct. 28, 1988; amd. filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-1.11 Permit provisions.

(a) *Mitigation of adverse impacts.* (1) The provisions of each permit issued pursuant to this Part must assure, to the extent practicable, that the permitted activity will pose no significant adverse impact on public health, safety or welfare, the environment or natural resources, and that the activity will comply with the requirements identified in this Subpart and the applicable Subpart pertaining to such a facility, and with other applicable laws and regulations. To provide such assurance, the department may impose conditions on such a permit, including but not limited to or exemplified by the following: inspection, financial assurance, technical data gathering and reporting, data analysis, quality control, quality assurance, sampling, monitoring (including the imposition of on-site environmental monitors), reporting and verification.

(2) In the case of on-site environmental monitors, funding shall be established with the department as follows:

(i) Within 15 calendar days after receipt of written notice from the department, the initial amount to be paid for environmental monitoring sufficient to pay all costs associated with the department's provisions of environmental compliance monitoring for such facility for the first year, the owner or operator shall submit to the department, the sum of money as determined by the department. This sum will be used toward payment of the first year costs for such monitoring. Costs for which payment must be made include, but are not limited to direct personal service costs and fringe benefits of the on-site environmental monitor(s) and full-time monitor supervisor(s), including the cost of replacement personnel for the monitor position; direct non-personal service costs including purchase or lease of a vehicle and its full operating costs; any appropriate chemical sampling and analysis; inflation and negotiated salary increases; and overhead and support costs at the approved federal indirect cost rate.

(ii) The on-site environmental monitoring payment sum shall be subject to quarterly revision by the department. Quarterly payments shall be made by the owner or operator for as long as the facility is subject to department regulations.

(iii) Within 30 calendar days after receipt of written notice from the department that payment is due, the owner or operator of the facility shall forward the amount due the department indicating which facility this amount is coming from. Payments are to be in advance of the period in which they will be expended.

(iv) In the event that the owner or operator of the facility fails to submit any of the environmental monitoring payments by the required submission dates, such owner or operator shall immediately cease acceptance of any and all solid waste of any kind at the facility and shall commence closure of the facility in accordance with the requirements of this Part and any permit or order to which the owner or operator is subject. Such cessation of waste acceptance shall be automatic, without the necessity of prior hearing or judicial review.

(v) Nothing in this Part shall preclude the department from otherwise requiring funding of on-site environmental monitoring at any solid waste management facility.

(b) *Transferability.* (1) All permits issued pursuant to this Part are transferable only upon prior written approval of the department and a demonstration that the prospective transferee will be able to comply with applicable laws and regulations, permit conditions, and other requirements to which the prospective transferor is subject.

(2) Upon transfer of ownership of all or part of a site used as a landfill, a provision must be included in the property deed indicating the period of time during which the property has been used as a landfill, a description of the solid waste contained within, and the fact that the records for the facility have been filed with the department. The deed also must reference a map, which must be filed with the county clerk, showing the limits of the areas in which solid waste is disposed within the property. In addition, inactive sites must meet the requirements of section 360-2.15(k) of this Part.

(c) *Duration of construction.* The department must fix the duration of construction for all solid waste management facilities, and construction must be completed pursuant to time frames which may be specified as special conditions in the permit.

(d) *Duration of permits.* The department must fix the duration of permits for a period not to exceed 10 years, except that permits issued pursuant to the Clean Water Act for sewage sludge must not be issued for a period exceeding five years. In establishing the permit term, the department will consider the extent of the commitment to implement a recyclables recovery program and to develop and enhance economic markets for recyclables recovered within the proposed service area under local laws or ordinances adopted or to be adopted under section 120-aa of the General Municipal Law.

(e) *Supervision and certification of construction.* The construction of a solid waste management facility and each stage of one must be undertaken under the supervision of an individual licensed to practice engineering in the State of New York. Upon completion of construction, that individual must certify in writing that the construction is in accordance with the terms of the applicable permit and tested in accordance with generally accepted engineering practices. Except

as specified elsewhere in this Part, this certification must be submitted to the department within three months after completion of construction and must include as-built plans. The operator must notify the department, in writing, of the date when solid waste will be first received at the facility.

(f) *Cessation of construction or operation activities.* If construction or operation activities started under a permit issued pursuant to this Part cease for a period of 12 consecutive months, the permit automatically expires on the last day of the 12th month following cessation of activities. There is no automatic expiration when the cessation of construction or operation is caused by factors beyond the reasonable control of the permittee as determined by the department, or when such cessation is in accordance with the provisions of the permit.

(g) *Department inspection of activities.* The permittee must authorize the commissioner or authorized department staff, after presentation of department credentials, to undertake inspections in accordance with section 360-1.4(b) of this Part.

(h) *Recyclables recovery.* In the case of a permit relating to a landfill (other than one used exclusively for ash residue, clean fill or construction and demolition debris), a solid waste incinerator (other than one used exclusively to incinerate regulated medical waste), a refuse-derived fuel processing facility, a construction and demolition debris processing facility, a mixed solid waste composting facility or a transfer station (other than one used exclusively for transfer of regulated medical waste), the permit must contain a condition that the permittee must not accept at the facility solid waste which was generated within a municipality that has either not completed a comprehensive recycling analysis or is not included in another municipality's comprehensive recycling analysis satisfying the requirements of section 360-1.9(f) of this Part which has been approved by the department and implemented the recyclables recovery program determined to be feasible by the analysis.

(i) *Approved design capacity.* Every permit must set forth the facility's approved design capacity.

Historical Note

Sec. filed Oct. 28, 1988; amds. filed: Nov. 26, 1991; Aug. 5, 1993; Sept. 27, 1996 eff. 60 days after filing. Amended (a)(2)(iv).

§ 360-1.12 Financial assurance.

(a) *Applicability.* (1) In addition to any financial assurance requirements specifically addressed in a Subpart of this Part, the department may require a form of financial assurance, acceptable to the department, from a permit holder, and conditioned upon compliance with the terms of the permit issued to such holder pursuant to this Part.

(2) A form of financial assurance, acceptable to the department, will be required to cover the cost of having the facility properly closed for facilities where the operator and the owner are not the same person.

(3) A form of financial assurance, acceptable to the department, may be required from registered facilities.

(b) *Liability coverage.* A form of financial assurance for claims arising out of injury to persons or property, relative to either sudden and accidental occurrences or non-sudden and accidental occurrences, may be required for solid waste management facilities. Such financial assurance may be in the form of liability insurance, self-insurance or other form acceptable to the department. The amount of such financial assurance is to be set by the department.

(c) *Forms of financial assurance.* Section 373-2.8 of this Title provides guidance on the criteria and wording of financial assurance instruments that the department will consider in assessing the acceptability of financial assurance mechanisms.

Historical Note

Sec. filed Oct. 28, 1988; amd. filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-1.13 Research, development and demonstration permits.

(a) *Permit.* The department may issue a research, development and demonstration permit for any solid waste management facility proposing to utilize an innovative and experimental solid waste management technology or process, including a beneficial use demonstration project. The application for such permit must clearly demonstrate adequate protection of public health and the environment and be consistent with federal and State laws and regulations and this Part. A permit issued under this section must not be for an activity of a continuing nature. The department may, at its discretion, waive or modify some or all of the application requirements for permits issued under this section.

(b) *Permit application.* An application for a permit issued under this section must:

(1) describe the proposed activity in detail;

(2) describe how the applicant intends to provide for the receipt and treatment or disposal by the proposed facility of only those types and quantities of solid waste necessary to determine the efficiency and performance capabilities of the technology or process and the effects of such technology or process on human health and the environment; and how the applicant intends to protect human health and the environment in the conduct of the project; and

(3) state that the applicant will provide on a timely basis, with the department with any information obtained as a result of the activity undertaken under the permit. The information must be submitted in accordance with schedules identified in the permit.

(c) *Permit restrictions.* The permit must:

(1) provide for the construction of facilities as necessary, and for the operation of the facility for not longer than one year (unless renewed as provided in subdivision [d] of this section);

(2) provide for the receipt and treatment or disposal by the facility of only those types and quantities of solid waste that the department determines necessary to determine, the efficiency and performance capabilities of the technology or process and the effects of such technology or process on human health and the environment;

(3) include such requirements as the department determines necessary to protect human health and the environment (including but not limited to requirements regarding monitoring, operation, financial assurance and closure, and such requirements as the department deems necessary regarding testing and providing of information to the commissioner about the operation of the facility); and

(4) provide that the commissioner, without affording the permittee a prior opportunity for a hearing, may order an immediate termination of all operations at the facility at any time the commissioner determines that termination is necessary to protect human health and the environment, provided that the permittee is provided an opportunity for a hearing on the termination issue no later than 10 days after the issuance of the order and a decision is rendered no more than 20 days after the close of the hearing record. Nothing in this Part shall preclude or affect the commissioner's authority to issue summary abatement orders under section 71-0301 of the ECL or to take emergency actions summarily suspending a permit under section 401.3 of the State Administrative Procedure Act.

(d) *Renewal.* Permits issued under this section may be renewed not more than three times, unless the permittee demonstrates to the satisfaction of the department that a longer time period is required to adequately assess the long-term environmental effects of the technology or process being studied under authority of the permit. Each renewal period will not exceed one year and will be conditioned upon compliance with this section.

Historical Note

Sec. filed Oct. 28, 1988; amd. filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-1.14 Operational requirements for all solid waste management facilities.

(a) *Applicability.* Except as elsewhere provided in this Part, any person who designs, constructs, maintains or operates any solid waste management facility subject to this Part must do so in conformance with the requirements of this section.

(b) *Water.* (1) Solid waste must not be deposited in, and must be prevented from, entering surface waters or groundwaters.

(2) Leachate. All solid waste management facilities must be constructed, operated and closed in a manner that minimizes the generation of leachate that must be disposed of and prevent the migration of leachate into surface and groundwaters. Leachate must not be allowed to drain or discharge into surface water except pursuant to a State Pollutant Discharge Elimination System permit and must not cause or contribute to contravention of groundwater quality standards established by the department pursuant to ECL section 17-0301.

(c) *Public access.* Public access to facilities and receipt of solid waste may occur only when an attendant is on duty. This provision does not apply to facilities (such as transfer stations) without permanent operating mechanical equipment.

(d) *Control of access.* Access to and use of the facility must be strictly and continuously controlled by fencing, gates, signs, natural barriers or other suitable means.

(e) *Control program for unauthorized waste.* (1) The facility owner or operator must institute a control program (including measures such as signs at all maintained access points indicating hours of operation and the types of solid waste accepted and not accepted, monitoring, alternate collection programs, passage of local laws, etc.) to assure that only solid waste authorized by the department to be treated, disposed of or transferred at the facility is being treated, disposed of or transferred at that facility. The facility owner or operator must develop and implement a program to teach the facility's staff to recognize, remove and report receipt of solid waste not authorized by the department to be treated, disposed of or transferred at the facility.

(2) If solid waste not authorized by the department to be treated, disposed of or transferred at the facility is observed in the solid waste at the facility or delivered to the facility, the facility owner or operator may refuse to accept the waste. If the owner or operator accepts the waste, the owner or operator must remove it, segregate it, and provide to the department a record identifying that waste and its final disposition. The department must be notified of each incident in the annual report and records of each incident must be available for department review. Any unauthorized waste accepted by the facility owner or operator must be managed in accordance with applicable federal or State laws and regulations.

(3) Solid waste not authorized by the department to be treated, disposed of or transferred at the facility that is segregated must be adequately secured and contained to prevent leakage or contamination of the environment. The facility owner or operator must cause it to be removed as soon as practicable, but not to exceed 90 days after discovery, by a person authorized to transport such waste to a facility approved to receive it for treatment, disposal or transfer.

(f) *Maintenance and operation.* (1) Facility components must be maintained and operated in accordance with the permit and intended use of the facility. Proper site grading must be maintained to prevent depressions, desiccation cracks or soil erosion and minimize ponding.

(2) Adequate numbers, types and sizes of properly maintained equipment must be available at the facility during all hours of operation to prevent curtailment of operations because of equipment failure except under extraordinary conditions beyond the control of the facility's owner or operator.

(3) Self inspection. The facility owner or operator must frequently monitor and inspect the facility for malfunctions, deteriorations, operator errors, and discharges that may cause a release to the environment or a threat to human health. The facility owner or operator must promptly remedy any deterioration or malfunction of equipment or structures or any other problems revealed by the inspections to ensure that no environmental or human health hazard develops. Where a hazard is imminent or has already occurred, remedial action must be taken immediately.

(g) *Contingency plan.* Contingency plans approved by the department for emergency situations must be implemented in accordance with the terms of the plan.

(h) *Monitoring samples and results.* Samples and measurements taken for the purpose of monitoring must be representative of the monitored activity and must be conducted in a manner approved by the department, including the use of a laboratory and data-reporting format acceptable to the department.

(i) *Recordkeeping.* (1) The facility owner or operator must retain records of all unauthorized solid waste accepted identifying the waste and its final disposition. Such records must be summarized in the annual report. They must include the date solid waste was received, the type of solid waste received, the date of disposal, the disposal method and location.

(2) The facility owner or operator must record self inspections as required by paragraph 360-1.14(f)(3) of this Subpart in an inspection log. These records must be retained for at least seven years from the date of inspection. They must include the date and time of the inspection, the name of the inspector, a description of the inspection including the identity of specific equipment and structures inspected, the observations recorded, and the date and nature of any remedial actions implemented or repairs made as a result of the inspection.

(3) Except as otherwise specified in this Part pertaining to a specific type of solid waste management facility, the facility owner or operator must keep records of all data used to develop or support the permit applications and any supplemental information submitted to comply with the requirements of this Part and pertaining to construction of the facility throughout the active life of the facility and the post-closure period. Records pertaining to the operation of the solid waste facility must be kept for a period of no less than seven years from the date they are made or are required to be made, whichever is later.

(4) The facility owner or operator must retain records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation; and copies of all reports required by, or by a permit issued under, this Part) for a period of at least seven years from the date of the sample analysis, measurement, report or application. Existing water quality records must be kept throughout the active life of the facility and the post-closure period. Records for monitoring information must include: the date, exact place, and time of sampling or measurements; the name of the individual who performed the sampling and measurement; the date analyses were performed; the name of the individual who performed the analyses; the analytical techniques or methods used; and the result of such analyses. Additional information relating to the analysis, including records of internal laboratory quality assurance and control, must be made available to the department at its request.

(j) *Confinement of solid waste.* Blowing litter must be confined to solid waste holding and operating areas by fencing or other suitable means. Solid waste must be confined to an area that can be effectively maintained, operated and controlled. Solid waste must not be accepted at a solid waste management facility unless the waste is adequately covered or confined in the vehicle transporting the waste to prevent dust, and blowing litter.

(k) *Dust control.* Dust must be effectively controlled so that it does not constitute a nuisance or hazard to health, safety, or property. The facility owner or operator must undertake any and all measures as required by the department to maintain and control dust at and emanating from the facility.

(l) *Vector control.* The facility must be maintained so as to prevent or control on-site populations of vectors using techniques appropriate for protection of human health and the environment and prevent the facility from being a vector breeding area.

(m) *Odor control.* Odors must be effectively controlled so that they do not constitute nuisances or hazards to health, safety or property.

(n) *On-site roads.* On-site roads and other throughways must be passable and safe at all times.

(o) *Equipment shelter.* Shelter for mobile equipment must be provided for routine maintenance and repair, as determined by the department.

(p) *Noise levels.* Noise levels resulting from equipment or operations at the facility must be controlled to prevent transmission of sound levels beyond the property line at locations zoned or otherwise authorized for residential purposes to exceed the following Leq energy equivalent sound levels:

Character of Community	*Leq Energy Equivalent Sound Levels*	
	7 a.m.-10 p.m.	*10 p.m.-7 a.m.*
Rural	57 decibels (A)	47 decibels (A)
Suburban	62 decibels (A)	52 decibels (A)
Urban	67 decibels (A)	57 decibels (A)

The Leq is the equivalent steady-state sound level which contains the same acoustic energy as the time varying sound level during a one-hour period. It is not necessary that the measurements be taken over a full one-hour time interval, but sufficient measurements must be available to allow a valid extrapolation to a one-hour time interval.

(1) If the background residual sound level (excluding any contributions from the solid waste management facility) exceeds these limits, the facility must not produce an Leq exceeding that background.

(2) The sound level must be the weighted sound pressure level measured with the slow metering characteristic and A-weighted.

(3) Measuring instruments must be Type 1 general purpose sound level meters, Type 2, or corresponding special sound level meters Type S1A or S2A.

(4) Mufflers are required on all internal combustion-powered equipment used at the facility. Sound levels for such equipment must not exceed 80 decibels at a distance of 50 feet from the operating equipment.

(q) *Open burning.* Open burning at a solid waste management facility is prohibited, except for the infrequent burning of agricultural wastes, silvicultural wastes, land clearing debris (excluding stumps), diseased trees or debris from emergency cleanup operation, pursuant to a restricted burning permit issued by the department. Measures must be taken immediately to extinguish any non-permitted open burning and the department must be notified that it has occurred.

(r) *Department-approved facilities.* Solid waste resulting from industrial or commercial operations, sludge, and septage must be processed, disposed, used or otherwise managed only at facilities that the department has specifically approved for such management of that specific waste.

(s) *Emergency numbers.* Telephone numbers to emergency response agencies such as the local police department, fire department, ambulance and hospital must be conspicuously posted in all areas where telephones are available for use at the facility.

(t) *Facilities.* Where operating personnel are required, certain facilities must be provided (except in the case of composting facilities using aerated static pile or windrow techniques and land application facilities). These facilities include adequately heated and lighted shelters, a safe drinking water supply, sanitary toilet facilities and radio or telephone communication.

(u) *Facility operator requirements.* (1) Except as otherwise specified in a Subpart of this Part pertaining to a specific type of solid waste management facility, the facility operator, during all hours of operation, must have available for use, a copy of the permit issued pursuant to this Part, including conditions, a copy of the operation and maintenance report, the contingency plan and the most recent annual report.

(2) Operation of every landfill, and other solid waste management facilities as directed by the department, must be conducted under the direction of a facility operator. The facility operator must attend and successfully complete within 12 months from their date of employment, a course of instruction in solid waste management procedures relevant to the facility at which the facility operator is employed. The course must be provided or approved by the

department. The department will issue a certificate of attendance to each individual successfully completing the course. Attendance at a department-approved course before the effective date of this Part will adequately satisfy these training requirements.

(v) *Salvaging.* Salvaging, if permitted by the facility owner or operator, must be controlled by the facility owner or operator within a designated salvage area and must not interfere with facility operations or create hazards or nuisances.

(w) *Closure.* The owner or operator of any active or inactive solid waste management facility must, upon termination of use, properly close that facility and must monitor and maintain such closure so as to minimize the need for further maintenance or corrective actions and to prevent or remedy adverse environmental or health impacts such as, but not limited to, contravention of surface water and groundwater quality standards, gas migration, odors and vectors. Termination of use includes those situations where a facility has not received solid waste for more than one year, unless otherwise provided by permit, or if the permit has expired. Termination of use also results from permit denial or order of the commissioner or of a court. Specific closure measures which may also include corrective actions as specified in this Part are subject to approval by the department.

Historical Note

Sec. filed Oct. 28, 1988; amd. filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-1.15 Beneficial use.

(a) *Applicability.* (1) This section applies to materials that, before being beneficially used (as determined by the department), were solid waste. This section does not apply to solid wastes subject to regulation under Subpart 360-4 of this Part, except in the manner identified in subdivision (b) of this section.

(2) Beneficial use determinations granted by the department before the effective date of this section shall remain in effect, subject to all conditions contained therein, unless specifically addressed by subsequent department action.

(b) *Solid waste cessation.* The following items are not considered solid waste for the purposes of this Part when used as described in this subdivision:

(1) materials identified in section 371.1(e)(1)(vi)-(vii) of this Title that cease to be solid waste under the conditions identified in those subparagraphs;

(2) compost and other waste derived soil conditioning products from facilities that are exempt or registered under this Part and products that satisfy the applicable requirements under Subpart 360-5 of this Part;

(3) unadulterated wood, wood chips, or bark from land clearing, logging operations, utility line clearing and maintenance operations, pulp and paper production, and wood products manufacturing, when these materials are placed in commerce for service as mulch, landscaping, animal bedding, erosion control, wood fuel production, and bulking agent at a compost facility operated in compliance with Subpart 360-5 of this Part;

(4) uncontaminated newspaper or newsprint when used as animal bedding;

(5) uncontaminated glass when used as a substitute for conventional aggregate in asphalt or subgrade applications;

(6) tire chips when used as an aggregate for road base materials or asphalt pavements in accordance with New York State Department of Transportation standard specifications, or whole tires or tire chips when used for energy recovery;

(7) uncontaminated soil which has been excavated as part of a construction project, and which is being used as a fill material, in place of soil native to the site of disposition;

(8) nonhazardous, contaminated soil which has been excavated as part of a construction project, other than a department-approved or undertaken inactive hazardous waste disposal site remediation program, and which is used as backfill for the same excavation or excavations containing similar contaminants at the same site. Excess materials on these projects are subject to the requirements of this Part. (*Note:* use of in-place and stockpiled soil from a site being

converted to a realty subdivision, as defined by the Public Health Law [10 NYCRR 72], must be approved by the local health department.);

(9) nonhazardous petroleum contaminated soil which has been decontaminated to the satisfaction of the department and is being used in a manner acceptable to the department;

(10) solid wastes which are approved in advance, in writing, by the department for use as daily cover material or other landfill liner or final cover system components pursuant to the provisions of subdivision 360-2.13(w) of this Part when these materials are received at the landfill;

(11) recognizable, uncontaminated concrete and concrete products, asphalt pavement, brick, glass, soil and rock placed in commerce for service as a substitute for conventional aggregate;

(12) nonhazardous petroleum contaminated soil when incorporated into asphalt pavement products by a producer authorized by the department;

(13) unadulterated wood combustion bottom ash, fly ash, or combined ash when used as a soil amendment or fertilizer, provided the application rate of the wood ash is limited to the nutrient need of the crop grown on the land on which the wood ash will be applied and does not exceed 16 dry tons per acre per year;

(14) coal combustion bottom ash placed in commerce to serve as a component in the manufacture of roofing shingles or asphalt products; or as a traction agent on roadways, parking lots and other driving surfaces;

(15) coal combustion fly ash or gas scrubbing by-products placed in commerce to serve as an ingredient to produce light weight block, light weight aggregate, low strength backfill material, manufactured gypsum or manufactured calcium chloride; and

(16) coal combustion fly ash or coal combustion bottom ash placed in commerce to serve as a cement or aggregate substitute in concrete or concrete products; as raw feed in the manufacture of cement; or placed in commerce to serve as structural fill within building foundations when placed above the seasonal high groundwater table.

(c) *Special reporting requirements.* No later than 60 days after the first day of January following each year of operation, the generator of coal combustion ash must submit a report to the department that identifies the respective quantities of coal combustion bottom ash, fly ash, and gas scrubbing by-products it generated during the calendar year to which it pertains and, with respect to coal combustion bottom ash, how much was sent to a manufacturer of roofing shingles or asphalt products, how much was used as a traction agent on roadways, parking lots, and other driving surfaces, how much was sent to a manufacturer of cement, concrete or concrete products, and how much was used as structural fill; and, with respect to coal combustion fly ash and to gas scrubbing by-products, how much was used to produce light weight block, light weight aggregate, low strength backfill material (flowable fill), manufactured gypsum or manufactured calcium chloride.

(d) *Case-specific beneficial use determinations.* (1) The generator or proposed user of a solid waste may petition the department, in writing, for a determination that the solid waste under review in the petition may be beneficially used in a manufacturing process to make a product or as an effective substitute for a commercial product. Unless otherwise directed by the department, the department may not consider any such petition unless it provides the following:

(i) a description of the solid waste under review and its proposed use;

(ii) chemical and physical characteristics of the solid waste under review and of each type of proposed product;

(iii) a demonstration that there is a known or reasonably probable market for the intended use of the solid waste under review and of all proposed products by providing one or more of the following:

(*a*) a contract to purchase the proposed product or to have the solid waste under review used in the manner proposed;

(*b*) a description of how the proposed product will be used;

(*c*) a demonstration that the proposed product complies with industry standards and specifications for that product; or

(*d*) other documentation that a market for the proposed product or use exists; and

(iv) a demonstration that the management of the solid waste under review will not adversely affect human health and safety, the environment, and natural resources by providing:

(*a*) a solid waster control plan that describes the following:

(*1*) the source of the solid waste under review, including contractual arrangements with the supplier;

(*2*) procedures for periodic testing of the solid waste under review and the proposed product to ensure that the proposed product's composition has not changed significantly;

(*3*) the disposition of any solid waste which may result from the manufacture of the product into which the solid waste under review is intended to be incorporated;

(*4*) a description of the type of storage (e.g., tank or pile) and the maximum anticipated inventory of the solid waste under review (not to exceed 90 days) before being used;

(*5*) procedures for run-on and run-off control of the storage areas for the solid waste under review; and

(*6*) a program and implementation schedule of best management practices designed to minimize uncontrolled dispersion of the solid waste under review before and during all aspects of its storage as inventory and/or during beneficial use; and

(*b*) a contingency plan that contains the information and is prepared in accordance with subdivision 360-1.9(h) of this Part.

(2) The department will determine in writing, on a case-by-case basis, whether the proposal constitutes a beneficial use based on a showing that all of the following criteria have been met:

(i) the essential nature of the proposed use of the material constitutes a reuse rather than disposal;

(ii) the proposal is consistent with the solid waste management policy contained in section 27-0106 of the ECL;

(iii) the material under review must be intended to function or serve as an effective substitute for an analogous raw material or fuel. When used as a fuel, the material must meet the requirements of paragraph 360-3.1(c)(4) of this Part and the facility combusting the material must comply with the registration requirements in subdivision 360-3.1(c) of this Part, if appropriate;

(iv) for a material which is proposed for incorporation into a manufacturing process, the material must not be required to be decontaminated or otherwise specially handled or processed before such incorporation, in order to minimize loss of material or to provide adequate protection, as needed, of public health, safety or welfare, the environment or natural resources;

(v) whether a market is existing or is reasonably certain to be developed for the proposed use of the material under review or the product into which the solid waste under review is proposed to be incorporated; and

(vi) other criteria as the department shall determine in its discretion to be appropriate.

(3) The department will either approve the petition, disapprove it, or allow the proposed use of the solid waste under review subject to such conditions as the department may impose. When granting a beneficial use determination, the department shall determine, on a case-by-case basis, the precise point at which the solid waste under review ceases to be solid waste.

Unless otherwise determined for the particular solid waste under review, that point occurs when it is used in a manufacturing process to make a product or used as an effective substitute for a commercial product or used as a fuel for energy recovery. As part of its petition, the petitioner may request that such point occur elsewhere. In such a request, the petitioner must include a demonstration that there is little potential for improper disposal of the material or little potential for the handling, transportation, or storage of the solid waste under review to have an adverse impact upon the public health, safety or welfare, the environment or natural resources.

(4) The department may revoke any determination made under this subdivision if it finds that one or more of the matters serving as the basis for the department's determination was incorrect or is no longer valid or the department finds that there has been a violation of any condition that the department attached to such determination.

Historical Note

Sec. filed Aug. 5, 1993; amd. filed Sept. 27, 1996; Jan. 7, 2003 eff. 60 days after filing. Amended (b)(2).

SUBPART 360-2
LANDFILLS

Sec.

Historical Note

Subpart (§§ 360-2.1—360-2.17) filed Oct. 28, 1988 eff. Dec. 31, 1988.

§ 360-2.1 Applicability.

In addition to the requirements set forth in Subpart 360-1 of this Part, this Subpart regulates the siting, design, construction, operation, closure, and post-closure activities, including, if necessary, corrective action of all new landfills, landfills existing on the effective date of this Part, and lateral or vertical expansions of landfills that dispose of solid waste other than those regulated under Subpart 360-7 and section 360-8.6 of this Part (however section 360-2.14[a] and [b][1] of this Subpart do not apply to landfills constructed or operated in Nassau or Suffolk County. Landfills in Nassau and Suffolk Counties are also subject to the requirements set forth in Subpart 360-8 of this Part). Liquid storage facilities as part of a landfill application must be designed, constructed, operated and closed in accordance with the provisions of Subpart 360-6 of this Part. The requirements for the construction and operation of landfill gas recovery facilities are specified under the provisions of section 360-2.16 of this Subpart. The provisions for the design of a monofill used for the disposal of ash from solid waste incinerators are addressed in section 360-2.14 of this Subpart. Subsequent landfill development (phased landfill construction beyond the initial permitted phase of construction but that which is entitled by permit) must demonstrate compliance with the design, construction, operation and closure requirements pursuant to the Part 360 regulations in effect at the time of subsequent development. This demonstration must also include a seismic analysis demonstrating compliance with the provisions of section 360-2.7(b)(7) of this Subpart and an estimate of the expected quantity of leachate to be generated from the subsequent portion of the landfill proposed for development pursuant to the provisions of section 360-2.7(b)(9) of this Subpart. The need for additional leachate storage capacity beyond that which was initially constructed must be assessed as a result of this leachate generation estimation.

Historical Note

Sec. filed Oct. 28, 1988; amds. filed: Aug. 5, 1993; Sept. 27, 1996 eff. 60 days after filing.

§ 360-2.2 Transition.

The transition requirements for construction, operation and closure of landfills subject to regulation under this Subpart are set forth in section 360-1.7(a)(3) of this Part. The transition rules in section 360-1.7(a)(3) shall not be construed to relieve the owner or operator of a municipal solid waste landfill accepting waste on or after November 8, 1987 from meeting the applicable requirements of 40 CFR part 60, subpart Cc and subpart WWW (see section 200.9 of this Title). Transition requirements for landfills in existence on the effective date of this Part that accept solid waste incinerator ash residue are also set forth in section 360-3.5(g)(5) of this Part.

Historical Note

Sec. filed Oct. 28, 1988; amds. filed: Aug. 5, 1993; Sept. 22, 1998 eff. Nov. 21, 1998.

§ 360-2.3 Permit application requirements.

In addition to the requirements set forth in section 360-1.9 of this Part, a complete application for the initial permit to construct and operate a landfill must contain the following:

(a) engineering drawings that set forth the proposed landfill's location, property boundaries, adjacent land uses and detailed construction plans pursuant to section 360-2.4 of this Subpart;

(b) operation drawings that prescribe how the landfill will fulfill the regulatory requirements pursuant to section 360-2.5 of this Subpart;

(c) a landscape plan prepared in accordance with section 360-2.6 of this Subpart;

(d) an engineering report that comprehensively describes the existing site conditions and a full engineering analysis of the landfill and its containment components, including closure and post-closure plans and criteria, prepared in accordance with sections 360-2.7 and 360-2.15 of this Subpart;

(e) a construction quality assurance/construction quality control plan prepared in accordance with section 360-2.8 of this Subpart;

(f) an operation and maintenance manual prepared in accordance with section 360-2.9 of this Subpart demonstrating how the landfill will meet the operation requirements set forth in section 360-2.17 of this Subpart;

(g) a contingency plan prepared in accordance with section 360-2.10 of this Subpart;

(h) a hydrogeologic report including an environmental monitoring plan prepared in accordance with the provisions of section 360-2.11 of this Subpart;

(i) a landfill siting report, if a landfill siting study is required under section 360-2.12(a) of this Subpart, prepared in accordance with section 360-2.12 of this Subpart;

(j) a comprehensive recycling analysis for an application submitted by or on behalf of a municipality, including a plan for implementing a feasible recyclables recovery program, prepared in accordance with section 360-1.9(f) of this Part; and

(k) a leachate management plan, which shall include the following:

(1) An estimate of the quality and quantity of leachate to be generated annually by the facility. The quantitative analysis shall be based on the leachate generation estimate as required pursuant to section 360-2.7(b)(9) of this Subpart.

(2) Design calculations and engineering drawings and specifications for the on-site leachate collection, removal and storage system including: a detailed description of the design, construction and operation of the system and all appurtenances; pretreatment systems; tanks, surface impoundments, manholes, pump stations; and all flow control and metering devices.

(3) If an on-site leachate treatment and discharge system is proposed for the facility, a description of the system, including an application for a State Pollutant Discharge Elimination System (SPDES) permit pursuant to ECL article 17, must be provided. A permit for the landfill may not be issued until a SPDES permit is granted to the facility operator. If an on-site pretreatment system is proposed to include provisions for a direct discharge to a sewer, a description of any pretreatment system and approval from the owner of the sewer system must be obtained prior to issuance of a permit.

(4) If vehicular transportation of leachate to an off-site treatment facility is proposed, the applicant must comply with the following:

(i) Prior to operation, the permittee must provide a copy of a signed contractual agreement with the owner/operator of an off-site wastewater treatment facility for treatment of leachate covering the minimum period of time of not less than one year; for purposes of permit issuance, the landfill owner/operator must provide a signed letter of intent from the owner/operator of the off-site permitted wastewater treatment facility to enter a contractual agreement for leachate treatment if the permit application is approved by the department.

(ii) Provide a copy of a signed letter of intent or contractual agreement with the owner/operator of an alternative off-site wastewater treatment facility that provides for backup treatment of leachate, in the event leachate cannot be treated by the primary wastewater treatment facility.

(iii) Provide a leachate management plan which will address the frequency for transport from the landfill to ensure adequate on-site leachate storage capacity, such that the landfill's leachate collection and removal systems will remain free draining.

(l) *a mined land use plan.* If the applicant plans to use on-site excavation of cover material for the proposed landfill, and construction of that landfill will not result in the reclamation of the area from which the cover material is to be removed, the applicant must submit a mined land use plan with information which demonstrates compliance with the applicable requirements of Part 422 of this Title. No such submission shall be required if the applicant plans to use on-site excavation of cover material for the proposed landfill and the landfill will be situated upon and result in the reclamation of the area from which the cover material is to be removed. Cover material excavated on-site may not be used off-site unless the applicant has first obtained a mining permit pursuant to Part 422 of this Title;

(m) the most recent closure cost estimate for the landfill prepared in accordance with section 360-2.19(b) of this Subpart and a copy of the documentation required to demonstrate the financial assurance under section 360-2.19(e) of this Subpart. For a new landfill, a copy of the required documentation must be submitted no later than 60 days prior to the initial receipt of solid waste;

(n) where applicable, the most recent post-closure care cost estimate for the landfill prepared in accordance with section 360-2.19(c) of this Subpart a copy of the documentation required to demonstrate the financial assurance under section 360-2.19(e) of this Subpart. For a new landfill, a copy of the required documentation may be submitted 60 days prior to the initial receipt of solid waste; and

(o) where applicable, the most recent corrective action cost estimate for the landfill prepared in accordance with section 360-2.19(d) of this Subpart and a copy of the documentation required to demonstrate the financial assurance under section 360-2.19(e) of this Subpart.

(p) Where applicable, an engineering report demonstrating how the landfill will meet the landfill gas collection system requirements set forth in Part 208 of this Title. Permit application requirements for the landfill gas control system required under Part 208 of this Title are contained in Part 201 of this Title.

Historical Note

Sec. filed Oct. 28, 1988; amds. filed: Aug. 5, 1993; Sept. 22, 1998; July 1, 2002 eff. 60 days after filing. Amended (p).

§ 360-2.4 Engineering drawings.

The engineering drawings must contain the following:

(a) A regional plan or map that delineates the entire existing and proposed service area, as appropriate; locates existing and proposed collection, processing and disposal operations when the applicant is a municipality; and indicates directions and distances to airports within five miles of the landfill.

(b) A vicinity plan or map that shows the area within one mile of the property boundaries of the landfill, including the existing and proposed zoning and land uses within that area; all

residences, public water supply wells, known principal and primary water supply aquifers, and surface waters (with quality classifications), access roads, bridges, railroads, airports, historic sites and other existing and proposed or natural features relating to the facility.

(c) Detailed plans that show the landfill's property boundaries (as certified by an individual licensed to practice land surveying in the State of New York), off-site and on-site utilities (such as electric, gas, water, storm and sanitary sewer systems), and right-of-way easements; the names and addresses of contiguous property owners; the location of soil borings, excavations, test pits, gas venting structures, wells, piezometers, environmental and facility monitoring points and devices (with each identified in accordance with a numbering system acceptable to the department and whose horizontal and vertical locations are accurate to the nearest 500th and 100th foot, respectively, as measured from the ground surface and top of well casing), benchmarks and permanent survey markers, and on-site buildings and appurtenances, fences, gates, roads, parking areas, drainage culverts, and signs; the delineation of the total landfill area including planned staged development of the landfill's construction and operation, and the lateral and vertical limits of previously filled areas; the location and identification of the sources of cover materials; the location and identification of special waste handling areas; a wind rose; and site topography with five-feet minimum contour intervals.

(d) Detailed engineering drawings of the landfill that clearly show in plan and cross-sectional views, the original, undeveloped site topography before excavation or placement of solid waste; the existing site topography (if different from the original, undeveloped site topography) including the location and approximate thickness and nature of any existing solid waste; using a 100-foot square grid depicting the elevations of the seasonal high groundwater table, known and interpolated bedrock elevations, the proposed limits of excavation giving the base elevations of the liner system and/or pore pressure relief system, and the final cover elevations for each grid intersection; construction detailed drawings depicting the location and placement of each liner system and of each leachate collection and removal system, locating and showing all critical grades and elevations of the collection pipe inverts and drainage envelopes, manholes, cleanouts, valves, sumps, leachate flow control and metering devices, and drainage blanket thicknesses; all berms, dikes, ditches, swales and other devices as needed to divert or collect surface water run-on or run-off; groundwater dewatering systems and soil pore pressure relief systems; the final elevations and grades of the landfill cover system including the grading and gas venting layer, low permeability barrier, topsoil layers; the system used for monitoring and venting the decomposition gases generated within the landfill; groundwater monitoring wells; geophysical and geochemical monitoring devices or structures; leachate storage, treatment and disposal system including the leachate collection network, sedimentation ponds and any leachate treatment, pretreatment, or storage facilities; typical roadway sections, indicating the pavement type, dimensions, slopes and profiles; the building floor plans, elevations, appurtenances; and plans detailing the landfill entrance area, including gates, fences and signs.

Historical Note

Sec. filed Oct. 28, 1988; amd. filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-2.5 Operation drawings.

The project's operation drawings must, be presented in a manner sufficiently clear and comprehensive for use by the landfill's operator during the life of the landfill; depict in plan and cross-sectional views the fill progression with respect to site life and contain:

(a) generalized fill progression drawings containing a description of the landfill's preparation and fill progression for the life of the landfill in terms of method, depth, location and sequence, including the elevation of the liners and leachate collection and removal systems and the projected final waste mass elevations;

(b) a survey control drawing depicting a method of survey baseline and elevation control for the operator which will provide for the location and description of a permanent surveying benchmark and other critical landfill monitoring locations and appurtenances for each 25 acres of developed landfill, or part thereof, at the site; and

(c) a detailed fill progression drawing describing the progression and placement of waste including lift thickness and compacted thickness of daily, intermediate and final cover for the first operational landfill phase for which the permit is being sought.

Historical Note

Sec. filed Oct. 28, 1988; amd. filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-2.6 Landscape plan.

A landfill's landscape plan must include:

(a) a landscape drawing to identify and locate existing and proposed vegetation to be used for cover, screening, and other purposes; and

(b) a seeding and planting schedule that accounts for each stage of landfill development, which addresses the construction, operation, and closure stages along with the future use proposals, including the identification of, and the rationale for, the seed mixture choice, fertilization, and procedures for seed application (which also identify seasonal limitations, as appropriate), mulching and maintenance.

Historical Note

Sec. filed Oct. 28, 1988; amd. filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-2.7 Engineering report.

An engineering report containing a description of the existing site conditions and an analysis of the proposed landfill that must:

(a) specify the proposed approved design capacity of the landfill for which approval is being sought, describing the number, types and the minimum specifications of all the necessary machinery and equipment needed to effectively operate the landfill at the proposed approved design capacity;

(b) contain a detailed site analysis of the proposed action including:

(1) the locations of the closest population centers;

(2) a comprehensive description of the primary transportation systems and routes in the landfill service area (*i.e.,* highways, railways, etc.);

(3) an analysis of the existing topography, surface water and subsurface geological conditions in accordance with the requirements of section 360-2.11 of this Subpart;

(4) a description of the materials and construction methods used for the placement of each monitoring well pursuant to the requirements of section 360-2.11 of this Subpart; all gas venting systems; each liner and leachate collection and removal system; leachate storage, treatment and disposal systems; and cover systems to demonstrate conformance with the requirements set forth in section 360-2.13 of this Subpart. This description also must include a discussion of provisions to be taken to prevent frost action upon each liner system in areas where refuse has not been placed;

(5) a description of post-construction care measures to be taken to ensure that the construction materials noted in paragraph (4) of this subdivision meet the specifications and comply with the requirements of section 360-2.13 of this Subpart from the time of construction completion to landfill operation;

(6) an analysis of the structural integrity and overall stability of the landfill site, the subbase, each component of the composite liners and each component of the final cover. At a minimum, the landfill design shall achieve the following factors of safety under static conditions, unless otherwise approved by the department:

(i) a minimum factor of safety of 2.00 for the bearing capacity and settlement of the landfill's subbase at full load conditions;

(ii) a minimum factor of safety of 1.25 for the structural design of the facility liner and leachate collection and removal system components; and

(iii) a minimum factor of safety of 1.50 for the final cover system;

(7) a seismic analysis for new landfills, lateral expansions of existing landfills, and subsequent development of any landfill permitted pursuant to these provisions located in a seismic impact zone, as defined in subparagraph (i) of this paragraph. Such analysis must use reasonable judgement that addresses the serviceable life of the landfill, its internal components and its related appurtenances. At a minimum, the analysis must demonstrate that all long-term containment structures including liners, leachate collection and removal systems, and surface

water control systems, are designed to retain a minimum factor of safety of 1.0, unless otherwise approved by the department, to resist the maximum horizontal acceleration for the site as defined in subparagraph (ii) of this paragraph:

(i) *seismic impact zone* means an area with a 10 percent or greater probability that the maximum horizontal acceleration in lithified earth material, expressed as a percentage of the earth's gravitational pull (g), will exceed 0.10g in 250 years as delineated on the most current version of the United States Geological Survey Map - MF 2120 entitled Probabilistic Earthquake Acceleration and Velocity Maps for the United States and Puerto Rico by S. T. Algermissen, D. M. Perkins, P.C. Thenhaus, S. L. Hanson, and B. L. Bender - 1990 or other equivalent seismic impact zone map approved by the department;

(ii) *maximum horizontal acceleration in lithified earth material* means the maximum expected horizontal acceleration depicted on a seismic hazard map, with a 90 percent or greater probability that the acceleration will not be exceeded in 250 years, or the maximum expected horizontal acceleration based on a site-specific seismic risk assessment;

(iii) *lithified earth material* means all rock, including all naturally occurring and naturally formed aggregates or masses of minerals or small particles of older rock that formed by crystallization of magma or by induration of loose sediments. This term does not include man-made materials, such as fill, concrete, and asphalt, or unconsolidated earth materials, soil, or regolith lying at or near the earth surface;

(8) an erosion and sediment control plan prepared in accordance with department approved guidelines and containing an analysis of the surface water run-on/run-off control systems which must address effective sedimentation and erosion controls for all perimeter ditches, berms, siltation fences, hay bales and/or sedimentation basins which shall be designed as follows:

(i) a run-on control system designed to prevent surface water flow onto the active portion of the landfill during the peak discharge of a 24-hour, 25-year storm; and

(ii) a run-off control system designed to collect and control flow resulting from a 24-hour, 25-year storm. All run-off which emanates from active disposal areas covered with only daily cover or run-off which comes into contact with solid waste or leachate, must be considered leachate and be appropriately collected and removed by the landfill's leachate collection and removal system;

(9) an estimate of the expected quantity of leachate to be generated from the first operational landfill subcell or phase for which the permit is being sought and prior to commencement of construction of any subsequent developments, including:

(i) an annual water budget that must estimate leachate generation quantities during initial start-up operation, upon application of intermediate cover as intermediate operation, and following facility closure. For landfill expansions or those undergoing subsequent development, actual leachate generation data from the existing landfill must be submitted; for new landfills, actual leachate generation data from similarly designed and operated landfills may be used to derive the estimated leachate generation rates which must be submitted. For empirically derived leachate generation estimates, at a minimum, the following factors must be considered to determine the amount of leachate generated: average monthly temperature, average monthly precipitation, evaporation, evapotranspiration, which considers the vegetation type and root zone depth (if appropriate), surface/cover soil conditions and their relation to precipitation run-off which accounts for the surface conditions and soil moisture holding capacity. All precipitation derived surface water run-off from active portions of the landfill (i.e., those portions to which no intermediate or final cover has been applied) must be considered in the leachate generation analysis along with all other sources of moisture contribution to the landfill. The landfill's primary leachate collection and removal system must be hydraulicly designed so as to ensure that the leachate head buildup over the liner does not exceed one foot, based on the maximum infiltration rate as determined for the landfill for an initial start-up condition of little or no waste in place in the landfill. The leachate collection pipe network must be sized to enable the peak flow attributed to a 24-hour, 25-year storm to be removed from the landfill cell within seven days,

or less and providing that such accumulation of leachate will not result in seepage in the leachate collection and removal system which could be deleterious to the landfill's side slopes' overall stability and the ability of the landfill to meet the requirements of subparagraph (iv) of this paragraph;

(ii) liner and leachate collection system efficiencies must be calculated using an appropriate analytical or numerical assessment. The factors to be considered in the calculation of collection system efficiency must include, at a minimum, the saturated hydraulic conductivity of the liner, the liner thickness, the saturated hydraulic conductivity of the leachate collection system, the leachate collection system porosity, leachate collection system pipe size, slope and spacing, the maximum anticipated design density and permeability of the proposed waste mass, the base slope of the liner and leachate collection and removal system interface, the maximum flow distance across the liner and leachate collection and removal system interface to the nearest leachate collection pipe, the estimated leachate generation quantity, as computed in accordance with the requirements of subparagraph (i) of this paragraph; and

(iii) predictions of the static head of leachate on the liners, volume of leachate to be collected, and the volume of leachate that may permeate through the entire liner system all on a monthly basis. Information gained from the leachate collection system and efficiency calculations required in subparagraphs (i) and (ii) of this paragraph must be used to make these predictions. This assessment must also address the quantification of the amount of liquid expected to be found in the secondary leachate collection and removal system in gallons per acre per day (the "allowable leakage rate").

(iv) Unless otherwise approved by the department, the maximum allowable leakage rate measured in the secondary leachate collection and removal system shall not exceed 20 gallons per acre per day (based on a 30-day average) for all new or expanded existing double lined landfills. The landfill's primary and secondary leachate collection and removal systems (*i.e.,* sumps, manholes, pump stations, storage tanks) must include leachate flow metering devices and controls to enable the landfill operator to effectively quantify leachate flow rates from separately operating landfill subcells. This shall include the design of at least two separately functioning subcells which incorporate an ability to distinctly monitor leachate collection and removal system flows between landfill subcells, so that a nonfunctioning subcell could be made inoperable to allow for further investigation and/or remediation while another subcell could continue to receive solid waste. These contingency operations must be further discussed in the contingency plan prepared pursuant to the provisions of section 360-2.10 of this Subpart.

(10) The design of the leachate storage facility must be in accordance with the requirements of Subpart 360-6 of this Part. For all new landfills, except for expansions to existing lined landfills which currently have a leachate storage facility, the landfill's leachate storage facility's capacity must be based upon the leachate generation calculation required in paragraph (9) of this subdivision. The minimum design capacity for the leachate storage facility must be based on the proposed leachate generation rate and must be capable of containing a minimum of three months combined flow during the peak flow period, as calculated for the initial start-up condition of the landfill, unless otherwise approved by the department.

(c) discuss the closure and post-closure maintenance and operation of the landfill, which must include, but not be limited to:

(1) a conceptual closure design consistent with the requirements of section 360-2.15 of this Subpart;

(2) a post-closure water quality monitoring program consistent with the requirements of sections 360-2.11 and 360-2.15 of this Subpart;

(3) an operation and closure plan for the leachate collection, treatment, and storage facilities consistent with the requirements of this Subpart and Subpart 360-6 of this Part; and

(4) a discussion of the future use of the site, including the specific proposed or alternative uses. Future uses must conform to the landscape plan, required pursuant to section 360-2.6 of this Part, and must not adversely affect the final cover system.

Historical Note

Sec. filed Oct. 28, 1988; amds. filed: Aug. 5, 1993; Sept. 27, 1996 eff. 60 days after filing. Amended (b)(6), (7), (10).

§ 360-2.8 Construction quality assurance/construction quality control plan.

The project's construction quality assurance (CQA)/construction quality control (CQC) plan must address the observations and tests that will be used before, during, and upon completion of construction to ensure that the construction materials will meet the design criteria and specifications as required by section 360-2.7, and the construction and certification requirements set forth in section 360-2.13 of this Subpart and also contain the procedures to ensure that the post-construction care requirements will be maintained prior to initial operation. This plan shall be made part of the reference information contained in the construction contract documents. For each specified phase of construction, this plan must include, but not be limited to:

(a) *Responsibilities and authorities.* A delineation of the responsibilities and authorities for the CQA/CQC management organization, including those personnel involved in preparing the permit application and designing and constructing the facility so as to allow for effective lines of communication to facilitate proper and responsible decision-making during the construction of the landfill. To accomplish this, a specific chain of command for the CQA/CQC inspectors must be identified. The CQA/CQC plan must effectively demonstrate to the department that the certifying engineer is capable of operating independently and without influence from the construction contractor and the facility owner, and must be an individual licensed to practice engineering in the State of New York. The CQA/CQC plan shall require a preconstruction meeting to be held upon award of the construction contract and require the attendance of the facility owner/operator, design engineer, the CQA/CQC personnel, and the prime construction contractor. Topics for discussion at this meeting shall include, but not be limited to: providing each involved entity with all relevant CQA/CQC documents and supporting information; addressing the site-specific CQA/CQC plan and its role relative to the design criteria, plans and specifications; reviewing the responsibilities, authorities and lines of communication for each of the involved entities; reviewing the established procedures for observation and testing including sampling strategies identified in the CQA/CQC plan; reviewing the established acceptance and rejection criteria as specified in the CQA/CQC plan and the approved specifications, along with methods and means for decisionmaking and/or resolution of problems over data; reviewing methods for documenting and reporting all inspection data; discussing procedures for the storage and protection of landfill construction materials on-site; conducting a site walk-around to review the project site layout and construction material and equipment storage locations.

(b) *Personnel qualifications.* A description of the required level of experience and training for the contractor, crew, and CQA/CQC inspectors for every major phase of construction in sufficient detail to demonstrate to the department that the installation methods and procedures required in section 360-2.13 of this Subpart will be properly implemented. It is recommended that an appropriate number of CQA/CQC officers and supporting CQA/CQC inspection personnel be certified through a department approved program that will result in improved landfill construction quality.

(c) *Inspection activities.* A description of all field observations, tests, equipment, calibration procedures for field testing equipment that will be used to ensure that the construction and installation meets or exceeds all design criteria, as required by sections 360-2.7 and 360-2.13 of this Subpart, and the approved plans and specifications for the proposed facility must be presented in the CQA/CQC plan.

(d) *Sampling strategies.* Descriptions of all sampling protocols, sample size, methods for determining sample locations and frequency of sampling must be presented in the CQA/CQC plan. Also, laboratory procedures and the calibration of laboratory equipment, which will be used

for sample analysis and the appropriate acceptance and rejection criteria pertaining to the laboratory results must be presented in the CQA/CQC plan.

(e) *Documentation.* Reporting requirements for CQA/CQC activities must be described in detail in the CQA/CQC plan. This should include daily summary reports, inspection data sheets, problem identification and corrective measures reports, acceptance reports, and final documentation. Daily progress and problem/work deficiency meetings must also be addressed in the CQA/CQC plan, and the contents of these meetings must be documented. Such documentation must be provided in the construction certification report. All of the CQA/CQC activities as detailed in the CQA/CQC plan and project specifications must be thoroughly documented in the construction certification report and submitted to the department pursuant to the provisions of section 360-2.13 of this Subpart.

Historical Note

Sec. filed Oct. 28, 1988; amds. filed: Aug. 5, 1993; Sept. 27, 1996 eff. 60 days after filing. Amended (a), (e).

§ 360-2.9 Operation and maintenance manual.

The operation and maintenance manual for a landfill must contain a comprehensive description that reflects the day-to-day facility operations throughout the active life of the facility. This description should refer to the operation drawings prepared in accordance with section 360-2.5 of this Subpart. The narrative description must be sufficiently detailed to explain all pertinent methods of operations and related procedures as set forth in this section, addressing appropriate sequencing of all major landfilling activities and adequately demonstrating how the proposal will meet the operation and reporting requirements set forth in sections 360-1.14 and 360-2.17 of this Part. The operation and maintenance manual must include samples of all reporting forms, logs, plans, and must include the following:

(a) *Landfill disposal methods.* A general description shall be provided of the landfill's overall operation, stipulating how this facility will be operated in an environmentally sound and resource conscious manner. Owners/operators of all new or expanded landfills which have a department approved liner and leachate collection and removal system are encouraged to utilize operational methods which conserve natural resources through alternative daily cover materials, contingent upon demonstration of compliance with all applicable provisions of this Part. Active landfill management techniques to encourage rapid waste mass stabilization and alternative energy resource production and enhanced landfill gas emission collection systems are encouraged and should be addressed in the landfill's engineering report and in the operation and maintenance manual.

(b) *Personnel requirements.* A description of the project's personnel requirements, stating personnel responsibilities and duties and lines of authority at the landfill, including discussions for implementation of a training program for facility operators and other key personnel for the overall operation of the approved facility. Such training shall include, but not be limited to training of on-site personnel in waste identification and restriction procedures, facility performance monitoring, and reporting health and safety issues for site personnel and facility users.

(c) *Machinery and equipment.* A description of all the machinery and equipment, including health and safety and gas monitoring equipment, to be used at the landfill, their intended uses, safety features and availability of standby equipment in the event of breakdowns, maintenance, or loss of power.

(d) *Landfill operational controls.* A description of the operational controls, including, but not limited to signs, hours and days of operation, usage rules and regulations, and traffic controls.

(e) *Fill progression.* A detailed description of the landfill's fill progression, addressing and detailing typical daily cell progression and lift sequence, and provisions for subsequent development of the landfill. This description of fill progression must also discuss such contingency operations as having at least separately operable and monitored subcells within the active portion of the landfill. Details of surface water run-off controls from within and around the landfill should also be depicted and discussed. A daily log of solid wastes received at the landfill must be

maintained that includes the following information: waste type, quantity, origin and/or hauler and date received. In addition, location of each days operation shall be indicated on a copy of the detailed fill progression drawing required pursuant to section 360-2.5(c) of this Subpart. This plan must also depict the grades needed to comply with the approved closure plan, pursuant to section 360-2.15 of this Subpart, and address progressive capping for landfill development.

(f) *Waste amounts and characterization.* A description of the anticipated amount of all solid waste to be received per day, specifying the quantities received in tons per day, the specifications for the select waste to be placed as the first lift of waste ensuring compliance with the provisions of section 360-2.17(b)(3) of this Subpart, the method of solid waste placement and compaction, and the anticipated in-place density.

(g) *Solid waste receiving process.* A description of the landfill's solid waste receiving and monitoring process for solid waste, a system for daily recording of solid waste received on a basis of type (such as municipal solid waste, ash, sludge, industrial waste, etc.) and quantity; procedures for identification of the solid waste to be restricted; and identification of those wastes required to undergo special handling or treatment before acceptance (such as, asbestos wastes, sludges, etc.).

(h) *Cover material management plan.* A detailed description of the types and functions of daily, intermediate and final cover must be addressed in this plan. This plan must include material specifications for daily, intermediate and final cover, the identification of the quantities required for each type of cover material, and its on-site storage location must be identified on the operation drawings. The plan must address the method of cover material placement, compaction, and its anticipated permeability and density. This plan may address the use of alternative daily cover materials in accordance with the provisions of section 360-2.17(c) of this Subpart, and reclamation of intermediate cover soil materials, provided it can be demonstrated that litter and odors, and waste mass stability are not adversely affected in the efforts to conserve both natural resources and landfill airspace.

(i) *Environmental monitoring plan.* A copy of the environmental monitoring plan as required in section 360-2.11 of this Subpart.

(j) *Leachate management plan.* A comprehensive description of the landfill's leachate management plan, which must address the leachate collection, storage, removal, and treatment systems to be utilized and a discussion of the specific design and operational features related to these systems, including leachate monitoring, alarm systems and maintenance and any required back-up equipment identified by the landfill designer, which must be maintained on-site. In addition this plan must include the following:

(1) This plan shall identify how the landfill is to be constructed, operated, and closed in a manner which minimizes the generation of leachate except in those cases where the department has approved the introduction of leachate for waste mass stabilization enhancement, and how it will prevent the migration of leachate into surface or groundwater.

(2) Adequate direction to the landfill operator regarding considerations for changing waste mass permeability and the adverse effects that increased waste density and decreased waste mass permeability may have on effective leachate collection and removal for the landfill. The plans must include operational methods to minimize the occurrence of perched reservoirs of leachate trapped within the waste mass above the leachate collection and removal system and surface seeps of leachate for above grade (area method) landfill operations shall be discussed. Guidelines for proper selection and placement of daily and intermediate cover materials must also be given, with respect to permeability of these soil covers, such that effective leachate management is maintained.

(3) A schedule for the routine annual flushing and inspection as a maintenance program for the primary leachate collection and removal system must be established to prevent clogging and to establish a means to assess the overall operation and performance of the system. An operational log recording monthly total leachate generation amounts and a maintenance log documenting compliance with this schedule must be kept at the site and be made a part of the landfill's annual report.

(4) For double lined landfills, a schedule for the daily monitoring and recording of the secondary leachate collection and removal system flow data shall be established to determine the presence, quantity, nature and significance of any liquid detected. Automated data logging and recording systems may be used providing they adequately address the notification requirements. This shall provide for notification to the department of flows in excess of 20 gallons per acre per day (based on a 30-day average), and comply with the provisions of section 360-2.10(b) of this Subpart, and ensure that the secondary leachate collection and removal system is maintained in a free flowing condition to prevent excessive leachate head accumulation on the lower liner.

(k) *Gas monitoring program.* A description of the project's gas monitoring program, which demonstrates compliance with the provisions of section 360-2.17(f) of this Subpart and discusses

explosive gas generation at the landfill and the controls used to ensure that such gas will not create a hazard to health, safety, or property.

(l) *Winter and inclement weather operations.* A description of how winter and inclement weather operations will be conducted including identification of those specific provisions to be taken to prevent frost action upon the liner system in places where refuse has not been placed.

(m) *Convenience station operation.* If applicable, a description of the operation of a convenience station at the landfill for smaller, private vehicles to unload refuse at an area other than the landfill's working face.

(n) *First lift placement procedures.* A description of the procedures and precautions to be taken during the placement of the first lift of waste above the liner and leachate collection system, describing the select solid waste and its placement, approach and operation of collection vehicles and compaction equipment, with concern for minimizing adverse impacts on the liner and leachate collection system. These procedures shall include an assessment and/or demonstration of adequate liner and leachate collection and removal system performance upon completion of final placement of the first lift of select solid waste placed in accordance with the provisions of section 360-2.17(b)(3) of this Subpart.

(o) *Fire prevention plan.* This plan must contain sufficient information for use as a landfill personnel training document illustrating procedures on landfill fire prevention and necessary procedures to be taken in the event of a landfill fire. This plan must include set procedures for scale-house personnel for directing waste haulers with hot loads to a separate safe area designated as a hot-load extinguishing area. The plan must also address all on-site fire fighting apparatus and related personnel training on its appropriate use. The plan must also identify all appropriate emergency telephone numbers, which must be clearly posted near or on each landfill telephone.

Historical Note

Sec. filed Oct. 28, 1988; amd. filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-2.10 Contingency plan.

The contingency plan must discuss technically and financially feasible courses of action to be taken in responding to emergencies or other special conditions, and include the following:

(a) *Construction related contingency plan.* A detailed description of the courses of action which should be taken in responding to contingency events which may occur during all phases of construction of the landfill. This plan must, at a minimum, address the following contingencies: unexpected construction work delays caused by precipitation and other adverse weather conditions, damaged construction materials and/or equipment, unavailability of approved construction materials and/or subcontractors; on-site personnel injury; excessive dust; excessive noise; equipment breakdown or unavailability of equipment; unusual traffic conditions; and uncontrolled releases of run-off to adjacent surface waters. The applicant must ensure that the items addressed in the construction related contingency plan are included in the construction contract documents and specifications.

(b) *Operation related contingency plan.* (1) Routine operations. A detailed description of the courses of action which should be taken in responding to contingency events which may occur during the operation of a landfill. This plan must address the following contingencies: inoperable leachate pumps; loss of electrical power; personnel and user safety, including access into confined spaces for monitoring and maintenance purposes; on-site personal injury; fires; explosive landfill gases detected on-site or beyond the property boundary; dust; litter; odor; noise; equipment breakdown or unavailability of equipment; unusual traffic conditions; vectors; deposits or receipt of waste not authorized by the department for disposal at the facility (e.g., hazardous waste); releases of toxic materials; groundwater and surface water contamination, which may include public and private water supply contamination, including State and local government officials to be notified; the leachate storage facility being at or above the approved capacity; tank and surface impoundment spills or leakage, including removal of the waste and repair of such structures; and the unavailability of the approved leachate treatment facility to accept leachate from the landfill for an indefinite period of time. Monitoring, maintenance and safety equipment

which will be available to on-site personnel must also be discussed in this plan as they relate to a specific contingency action. A description and the location of all alarm systems (i.e., high water level alarms) must be described in this plan.

(2) Exceedance of allowable primary liner system leakage. A plan providing a description of the actions to be taken should the primary liner allowable leakage rate of 20 gallons per acre per day (based on a 30-day average) be exceeded must be submitted for department approval. At a minimum, the owner or operator must implement the following procedures:

(i) notify the department in writing within seven days of the determination of exceedance;

(ii) submit a preliminary written assessment to the department within 14 days of the determination, which must include a description of the amount of liquid and the suspected source or contributions to the excessive leakage rate exhibited, considering precipitation events, possible location, size and cause of any leaks, and short-term actions that have either been taken and/or are planned;

(iii) investigate and determine, to the extent practicable, the location, size and cause of the leaks;

(iv) determine whether waste receipt should cease or be curtailed, whether any waste should be removed from the cell for inspection, repairs, or controls, and whether or not the cell should be closed or remediated (i.e., installation of an internal barrier to divert leachate flow to an acceptable cell);

(v) determine any other short-term or long-term actions to be taken to reduce the excessive leakage rate; and

(vi) within 30 days after the notification that the allowable leakage rate has been exceeded, submit to the department the results of the analyses specified in subparagraphs (iii)-(v) of this paragraph, the results of the actions taken, and actions planned. Monthly thereafter, as long as the flow rate in the secondary leachate collection and removal system exceeds the allowable leakage rate, a report must be submitted to the department summarizing the results of any remedial actions taken and actions planned in order to reduce the leakage to an allowable level. The department retains the authority to require other remedial measures, including facility closure, based on the significance of the leakage.

(c) *Post-closure contingency plan.* A post-closure contingency plan must be completed as part of the final closure plan, in accordance with section 360-2.15(k)(7)(v) of this Subpart.

Historical Note

Sec. filed Oct. 28, 1988; amd. filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-2.11 Hydrogeologic report.

The hydrogeologic report must define the landfill site geology and hydrology and relate these factors to regional and local hydrogeologic patterns; define the critical stratigraphic section for the site; provide an understanding of groundwater and surface water flow at the site sufficient to determine the suitability of the site for a landfill; establish an environmental monitoring system capable of readily detecting a contaminant release from the facility and determining whether the site is contaminating surface or subsurface waters; and form the basis for design of the facility and contingency plans relating to ground or surface water contamination or gas migration as required in section 360-2.10 of this Subpart. The scope and extent of investigations necessary in the hydrogeologic report will vary based upon the hydrogeologic complexity of the site and the ability of the site to restrict contaminant migration. Additionally, the hydrogeologic report must define the engineering properties of the site as necessary for proper design and construction of any facilities proposed to be built at the site.

(a) *Requirements of the site investigation plan.* The site investigation plan must clearly define all methods used in investigating the hydrogeologic conditions of the site, the scope of the intended investigation, and any specific hydrogeologic questions to be addressed. The applicant is strongly encouraged to develop a draft version of the plan for review by the department before starting the hydrogeologic investigation that begins to define the critical stratigraphic section, and

to keep the department informed of the findings and subsequent investigative proposals as the study proceeds. The final version of the plan, included in the hydrogeologic report section of the permit application, must fully describe all methods of investigation used. Unless otherwise approved by the department, the plan must comply with the following:

(1) General requirements for all methods used. In obtaining the required hydrogeologic information, the applicant must employ current, standard, and generally accepted procedures. All work must be done in accordance with applicable American Society for Testing Materials standards or current and appropriate U.S. Environmental Protection Agency and department guidance documents. Alternative or innovative methodologies may be approved by the department; however, the department may initially require redundant technologies to prove the reliability of a new methodology. All procedures must be conducted under the supervision of a qualified groundwater scientist having experience in similar hydrogeologic investigations, in a manner that ensures accuracy of the data and precludes environmental degradation. The location of all installations, geophysical and geochemical surveys, and seismic lines for the proposed investigation must be shown on a map with the same scale and coordinate grid system used on the engineering plans (see section 360-1.9[e] of this Part).

(2) Literature search. A comprehensive search must be made for pertinent and reliable information concerning regional and site specific hydrogeologic conditions. The literature search must include, as available, records and reports of the New York State Department of Health, the New York State Department of Transportation, the U.S. Soil Conservation Service, and the New York State Geological Survey; basin planning reports, groundwater bulletins, water supply papers, professional papers and other open file reports of the U.S. Geological Survey; bulletins, circulars, map and chart series, memoirs and other publications of the New York State Geologic Survey; publications and bulletins of the Geological Society of America and other professional organizations; and publications of the U.S. Environmental Protection Agency and the department, college and university reports; and aerial photography or remotely sensed imagery.

(3) Surficial geologic mapping. The site must be mapped to determine the distribution of surficial deposits on and surrounding the site based upon information from the hydrogeologic investigation, field evaluations, and field confirmation of all interpretations made on the site itself.

(4) Test pits. Test pits may be used to determine shallow stratigraphy. The test pits must not create a health or safety hazard and must be logged by a geologist or geotechnical engineer with experience in similar hydrogeologic investigations. Logs must include: elevations; surface features before excavation; depth of the test pit and of all relevant horizons or features; moisture content of units; standard soil classifications (including the Unified Soil Classification System), stratigraphy, soil structure, bedrock lithology, brittle, or secondary structures in soil and bedrock; and a sketch showing these features for each test pit constructed. Test pits must be promptly backfilled and compacted with excavated materials. The department may require that, if a test pit is dug, undisturbed soil samples be taken and tested in accordance with subparagraph (9)(ii) of this subdivision.

(5) Water well surveys. A survey of public and private water wells within one mile downgradient and one-quarter mile upgradient of the proposed site must be conducted. Surveys must obtain, where available, the location of wells, which must be shown on a map with their approximate elevation and depth, name of owner, age and usage of the well; stratigraphic unit screened; well construction; static water levels; well yield; perceived water quality; and any other relevant data which can be obtained.

(6) Geophysical and geochemical surveys. The department may require the use of geophysical and geochemical methods, such as electromagnetic, resistivity, seismic surveys, remote sensing surveys, downhole geophysics, isotope geochemistry, and soil gas analysis, where necessary to justify the interpretations and conclusions of the site investigation report and to provide information between boreholes, and aid in the siting of wells.

(7) Tracer studies. The department may require the use of tracer studies to aid in understanding groundwater flow or to otherwise assist in devising an effective environmental monitoring plan.

(i) Where sites overlie weathered limestone or dolostone bedrock or where karst environments cannot be avoided, the department may require tracer studies before finalizing the bedrock monitoring plan. Tracer studies must identify, in specific detail, areas of groundwater flow from the facility attributed to secondary permeability, recharge and discharge areas on and surrounding the site, storage of groundwater, and variations of water quality seasonally and during high and low flow periods.

(ii) Where a site is otherwise unmonitorable because of existing contamination, the department may allow the use of tracers to aid in monitoring.

(8) Monitoring wells and piezometers. (i) Construction in general.

(*a*) Monitoring wells and piezometers must define the three-dimensional flow system within the critical stratigraphic section to justify the interpretations and conclusions of the hydrogeologic report.

(*b*) Construction techniques must be appropriate to ensure that groundwater samples and head level measurements characterize discrete stratigraphic intervals; and to prevent leakage of groundwater or contaminants along the well annulus. If leakage is detected, it must be corrected or the well abandoned.

(*c*) Monitoring wells and piezometers may be placed individually or as well clusters. Well clusters consist of individual wells at varying depths in close proximity, each installed in its own boring. Multiple wells placed into one large borehole are prohibited unless prior department approval in writing is obtained.

(*d*) Soil borings, soil samples, and rock cores must characterize each stratigraphic unit within the critical stratigraphic section to justify the interpretations and conclusions of the hydrogeologic report.

(*e*) Every precaution must be taken during drilling and construction of monitoring wells to avoid introducing contaminants into a borehole. Only potable water of known chemistry may be used in drilling monitoring wells or piezometers unless otherwise approved by the department.

(*f*) All equipment placed into the boring must be properly decontaminated before use at the site and between boreholes. The initial cleaning at the site must ensure that no contaminants from the last site drilled will be introduced into the borings. All equipment must be steam cleaned between holes. Where possible, upgradient wells should be drilled first.

(*g*) Use of drilling muds is to be avoided unless prior department approval in writing is granted. If drilling muds are used, the material used must avoid the introduction of stray contaminants. Drilling muds must not be used within 10 feet of the screened interval.

(*h*) Air systems and drilling lubricants must not introduce contaminants into the borehole.

(*i*) Well borings must have an inside diameter at least two inches larger than the outside diameter of the casing and screen to ensure that a tremie may be properly used.

(*j*) Wells and borings must not be placed through or into waste unless prior department approval has been granted and sufficient safety precautions are employed. If waste is encountered unexpectedly during drilling, drilling of that boring must cease, the hole properly abandoned with cuttings properly disposed of and the department notified.

(ii) Construction of monitoring wells and piezometers.

(*a*) Well screens and risers must be constructed of materials selected to last for the required monitoring period of the facility without contributing contaminants to, or removing contaminants from, the groundwater. All materials used are subject to department approval. Joints, caps, and end plugs are to be secured by welds, threads with teflon tape, or force fittings. Solvents and glues or other adhesives are prohibited. Caps must be

vented to allow for proper pressure equalization. The inside diameter of each well screen or riser pipe must be nominally two inches in diameter and must allow for proper development, survey and sampling equipment to be used within the screen and casing. A permanent mark should be made at the top of the riser pipe to provide a datum for subsequent water level measurements.

(*b*) Unless otherwise approved by the department, well screens are required for all wells and piezometers. All screens used must be factory constructed non-solvent welded/bonded continuous slot wire wrap screens of a material appropriate for long-term monitoring without contributing contaminants to or removing contaminants from the groundwater. The slot size of the screen must be compatible with the sand pack. Water table variations, site stratigraphy, expected contaminant behavior, and groundwater flow must be considered in determining the screen length, materials, and position. Where existing contamination is suspected or known, down hole geophysical techniques may be required by the department to aid in selecting well screen elevations.

(*c*) The sand pack surrounding the well screen must consist of clean, inert, siliceous material. Grain size must be based upon a representative sieve analysis of the zone to be screened. The sand pack must minimize the amount of fine materials entering the well and must not inhibit water inflow to the well. The sand pack must be placed in the annular space around the well screen and extend two feet or 20 percent of the screen length (whichever is greater) above the top, and six inches below the bottom, of the screen. The sand pack material must be placed using the tremie method or another method approved by the department and must avoid bridging. The sand pack must be checked for proper placement. A finer grained sand pack material (100 percent passing the No. 30 sieve and less than two percent passing the No. 200 sieve) six inches thick must be placed at the top of the sand pack between the sand and the bentonite seal.

(*d*) Bentonite must be placed above the sand pack using the tremie or other approved method to form a seal at least three feet thick. A 6 to 12 inch fine grained sand pack must be placed above the bentonite seal to minimize grout infiltration. If pellets or chips are used, sufficient time should be allotted to allow for full hydration of the bentonite prior to emplacement of overlying materials.

(*e*) Grout of cement/bentonite, bentonite alone, or other suitable, low permeability material, if approved by the department, must completely fill the remaining annular space to the surface seal. The grout mixture must set up without being diluted by formation water, and must displace water in the annular space to ensure a continuous seal. The grout mixture must be placed under pressure using a tremie or other method approved by the department. Auger flights or casing must be left in the hole before grouting to prevent caving. The cement used must be appropriate for the groundwater chemistry of the site.

(*f*) A protective steel casing, at least two inches larger in diameter than the well casing, must be placed over the well casing or riser pipe and secured in a surface well seal to adequately protect the well casing. A distinctive, readily visible marker must be permanently affixed to the protective casing or near the well to identify the well number and ensure visibility even in periods of high snow cover. A drain hole must be drilled at the base of the protective casing. A vent hole must be located near the top of the protective casing to prevent explosive gas build up and to allow water levels to respond naturally to barometric pressure changes. The annulus of the protective casing should be filled with gravel. A locking cap must be installed with one to two inches clearance between the top of the well cap and the bottom of the locking cap when in the locked position and a weather resistant padlock must be placed on the protective casing and duplicate keys provided to the department.

(*g*) A concrete surface seal designed to last throughout the planned life of the monitoring well must be constructed. The surface seal must extend below the frost depth to prevent potential well damage. The top of the seal must be constructed by pouring the concrete into a pre-built form with a minimum of three foot long sides. The seal must be designed to prevent surface runoff from ponding and entering the well casing. In areas

where traffic may cause damage to the well, bumperguards or other suitable protection for the well is required. Any damaged or deteriorated surface seals must be reported to the department and repaired or replaced in an appropriate manner. The department may allow alternate designs when documentation is presented which demonstrates the intent of the regulations.

(*h*) Where under the circumstances of a particular situation the department believes that the methods identified in this section are inadequate, it may require that additional measures be taken to prevent migration of contaminants along the annulus of the well or to protect the well.

(*i*) Alternative construction methods for piezometers and wells which are not to be part of the environmental monitoring plan may be approved by the department if those methods meet the requirements set forth in clause (i)(b) of this paragraph.

(iii) Well and piezometer development. All wells and piezometers must be developed as soon as possible after installation, but not before the well seal and grout have set. Water must not be introduced into the well for development, except with approval of the department. Any contaminated water withdrawn during development must be properly managed. Development must not disturb the strata above the water-bearing zone or damage the well. The entire saturated screened interval must be developed. The department may require multiple attempts at well development to increase the likelihood that sediment free water can be obtained. Development methods should be appropriate for conditions/stratigraphy encountered. Placement of screens in a fine grained strata may require gentle development techniques to avoid pulling sediment into the well. The selected method must minimize to the greatest extent possible the amount of turbidity in the well.

(iv) Survey. The locations and elevations of all existing and abandoned test pits, soil borings, monitoring wells, and piezometers must be surveyed to obtain their precise location and plotted on a map in the hydrogeologic report. The vertical location of the ground surface and the mark made on the top of the monitoring well and piezometer risers must be accurately measured to the nearest 100th foot.

(v) Replacement of wells. All wells must be properly protected to ensure their integrity throughout the active and post-closure period of the facility. If, in the opinion of the department, water quality or other data show that the integrity of a well is lost, the well must be replaced and sampled within a time period acceptable to the department (but not to exceed 120 days) after written notification by the department. The initial sample for the replacement well must be analyzed for baseline parameters in the Water Quality Analysis Tables in this section.

(vi) Abandonment of wells. All soil borings or rock cores which are not completed as monitoring wells or piezometers and other abandoned wells must be fully sealed in a manner appropriate for the geologic conditions to prevent contaminant migration through the borehole. Generally, such sealing must include:

(*a*) Overboring or removal of the casing to the greatest extent possible, followed by perforation of any casing left in place. All casing and well installations in the upper five feet of the boring, or within five feet of the proposed level of excavation, must be removed.

(*b*) Sealing by pressure injection with cement bentonite grout, using a tremie pipe or other method acceptable to the department, must extend the entire length of the boring to five feet below the ground surface or the proposed excavation level. The screened interval of the borehole must be sealed separately and tested to ensure its adequacy before sealing the remainder of the borehole. Where the surrounding geologic deposits are highly permeable, alternate methods of sealing may be required to prevent the migration of the grout into the surrounding geologic formation. The upper five feet must be backfilled with appropriate native materials compacted to avoid settlement.

(*c*) The sealed site must be restored to a safe condition. The site must be inspected periodically after sealing for settlement or other conditions which require remediation.

(9) Geologic sampling. (i) All borings and rock cores must be sampled continuously to the base of the critical stratigraphic section. For well clusters, continuous samples must be collected from the surface to the base of the deepest well. Other wells in the cluster must be sampled at all stratigraphic changes, and at the screened interval. At sites where the geology is not of a complex nature the department may allow a reduction in the number of wells requiring continuous sampling. Soil borings must be sampled using the split spoon method and bedrock or boulders must be sampled by coring with standard size NX or larger diameter core bits. Samples must be retained in labeled glass jars or wooden core boxes. All samples must be securely stored and accessible throughout the life of the facility. The location of the storage area must be designated in the operation and maintenance plan for the facility.

(ii) A representative number of undisturbed samples must be collected from test pits and soil borings using appropriate methods to identify the soil characteristics of all cohesive soil units. Such samples must be analyzed in the laboratory for: Atterberg limits; gradation curves by sieve or hydrometer analysis or both, as appropriate; undisturbed permeabilities; and visual descriptions of undisturbed soil structures and lithologies.

(10) Logs. (i) Complete and accurate drilling logs must be provided to the department for all soil borings. These logs must provide detailed soil classification according to the Unified Soil Classification System (USCS). The USCS visual method must be used on all samples supplemented by the USCS laboratory tests on a representative number of samples from each stratigraphic unit and each screened interval. Logs also must contain a description of matrix and clasts, mineralogy, roundness, color, appearance, odor, and behavior of materials using an appropriate descriptive system. A clear description of the system used must be included with the logs. When undisturbed samples have been taken, the interval tested and the test results must be clearly shown on the logs. All well logs must contain drilling information as observed in the field including: moisture content, location of the water table during drilling, water loss during drilling; depth to significant changes in material and rock; sample recovery measured in tenths of a foot; hammer blow counts, and other pertinent comments; the method of drilling, anomalous features such as gas in the well, and the use and description of drilling fluids or additives, including the source, and calculated and actual amounts of materials used.

(ii) Rock core logs must describe the lithology, mineralogy, degree of cementation, color, grain size, and any other physical characteristics of the rock; percent recovery and the rock quality designation (RQD); other primary and secondary features, and contain all drilling observations and appropriate details required for soil boring logs. A clear photograph of all labeled cores must also be taken and submitted with the logs.

(iii) Well completion logs must contain a diagram of the completed well, all pertinent details on well construction, a description of the materials used, and elevations of all well features.

(iv) Copies of original field logs must be submitted to the department upon request.

(11) *In situ* hydraulic conductivity testing.

In situ hydraulic conductivity testing must be done in all monitoring wells and piezometers, unless other methods that are approved by the department, are used. The testing method used must not introduce contaminants into the well. If contamination is known or suspected to exist, all water removed must be properly managed. Hydraulic conductivities may be determined using pump tests, slug tests, packer tests, tracer studies, isotopic geochemistry, thermal detection, or other suitable methods.

(b) *Site investigation report.* The site investigation report must include a final version of the site investigation plan, raw field data, analytical calculations, maps, flow nets, cross-sections, interpretations (and alternative interpretations where applicable), and conclusions. All maps, drawings and diagrams must have a minimum scale of 1:24,000, unless otherwise acceptable to the department. Such report must comprehensively describe:

(1) Regional geology. The discussion of regional geology must demonstrate how the regional geology relates to the formation of on-site geologic materials, the potential for and

effects of off-site contaminant migration, and the location of nearby sensitive environments. This discussion must include available and appropriate information to describe:

(i) bedrock stratigraphy and structural features (represented on maps and columnar diagrams) constructed from field exposures and the geologic literature, describing formation and member names, geologic ages, rock types, thicknesses, the units' mineralogic and geochemical compositions and variabilities, rock fabrics, porosities and bulk permeabilities, including karst development, structural geology, including orientation and density or spacing of folds, faults, joints, and other features;

(ii) glacial geology, including a discussion of the formation, timing, stages, and distribution of glacial deposits, advances and retreats, hydrologic characteristics of the surficial deposits, such as kames, eskers, outwash moraines, etc.;

(iii) major topographic features, their origin and influence upon drainage basin characteristics; and

(iv) surface water and groundwater hydrologic features, including surface drainage patterns, recharge and discharge areas, wetlands and other sensitive environments, inferred regional groundwater flow directions, aquifers, aquitards and aquicludes, known primary water supply and principal aquifers, public water supply wells, and private water supply wells identified in the water supply well survey; any known peculiarities in surface water and groundwater geochemistry, and any other relevant features.

(2) Site-specific geology. The site investigation report must define site hydrogeologic conditions in three dimensions and their relationship to the proposed landfill. The report must define site geology, surface water and groundwater flow, and must relate site-specific conditions to the regional geology. The report must describe the potential impact the landfill may have on surface and groundwater resources and other receptors, including future hydrogeologic conditions, which may occur with site development, and it must describe the hydrogeologic conditions in sufficient detail to construct a comprehensive understanding of groundwater flow, which can be quantified and verified through hydrologic, geochemical, and geophysical measurements. The report must provide sufficient data to specify the location and sampling frequency for environmental monitoring points; form the basis for contingency plans regarding groundwater and surface water contamination and explosive gas migration; and support the engineering design of the landfill. The site-specific hydrogeologic evaluation must specifically discuss all units in the critical stratigraphic section. Such evaluation must include maps, cross-sections, other graphical representations, and a detailed written analysis of the following:

(i) all hydrogeologic units such as aquifers, aquitards and aquicludes, and how they relate to surface water and groundwater flow. This must include all hydrogeologic data collected during the site investigation and explain and evaluate the hydrologic and engineering properties of the site and each specific unit; and

(ii) local groundwater recharge and discharge areas, high and low groundwater tables and potentiometric surfaces for each hydrologic unit, vertical and horizontal hydraulic gradients, groundwater flow directions and velocities, groundwater boundary conditions, surface water and groundwater interactions, and an evaluation of existing water quality.

(c) *Environmental monitoring plan.* The environmental monitoring plan must describe all proposed on-site and off-site monitoring, including the location of all environmental, facility, and other monitoring points, sampling schedule, analyses to be performed, statistical methods, and reporting requirements. The plan must also include a schedule for construction of the groundwater monitoring wells based on site-specific hydrogeology and the sequencing of construction of landfill cells; a schedule for initiation of the existing water quality and operational water quality monitoring programs and a contingency water quality monitoring plan which specifies trigger mechanisms for its initiation. Unless otherwise approved by the department, the plan must comply with the following:

(1) Groundwater sampling. Groundwater monitoring wells must be capable of detecting landfill-derived groundwater contamination within the critical stratigraphic section.

(i) Horizontal well spacing.

(*a*) Horizontal spacing of wells must be based upon site-specific conditions including groundwater flow rates, estimated longitudinal and transverse dispersivity rates, proximity to or presence of sensitive environments and groundwater users, the nature of contaminants disposed of at the site, and the proposed design and size of the landfill.

(*b*) In the first water-bearing unit of the critical stratigraphic section, monitoring well spacing must not exceed 500 feet along the downgradient perimeter of the facility. In sensitive environments or geologically complex environments, closer well spacing may be required. Upgradient or crossgradient well spacing must not exceed 1,500 feet and may be less in sensitive environments, or where up-gradient sources of contamination are known to exist. Subsequent water-bearing units must be monitored, as required by the department, based upon the potential for contaminant migration to that unit. Well spacing must provide at least one upgradient and three downgradient monitoring wells or well clusters for each water-bearing unit of the critical stratigraphic section.

(*c*) Sensitive environments or areas where public health concerns exist may be subject to more intensive groundwater monitoring requirements. In addition, the department may require the applicant to develop acceptable computer models of contaminant plume behavior from hypothetical leaks in the liner system, if necessary to determine optimum monitoring well spacing.

(*d*) In areas where waterflow is irregular and unpredictable and where otherwise determined to be appropriate, the applicant may be required to conduct spring, sinkhole, or other sampling to enhance the monitoring.

(*e*) All downgradient monitoring wells must be located as close as practical to but not more than 50 feet from the waste boundary, unless otherwise approved by the department due to site specific conditions, to ensure early detection of any contaminant plume.

(*f*) All upgradient and crossgradient monitoring wells must be placed far enough from the waste boundary to avoid any facility derived impacts.

(ii) Well screen placement.

(*a*) Well screens must be located to readily detect groundwater contamination within the saturated thickness of the first water-bearing unit, and must be installed at a representative number of points at each subsequent permeable unit throughout the critical stratigraphic section. Well screens must not act as conduits through impermeable layers. Wells monitoring the water table should be screened to ensure that the water table can be sampled at all times.

(*b*) Upgradient and crossgradient wells must monitor the same hydrologic units whenever possible within the critical stratigraphic section as the downgradient monitoring wells.

(iii) Screen length. Well screens must not exceed 20 feet in length, unless otherwise approved by the department. The applicant must provide technical justification for the actual screen length chosen.

(iv) Geophysical and geochemical techniques. Where existing contamination is suspected, the department may require the use of geophysical and geochemical techniques to locate contaminated zones before selecting well locations and screen depths for environmental monitoring points.

(v) If a groundwater suppression system exists at a facility, the department may require representative sampling points to be designated as environmental monitoring points. Existing water quality monitoring at these points may not be required.

(2) Surface water and sediment sampling. The environmental monitoring plan must designate monitoring points, for use in operational or contingency monitoring or both of the facility pursuant to subparagraphs (5)(ii) and (iii) of this subdivision, for all surface water bodies that may be significantly impacted by a contaminant release from the facility. Sampling activities at these monitoring points shall be for surface water and sediment. The department may require the sampling and analysis of surface water and sediment sampling points during a

site investigation to understand site hydrogeology or existing patterns of contamination. In bodies of standing water, these points must be located at the closest point to the facility and must be included in existing water quality monitoring. In flowing water bodies, these points must include sufficient upgradient and downgradient locations to allow the facility's impact to be measured. These points, however, do not require existing water quality analysis. The detailed analysis requirements of these points must be specified in the contingency monitoring plan and the detailed sampling requirements must be specified in the site analytical plan.

(3) Leachate sampling. The environmental monitoring plan must specify the location of facility leachate sampling points and parameters to be analyzed so as to obtain a representative characterization of the leachate composition in the primary leachate collection and removal system and to determine the nature of liquids detected in the secondary leachate collection and removal system. The following must be included:

(i) Sampling points. All sampling points should be located to minimize pumping of leachate before sampling. Sampling points in the secondary leachate collection system should be adequate to sample liquids beneath each discrete leachate collection area or landfill cell.

(ii) Analysis required. Except as allowed by the department when a specific waste stream and its leachate are already well defined, analysis of the leachate in the primary and secondary leachate collection and removal systems must be performed semi-annually for expanded parameters. The department may require the use of specific analytical methods in these analyses when minimum detection levels are determined inadequate to fully characterize leachate.

(4) Water supply well sampling. If sampling and analysis of water supply wells is to be performed, the analytical requirements must be in accordance with those specified in the site analytical plan. Sampling frequency and analysis shall be at least quarterly for baseline parameters. Sampling methods must be consistently applied each time a well is sampled and before sampling any residential well, the New York State Department of Health and/or local health department must be notified.

(5) Water quality monitoring program. A water quality monitoring program must be implemented for all environmental monitoring points specified in the environmental monitoring plan. This program must be tailored to the site to establish existing water quality for the site prior to landfilling, operational water quality during operation of the site and the post-closure period, and contingency water quality, if contamination is detected at the site. These programs must meet the following minimum requirements:

(i) Existing water quality. The applicant must establish an existing water quality database to characterize the site geochemistry.

(*a*) The permit application must contain a preliminary evaluation of water quality, consisting of the first two rounds of sampling and analyses for a representative number of monitoring points at both upgradient and downgradient locations, in each water bearing hydrogeologic unit within the critical stratigraphic section, with a minimum of two samples taken from each well during the first round of sampling, unless otherwise approved by the department. The first round of these samples must be analyzed for the expanded parameters. The second round must be analyzed for the baseline parameters, except as specified in clause (d) of this subparagraph. These samples should be taken in early spring and late summer, or equivalent, to approximate periods of high and low groundwater flow. The department may require sampling and analysis of additional monitoring points as necessary to define site hydrogeology and geochemistry in support of the interpretations and conclusions of the site investigation report.

(*b*) Before deposition of waste in the facility, all environmental monitoring points not previously sampled must be sampled and analyzed for four rounds of quarterly sampling. The first of these sampling rounds must be analyzed for expanded parameters and the other three rounds must be analyzed for baseline parameters. Those environmental monitoring points which were sampled in accordance with clause (a) of this subparagraph must be sampled and analyzed for baseline parameters for two rounds of samples. The samples

shall be obtained at different times of the year than when the sampling required by clause (a) of this subparagraph was performed. If elevated contaminant levels were detected during the preliminary evaluation of water quality, then the sampling required in this clause shall be as specified in clause (d) of this subparagraph. The department may approve phased sampling, where hydrogeologic conditions warrant, as landfill cells are constructed. The sampling of these phased monitoring points shall commence at least one year prior to solid waste deposition and shall be in conformance with the requirements of clause (b) of this subparagraph or as approved by the department. As these phased monitoring points are added to the monitoring program, the procedures contained in clause (c) of this subparagraph shall be followed to reestablish existing water quality at the facility and recompute the standard deviation.

(*c*) Prior to facility operation, existing water quality must be established for each hydrogeologic flow regime being monitored at the site. Existing water quality for each hydrogeologic flow regime shall be the arithmetic mean, per parameter, of the analytical results of the samples obtained from those environmental monitoring points within that flow regime prior to deposition of solid waste; provided there is no reason to believe that the distribution of the analytical results was non-uniform. The standard deviation of the analytical results for each parameter within each flow regime shall also be established at that time. Should the department determine that the sampling results are non-representative of existing water quality or do not constitute a normal, uniform distribution, then the department shall specify such additional sampling and analyses as it deems necessary to confidently establish existing water quality at the site. For those facilities where solid waste has been placed previously in other than a contiguous landfill cell, the existing water quality may be based on only some of the environmental monitoring points, subject to the approval of the department.

(*d*) If elevated contaminant levels are detected and additional detailed information is needed to establish a complete existing water quality database, the department may require one or more rounds of baseline or expanded parameter sampling and analysis in any sampling point, using the procedure specified for contingency monitoring required in subparagraph (iii) of this paragraph when contamination is detected.

(*e*) Additional sampling and analysis beyond the site boundaries may be required to determine the nature and extent of contamination and the source, if possible. This evaluation may include construction, sampling, and analysis of any additional monitoring wells, and surface water sampling points required by the department. Based upon the results of this additional data, the department may require analysis for any and all expanded parameters, to be included in quarterly or annual operational water quality sampling.

(ii) Operational water quality. The environmental monitoring plan must include a plan for operational water quality monitoring to be conducted during the operation, closure, and post-closure periods of the facility. The operational water quality monitoring plan must be able to distinguish landfill-derived contamination from the existing water quality at the site. The plan must also describe trigger mechanisms for initiating contingency water quality monitoring. The department may require modification of this plan as additional sampling data becomes available during the life of the facility. The minimum requirements for operational water quality monitoring are:

(*a*) Except as provided below, in each calendar year sampling and analysis must be performed at least quarterly, once for baseline parameters and three times for routine parameters. The baseline sampling event must be rotated quarterly; one round of baseline parameters to be analyzed in each calendar year will be sufficient unless a pattern of contamination exists which may require the department to change the sampling frequency. For double lined landfills, the department may allow omission of the winter sampling once a complete understanding of water chemistry has been obtained, provided that a demonstration of acceptable liner performance is made to the department. The department will require sampling and analysis on a quarterly basis, alternately analyzing for routine and baseline parameters, at all landfills which do not have a liner system constructed in accordance with section 360-2.13(f) of this Subpart.

(*b*) The department may approve phased sampling, where hydrogeologic conditions warrant, as landfill cells are constructed or as post-closure monitoring is completed as specified in section 360-2.15(i) of this Subpart. With department approval, sampling of specific environmental monitoring points which are not potentially impacted by the portions of the landfill already constructed, may be deferred, provided that scheduled sampling commences at least one year before landfill construction in the vicinity. The department may withdraw this approval at any time, based upon a change in facility design, operation, or performance.

(*c*) Operational water quality analysis must include at least those parameters specified in the Water Quality Analysis Tables for routine and baseline parameters. The department may modify these tables before granting a permit for the facility, or during the duration of the permit, if leachate composition so warrants. If subsequent leachate compositions vary or if the waste disposed of at the facility changes, the department may adjust analytical requirements accordingly.

(*d*) Within 90 days of completing the quarterly field sampling activities, the facility owner/operator must determine whether or not there is a significant increase from existing water quality levels established for each parameter pursuant to clause (c)(5)(i)(c) of this section.

(*1*) In determining whether a significant increase has occurred, the facility owner/operator must compare the groundwater quality of each parameter at each monitoring well to the existing water quality value of that parameter.

(*2*) A significant increase has occurred if:

(*i*) the groundwater quality for any parameter at any monitoring well exceeds the existing water quality value for that parameter, as established pursuant to clause (c)(5)(i)(c) of this section, by three standard deviations; or

(*ii*) the groundwater quality for any parameter at any monitoring well exceeds the existing water quality value for that parameter, as established pursuant to clause (c)(5)(i)(c) of this section and exceeds the water quality standards for that parameter as specified in Part 701, 702, or 703 of this Title.

(*e*) If the owner/operator determines, pursuant to clause (d) of this subparagraph, that there is a significant increase from existing water quality levels for one or more of the parameters during field sampling for the routine parameters, excluding the field parameters, at any monitoring well, the facility owner/operator:

(*1*) must, within 14 days of this finding, notify the department indicating which parameters have shown significant increases from existing water quality levels; and

(*2*) must sample and analyze all monitoring points for the baseline parameters during the next quarterly sampling event. Subsequent sampling and analysis for baseline parameters must be conducted at least semiannually until the significant increase is determined not to be landfill-derived or the department determines such monitoring is not needed to protect public health or the environment.

(*f*) If the owner/operator determines, pursuant to clause (d) of this subparagraph, that there is a significant increase from existing water quality levels for one or more of the parameters during field sampling for the baseline parameters, excluding the field parameters, at any monitoring well, the facility owner/operator:

(*1*) must, within 14 days of this finding, notify the department indicating which parameters have shown significant increases from existing water quality levels; and

(*2*) must establish a contingency monitoring program meeting the requirements of subparagraph (iii) of this paragraph within 90 days except as provided for in subclause (3) of this clause.

(*3*) The facility owner/operator may attempt to demonstrate to the department that a source other than the facility caused the contamination or that the significant increase resulted from error in sampling, analysis, or natural variation in groundwater quality. A

report documenting this demonstration must be submitted to the department for approval. If a successful demonstration is made, documented and approved by the department, the facility owner/operator may continue operational water quality monitoring as specified in this subparagraph. If, after 90 days, a successful demonstration is not made, the owner/operator must initiate a contingency monitoring program as required in subparagraph (iii) of this paragraph.

(iii) Contingency water quality. The environmental monitoring plan must include a plan for contingency water quality monitoring, as described in this subparagraph, which must be conducted when a significant increase over existing water quality has been detected pursuant to clause (c)(5)(ii)(d) of this section for one or more of the baseline parameters listed in the Water Quality Analysis Tables. All contingency water quality monitoring plans are subject to department approval, may be modified at any time by the department when necessary to protect public health and the environment, and must include the following:

(*a*) Within 90 days of triggering a contingency water quality monitoring program, the facility owner/operator must sample and analyze the groundwater for the expanded parameters listed in the Water Quality Analysis Tables. A minimum of one sample from each monitoring well (upgradient and downgradient) must be collected and analyzed during this sampling. If any constituents are detected in the downgradient wells as a result of the expanded parameter analysis, a minimum of two independent samples from each well (upgradient and downgradient) must be collected within 30 days of obtaining the results of the expanded parameter analysis and analyzed for the detected constituents. These samples must be collected within two weeks of each other and then compared to the existing groundwater quality values established pursuant to subparagraph (c)(5)(i) of this section. If an increase in the existing water quality values in the upgradient wells is indicated by this comparison, the existing water quality values for these parameters shall be revised to be the arithmetic mean of the results of each parameter for which analyses were performed in the upgradient wells within each hydrogeologic flow regime. The department may delete any of the expanded parameters if it can be shown that the removed parameters are not reasonably expected to be in, or derived from, the waste contained in the landfill based on the leachate sampling being performed pursuant to paragraph (c)(3) of this section.

(*b*) After obtaining the results from the initial or subsequent sampling required in clause (a) of this subparagraph, the facility owner/operator must:

(*1*) within 14 days, notify the department to identify the expanded parameters that have been detected;

(*2*) within 90 days, and on a quarterly basis thereafter, resample all wells, conduct analyses for all baseline parameters, and for those expanded parameters that are detected in response to clause (a) of this subparagraph. In addition, the facility owner/operator shall sample and conduct analyses annually on all wells for the expanded parameters. At least one sample from each upgradient and downgradient well must be collected and analyzed during these sampling events. The department may reduce the requirements of this subclause based on site specific conditions; and

(*3*) establish groundwater protection standards for all parameters detected pursuant to clause (a) of this subparagraph. The groundwater protection standards must be established in accordance with clause (f) of this subparagraph.

(*c*) If the concentrations of any of the expanded parameters are shown to be at or below existing water quality values for two consecutive sampling events, the owner/operator must notify the department of this finding and, if approved by the department, may remove that parameter from the contingency water quality monitoring program. If the concentrations of all the expanded parameters are shown to be at or below existing water quality values for two consecutive sampling events, the owner/operator must notify the department and, if approved by the department, may return to operational water quality monitoring.

(*d*) If the concentrations of any expanded parameters are above existing water quality values, but all concentrations are below the groundwater protection standard established under clause (f) of this subparagraph, the owner/operator must continue contingency monitoring in accordance with this subparagraph.

(*e*) If one or more expanded parameters are detected at significant levels above the groundwater protection standard established under clause (f) of this subparagraph in any sampling event, the facility owner/operator must, within 14 days of this finding, notify the department to identify the expanded parameters that have exceeded the groundwater protection standard, and notify all appropriate local government officials identified in the Contingency Plan, required pursuant to section 360-2.10 of this Subpart, that the notice has been sent to the department. The owner/operator must also:

(*1*) characterize the nature and extent of the release by installing additional monitoring wells as necessary;

(*2*) install at least one additional monitoring well at the facility boundary in the direction of contaminant migration, and sample this well in accordance with subparagraph (c)(5)(i) of this section;

(*3*) notify all persons who own the land or reside on the land that is directly over any part of the plume of contamination if contaminants have migrated off-site as indicated by sampling of wells in accordance with subclause (1) of this clause; and

(*4*) initiate an assessment of corrective measures as required by section 360-2.20 of this Subpart within 90 days; or

(*5*) demonstrate that a source other than the landfill caused the contamination, or that the significant increase resulted from error in sampling, analysis, or natural variation in groundwater quality. This report must be submitted for approval by the department. If a successful demonstration is made, the facility owner/operator must continue monitoring in accordance with the contingency water quality monitoring program pursuant to subparagraph (c)(3)(iii) of this section, and may return to operational monitoring if the expanded parameters are at or below existing water quality as specified in subparagraph (c)(5)(i) of this section. Unless and until a successful demonstration is made, the owner/operator must comply with this clause, including initiating an assessment of corrective measures.

(*f*) The owner/operator must establish a groundwater protection standard for each expanded parameter detected in the groundwater. The groundwater protection standard shall be:

(*1*) for parameters for which a maximum contaminant level (MCL) has been established in section 1412 of the Safe Drinking Water Act under 40 CFR part 141 (see section 360-1.3 of this Part) or for which standard has been established pursuant to Part 701, 702, or 703 of this Title, whichever is more stringent when the parameters are the same, the MCL or standard for that constituent;

(*2*) for parameters for which MCLs or standards have not been established, the existing water quality concentration for the parameter established from wells in accordance with subparagraph (c)(5)(i) of this section; or

(*3*) for parameters for which the existing water quality level is higher than the MCL or standard identified under subclause (1) of this clause, the existing water quality concentration.

(iv) Reporting of data. Unless more rapid reporting is required to address an imminent environmental or public health concern, the owner or operator of the facility must report all water quality monitoring results to the department within 90 days of the conclusion of the sample collection. The report must include:

(*a*) A table showing the sample collection date, the analytical results (including all peaks even if below method detection limits [MDL]), designation of upgradient wells and location number for each environmental monitoring point sampled, applicable water

quality standards, and groundwater protection standards if established, MDL's, and Chemical Abstracts Service (CAS) numbers on all parameters.

(*b*) In addition, tables or graphical representations comparing current water quality with existing water quality and with upgradient water quality must be presented. These comparisons may include Piper diagrams, Stiff diagrams, tables, or other analyses.

(*c*) A summary of the contraventions of State water quality standards, significant increases in concentrations above existing water quality, any exceedances of groundwater protection standards, and discussion of results, and any proposed modifications to the sampling and analysis schedule necessary to meet the requirements of subparagraphs (i) through (iii) of this paragraph.

(*d*) All AQA/AQC documentation must be submitted to the department in a form acceptable to the department.

(*e*) The annual report must contain a summary of the water quality information presented in clauses (b) and (c) of this subparagraph with special note of any changes in water quality which have occurred throughout the year.

(*f*) The data quality assessment report required pursuant to paragraph (d)(5) of this section.

(d) *Site analytical plan.* The site analytical plan must describe the method of sample collection and preservation, chain of custody documentation, analyses to be performed, analytical methods, data quality objectives, procedures for corrective actions, and procedures for data reduction, validation and reporting. The site analytical plan will pertain to existing water quality monitoring programs, operational water quality monitoring programs, and a contingency water quality monitoring program which specifies trigger mechanisms for its initiation. Unless otherwise approved by the department, the site analytical plan must comply with the following:

(1) Data quality objectives. (i) The data quality objectives for the data generation activity must be established prior to the initiation of any sampling.

(ii) The data quality objectives shall define the goals of each phase of the water quality monitoring program, including, but not limited to, the following:

(*a*) reasons for the analytical program;

(*b*) identification of any regulatory programs and standards applicable to the analytical program; and

(*c*) minimum detection limits for each of the parameters listed in the Water Quality Analysis Tables.

(iii) The data quality objectives shall be the basis for the development of all other portions of the site analytical plan.

(2) Analytic quality assurance (AQA)/analytic quality control (AQC). (i) The site analytical plan must include a discussion of the AQA/AQC for the sampling program associated with the facility and shall be sufficient to ensure that the data generated by the sampling and analysis activities are of a quality commensurate with their intended use and the requirements of the department. The discussion shall detail the AQA/AQC goals and protocols for each type of environmental monitoring to be performed at the facility. Elements must include a discussion of the quality objectives of the project, identification of the qualifications of those persons who will be performing the work and their responsibilities and authorities, enumeration of AQC procedures to be followed, and reference to the specific standard operating procedures that will be followed for all aspects of the environmental monitoring program.

(3) Field sampling procedures. (i) All field sampling procedures shall be described in detail in the site analytical plan. All field quality control procedures shall be described including types and frequency of field quality control samples to be collected such as field blanks, trip blanks, field duplicates, reference materials and material blanks.

(ii) All samples must be collected and stored in the order of the parameter's volatilization sensitivity using methods, consistently applied, which ensure sample integrity.

(iii) All sampling equipment must be constructed of inert materials designed to obtain samples with minimal agitation and contact with the atmosphere; be cleaned and protected during transport to avoid contamination; and checked before use. Dedicated equipment must be constructed of appropriate inert materials and must be appropriate for the types of sampling to be performed.

(iv) Samples must be properly preserved and delivered to the laboratory with proper chain of custody within all appropriate holding times for the parameters to be analyzed.

(v) The sampling procedures and frequencies must be protective of human health and the environment.

(vi) Monitoring well sampling techniques. Monitoring well sampling techniques must be consistently performed each time a well is sampled, and must comply with the following:

(*a*) In areas where the presence of explosive or organic vapors is suspected, ambient air in the well must be checked for their presence before the well is evacuated.

(*b*) For wells with documented contamination, where contamination by non-aqueous phase liquids may be present, standing water in the well must be checked for immiscible layers or other contaminants that are lighter or heavier than water (floaters or sinkers). If present, floaters or sinkers must be sampled and analyzed separately by a method described in the site analytical plan.

(*c*) Evacuation of the well must replace stagnant water in the well and the sand pack with fresh water representative of the formation. Evacuation methods, including pumping rate, depth of pump intake, and method of determining sufficiency of evacuation must be consistently applied each time the well is sampled. Evacuation methods must create the least possible turbidity in the well and must not lower the water in the well below the top of the sand pack whenever feasible. Evacuated water must be properly managed.

(*d*) After evacuation of the well, volatile organic samples must be collected.

(*e*) analysis must be performed after volatile organic samples have been collected, either within the borehole using a probe or from the next sample collected. All field test equipment must be calibrated at the beginning of each sampling day and checked and recalibrated according to the manufacturer's specifications. Calibration data must be reported with the analytical results.

(*f*) Groundwater samples shall not be filtered, unless otherwise approved by the department. If, due to site-specific conditions, sample turbidity cannot be reduced to 50 nephelometric turbidity units (NTUs) or less by good sampling technique or well redevelopment, the department may approve collection of both filtered and unfiltered samples for analyses of the inorganic parameters. All other analyses required will be on the unfiltered samples.

(vii) Surface water and sediment sampling techniques. Surface water and sediment sampling methods must be consistently applied to all samples, and must comply with the following:

(*a*) Surface water samples collected from shallow water should not include bottom sediment. In shallow moving water, downstream samples must be collected first to avoid disturbances from the bottom sediments.

(*b*) Each water body over three feet deep that is sampled must be checked for stratification, and each stratum must be checked for contamination using field parameters. Each stratum showing evidence of contamination must be separately analyzed. If no stratum shows such evidence, a composite sample having equal parts of water from each stratum must be analyzed.

(*c*) Sediment samples must be taken at each location from which surface water samples are taken, and should consist of the upper five centimeters of sediment.

(viii) Water supply well sampling techniques. Sampling methods must be consistently applied each time a well is sampled and must comply with the following:

(*a*) Samples should be collected directly from the well so as to yield water representative of the formations supplying the well. If this is not possible, samples must be collected as near to the well as possible and before the water is softened, filtered, or heated.

(*b*) If possible, samples must be collected before the water enters the pressure tank, otherwise the water must run long enough to flush water stored in the tank and pipes.

(*c*) Before sampling, water must be evacuated from the well to ensure a fresh sample of aquifer water.

(*d*) If samples are collected from a tap, aerators, filters, or other devices must be removed before sampling.

(ix) Corrective action. Standard operating procedures must be established which describe the procedures used to identify and correct deficiencies in the sample collection process. The standard operating procedure shall specify that each corrective action must be documented in the sampling report submitted to the department, with a description of the deficiency, the corrective action taken, and the persons responsible for implementing the corrective action. Any alterations to the field sampling procedures shall be included as an amendment to the site analytical plan.

(4) Laboratory procedures. (i) Laboratory analyses must be performed by a laboratory currently certified under the appropriate approval categories by the New York State Department of Health's Environmental Laboratory Approval Program (ELAP).

(ii) The site analytical plan should contain the standard operating procedures of all laboratory activities related to the environmental monitoring plan. Any revisions to these standard operating procedures must be documented. Standard operating procedures should be available for the following, at a minimum:

(*a*) receipt, storage and handling of samples;

(*b*) sample scheduling to ensure that holding time requirements are met;

(*c*) reagent/standard preparation;

(*d*) general laboratory techniques such as glassware cleaning procedures, operation of analytical balances, pipetting techniques and use of volumetric glassware;

(*e*) description of how analytical methods are actually to be performed including precise reference to the analytical method used; and not a simple reference to standard methods; and

(*f*) standard operating procedures for equipment calibration and maintenance to ensure that laboratory equipment and instrumentation are in working order, including, but not limited to procedures and schedules for calibration and maintenance in accordance with manufacturers' specifications; and

(*g*) for a corrective action, standard operating procedures must be established for identifying and correcting deficiencies in the laboratory procedures. The standard operating procedure shall specify that each corrective action must be documented in the sampling event report submitted to the department with a description of the deficiency, the corrective action taken, and the person responsible for implementing the corrective action. Any alterations to the laboratory procedures shall be included as an amendment to the site analytical plan.

(5) Data quality assessment. At the conclusion of each sampling event and analysis of the samples collected, data quality assessment shall occur. A data quality assessment report must be submitted with the results from each sampling event. Data quality assessment shall occur in two phases.

(i) Data validation.

(*a*) For those sampling events for which only routine parameters are analyzed, the data validation shall be performed by the laboratory that performed the sample analyses.

(*b*) For those sampling events for which baseline or expanded parameters are analyzed, the data validation shall be performed by a person other than the laboratory that performed the analyses and that is acceptable to the department.

(*c*) The data validation shall be performed on all analytical data for the facility at a rate acceptable to the department, but not less than five percent of the data generated, and shall consist, at a minimum, of the following:

(*1*) field records and analytical data are reviewed to determine whether the data are accurate and defensible. All AQA/AQC information shall be reviewed along with any corrective actions taken during that sampling event; and

(*2*) all data summaries shall be clearly marked to identify any data that are not representative of environmental conditions at the site, or that were not generated in accordance with the site analytical plan.

(ii) Data usability analysis.

(*a*) The data usability analysis shall be performed on all analytical data for the facility and shall consist of the following:

(*1*) an assessment to determine if the data quality objectives were met;

(*2*) for consistency, comparison of the analytical data with the results from previous sampling events;

(*3*) evaluation of field duplicate results to indicate the samples are representative;

(*4*) comparison of the results of all field blanks, trip blanks, equipment rinsate blanks, and method blanks with full data sets to provide information concerning contaminants that may have been introduced during sampling, shipping, or analyzing;

(*5*) evaluation of matrix effects to assess the performance of the analytical method with respect to the sample matrix, and determine whether the data have been biased high or low due to matrix effects;

(*6*) integration of the field and laboratory data with geological, hydrogeological, and meteorological data to provide information about the extent of contamination, if it occurs; and

(*7*) comparison of precision, accuracy, representativeness, comparability, completeness, and defensibility of the data generated with that required to meet the data quality objectives established in the site analytical plan.

(6) The following Water Quality Analysis Tables in this section list the routine, baseline, and expanded parameters for analysis of all monitoring samples.

WATER QUALITY ANALYSIS TABLES

ROUTINE PARAMETERS[1]

Common Name[2]	CAS RN[3]	Suggested Methods	PQL[4] (µg/l)
Field Parameters:			
Static water level ..... (in wells and sumps)			
Specific Conductance		9050	
Temperature			
Floaters or Sinkers[5].....			
pH		9040	
		9041	
Eh.....			
Dissolved Oxygen[6].....			
Field Observations[7]			
Turbidity.....		180.1	
Leachate Indicators:			
Total Kjeldahl Nitrogen.		351.1	60
		351.2	
		351.3	
		351.4	200
Ammonia	7664-41-7	350.1	60
		350.2	
		350.3	100
Nitrate		9200	
Chemical Oxygen Demand....		410.1	50000
		410.2	50000
		410.3	50000
		410.4	80000
Biochemical Oxygen Demand (BOD_5).....		405.1	2000
Total Organic Carbon		9060	
Total Dissolved Solids.....		160.1	40000
Sulfate		9035	
		9036	
		9038	
Alkalinity.....		310.1	20000
		310.2	6000
Phenols	108-95-2	8040	
Chloride		9250	
		9251	
Bromide		9252	
		320.1	2000
Total hardness as $CaCO_3$.....		130.1	20000
		130.2	30000

ROUTINE PARAMETERS[1]

Common Name[2]	CAS RN[3]	Suggested Methods	PQL[4] (µg/l)
Inorganic Parameters:			
Cadmium	(Total)	6010	40
		7130	50
		7131	1
Calcium	(Total)	7140	40
Iron	(Total)	7380	100
		7381	4
Lead	(Total)	6010	400
		7420	1000
		7421	10
Magnesium	(Total)	7450	4
Manganese	(Total)	7460	40
		7461	0.8
Potassium	(Total)	7610	40
Sodium	(Total)	7770	8

The department may modify this list as necessary.
Notes

[1]This list contains parameters for which possible analytical procedures are provided in EPA Report SW-846 Test Methods for Evaluating Solid Waste, third edition, November 1986, as revised December 1987, and Methods for Chemical Analysis of Water and Wastes, USEPA-600/4-79-020, March, 1979. The regulatory requirements pertain only to the list of parameters; the right hand columns (Methods and PQL) are given for informational purposes only. See also footnote 4.

[2]Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

[3]Chemical Abstracts Service Registry Number. Where "Total" is entered, all species in the groundwater that contain this element are included.

[4]Practical Quantitation Limits (PQLs) are the lowest concentrations of analytes in groundwaters that can be reliably determined within specified limits of precision and accuracy by the indicated methods under routine laboratory operating conditions. The PQLs listed are generally stated to one significant figure. PQLs are based on 5 ml samples for volatile organics and 1 L samples for semivolatile organics. CAUTION: The PQL values in many cases are based only on a general estimate for the method and not on a determination for individual compounds; PQLs are not a part of the regulation.

[5]Any floaters or sinkers found must be analyzed separately for baseline parameters.

[6]Surface water only.

[7]Any unusual conditions (colors, odors, surface sheens, etc.) noticed during well development, purging, or sampling must be reported.

BASELINE PARAMETERS[1]

Common Name[2]	CAS RN[3]	Suggested Methods	PQL[4] (µg/l)
Field Parameters:			
Static water level ..... (in wells and sumps)			
Specific Conductance		9050	
Temperature			
Floaters or Sinkers[5]			
pH		9040	
		9041	
Eh			
Dissolved Oxygen[6]			
Field Observations[7]			
Turbidity		180.1	
Leachate Indicators:			
Total Kjeldahl Nitrogen		351.1	60
		351.2	
		351.3	
		351.4	200
Ammonia	7664-41-7	350.1	60
		350.2	
		350.3	100
Nitrate		9200	
Chemical Oxygen Demand ...		410.1	50000
		410.2	50000
		410.3	50000
		410.4	80000
Biochemical Oxygen Demand (BOD_5)		405.1	2000
Total Organic Carbon		9060	
Total Dissolved Solids.		160.1	40000
Sulfate		9035	
		9036	
		9038	
Alkalinity		310.1	20000
		310.2	6000
Phenols	108-95-2	8040	
Chloride		9250	
		9251	
		9252	
Bromide	24959-67-9	320.1	2000
Total hardness as $CaCO_3$.		130.1	20000
		130.2	30000
Color		110.1	
		110.2	
		110.3	80

BASELINE PARAMETERS[1]

Common Name[2]	CAS RN[3]	Suggested Methods	PQL[4] (µg/l)
Boron	7440-42-8		
Inorganic Parameters:			
Aluminum	(Total)	7020	10
Antimony	(Total)	6010	300
		7040	2000
		7041	30
Arsenic	(Total)	6010	500
		7060	10
		7061	20
Barium	(Total)	6010	20
		7080	1000
Beryllium	(Total)	6010	3
		7090	50
		7091	2
Cadmium	(Total)	6010	40
		7130	50
		7131	1
Calcium	(Total)	7140	40
Chromium	(Total)	6010	70
		7190	500
		7191	10
Chromium (Hexavalent)*	18540-29-9	7195	
		7196	600
		7197	30
		7198	
Cobalt	(Total)	6010	70
		7200	500
		7201	10
Copper	(Total)	6010	60
		7210	200
		7211	10
Cyanide	(Total)	9010	200
Iron	(Total)	7380	100
		7381	4
Lead	(Total)	6010	400
		7420	1000
		7421	10
Magnesium	(Total)	7450	4
Manganese	(Total)	7460	40
		7461	0.8
Mercury	(Total)	7470	2
Nickel	(Total)	6010	150
		7520	400
Potassium	(Total)	7610	40

EXPANDED PARAMETERS[1]

Common Name[2]	CAS RN[3]	Suggested Methods[4]	PQL[5] (µg/l)
Field Parameters:			
Static water level (in wells and sumps)			
Specific Conductance		9050	
Temperature			
Floaters or Sinkers[6]			
pH		9040	
		9041	
Eh			
Dissolved Oxygen[7]			
Field Observations[8]			
Turbidity		180.1	
Leachate Indicators:			
Total Kjeldahl Nitrogen		351.1	60
		351.2	
		351.3	
		351.4	200
Ammonia	7664-41-7	350.1	60
		350.2	
		350.3	100
Nitrate		9200	
Chemical Oxygen Demand		410.1	50000
		410.2	50000
		410.3	50000
		410.4	80000
		405.1	2000
Biochemical Oxygen Demand (BOD_5)			
Total Organic Carbon		9060	
Total Dissolved Solids		160.1	40000
Sulfate		9035	
		9036	
		9038	
Alkalinity		310.1	20000
		310.2	6000
Phenols	108-95-2	8040	
Chloride		9250	
		9251	
		9252	
Bromide	24959-67-9	320.1	2000
Total hardness as $CaC0_3$		130.1	20000
		130.2	30000

EXPANDED PARAMETERS[1]

Common Name[2]	CAS RN[3]	Suggested Methods[4]	PQL[5] (µg/l)
Color		110.1	
		110.2	
		110.3	80
Boron	7440-42-8		
Inorganic Parameters:			
Aluminum	(Total)	7020	10
Antimony	(Total)	6010	300
		7040	2000
		7041	30
Arsenic	(Total)	6010	500
		7060	10
		7061	20
Barium	(Total)	6010	20
		7080	1000
Beryllium	(Total)	6010	3
		7090	50
		7091	2
Cadmium	(Total)	6010	40
		7130	50
		7131	1
Calcium	(Total)	7140	40
Chromium	(Total)	6010	70
		7190	500
		7191	10
Chromium (Hexavalent)*	18540-29-9	7195	
		7196	600
		7197	30
		7198	
Cobalt	(Total)	6010	70
		7200	500
		7201	10
Copper	(Total)	6010	60
		7210	200
		7211	10
Cyanide	(Total)	9010	200
Iron	(Total)	7380	100
		7381	4
Lead	(Total)	6010	400
		7420	1000
		7421	10
Magnesium	(Total)	7450	4
Manganese	(Total)	7460	40
		7461	0.8
Mercury	(Total)	7470	2

BASELINE PARAMETERS[1]

Common Name[2]	CAS RN[3]	Suggested Methods	PQL[4] (µg/l)
Ethylbenzene	100-41-4	8020	2
		8221	0.05
		8260	5
2-Hexanone; Methyl butyl ketone	591-78-6	8260	50
Methyl bromide; Bromomethane	74-83-9	8010	20
		8021	10
Methyl chloride; Chloromethane	74-87-3	8010	1
		8021	0.3
Methylene bromide; Dibromomethane	74-95-3	8010	15
		8021	20
		8260	10
Methylene chloride; Dichloromethane	75-09-2	8010	5
		8021	0.2
		8260	10
Methyl ethyl ketone; MEK; 2-Butanone	78-93-3	8015	10
		8260	100
Methyl iodide; Iodomethane	74-88-4	8010	40
		8260	10
4-Methyl-2-pentanone; Methyl isobutyl ketone	108-10-1	8015	5
		8260	100
Styrene	100-42-5	8020	1
		8021	0.1
		8260	10
1,1,1,2-Tetrachloroethane	630-20-6	8010	5
		8021	0.05
		8260	5
1,1,2,2-Tetrachloroethane	79-34-5	8010	0.5
		8021	0.1
		8260	5
Tetrachloroethylene; Tetrachloroethene; Perchloroethylene	127-18-4	8010	0.5
		8021	0.5
		8260	5
Toluene	108-88-3	8020	2
		8021	0.1
		8260	5
1,1,1-Trichloroethane; Methylchloroform	71-55-6	8010	0.3
		8021	0.3
		8260	5
1,1,2-Trichloroethane	79-00-5	8010	0.2
		8260	5
Trichloroethylene; Trichloroethene	79-01-6	8010	1
		8021	0.2
		8260	5
Trichlorofluoromethane; CFC-11	75-69-4	8010	10
		8021	0.3
		8260	5

BASELINE PARAMETERS[1]

Common Name[2]	CAS RN[3]	Suggested Methods	PQL[4] (µg/l)
1,2,3-Trichloropropane.....	96-18-4	8010	10
		8021	5
		8260	15
Vinyl acetate.....	108-05-4	8260	50
Vinyl chloride; Chloro-	75-01-4	8010	2
ethene		8021	0.4
		8260	10
Xylenes.....	1330-20-7	8020	5
		8021	0.2
		8260	5

The department may modify this list as necessary.

Notes

[1]This list contains 47 volatile organics for which possible analytical procedures provided in EPA Report SW-846 Test Methods for Evaluating Solid Waste, third edition, November 1986, as revised December 1987, includes Method 8260; 25 metals for which SW-846 provides either Method 6010 or a method from the 7000 series of methods; and additional parameters for which possible procedures are provided in Methods for Chemical Analysis of Water and Wastes, USEPA-600/4-79-020, March, 1979. The regulatory requirements pertain only to the list of parameters; the right hand columns (Methods and PQL) are given for informational purposes only. See also footnote 4.

[2]Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

[3]Chemical Abstracts Service Registry Number. Where "Total" is entered, all species in the groundwater that contain this element are included.

[4]Practical Quantitation Limits (PQLs) are the lowest concentrations of analytes in groundwaters that can be reliably determined within specified limits of precision and accuracy by the indicated methods under routine laboratory operating conditions. The PQLs listed are generally stated to one significant figure. PQLs are based on 5 ml samples for volatile organics and 1 L samples for semivolatile organics. CAUTION: The PQL values in many cases are based only on a general estimate for the method and not on a determination for individual compounds; PQLs are not a part of the regulation.

[5]Any floaters or sinkers found must be analyzed separately for baseline parameters.

[6]Surface water only.

[7]Any unusual conditions (colors, odors, surface sheens, etc.) noticed during well development, purging, or sampling must be reported.

*The department may waive the requirement to analyze Hexavalent Chromium provided that Total and Hexavalent and Trivalent Chromium values do not exceed 0.05 mg/l.

EXPANDED PARAMETERS[1]

Common Name[2]	CAS RN[3]	Suggested Methods[4]	PQL[5] (µg/l)
Nickel	(Total)	6010	150
		7520	400
Potassium	(Total)	7610	40
Selenium	(Total)	6010	750
		7740	20
		7741	20
Silver	(Total)	6010	70
		7760	100
		7761	10
Sodium	(Total)	7770	8
Sulfide	18496-25-8	9030	4000
Thallium	(Total)	6010	400
		7840	1000
		7841	10
Tin	(Total)	6010	40
Vanadium	(Total)	6010	80
		7910	2000
		7911	40
Zinc	(Total)	6010	20
		7950	50
		7951	0.5
Organic Parameters:			
Acenaphthene	83-32-9	8100	200
		8270	10
Acenaphthylene	208-96-8	8100	200
		8270	10
Acetone	67-64-1	8260	100
Acetonitrile; Methyl cyanide	75-05-8	8015	100
Acetophenone	98-86-2	8270	10
2-Acetylaminofluorene; 2-AAF	53-96-3	8270	20
Acrolein	107-02-8	8030	5
		8260	100
Acrylonitrile	107-13-1	8030	5
		8260	200
Aldrin	309-00-2	8080	0.05
		8270	10
Allyl chloride	107-05-1	8010	5
		8260	10
4-Aminobiphenyl	92-67-1	8270	20
Anthracene	120-12-7	8100	200
		8270	10

EXPANDED PARAMETERS[1]

Common Name[2]	CAS RN[3]	Suggested Methods[4]	PQL[5] (µg/1)
Benzene	71-43-2	8020	2
		8021	0.1
		8260	5
Benzo[a]anthracene; Benzanthracene	56-55-3	8100	200
		8270	10
Benzo[b]fluoranthene	205-99-2	8100	200
		8270	10
Benzo[k]fluoranthene	207-08-9	8100	200
		8270	10
Benzo[ghi]perylene	191-24-2	8100	200
		8270	10
Benzo[a]pyrene	50-32-8	8100	200
		8270	10
Benzyl alcohol	100-51-6	8270	20
alpha-BHC	319-84-6	8080	0.05
		8270	10
beta-BHC	319-85-7	8080	0.05
		8270	20
delta-BHC	319-86-8	8080	0.1
		8270	20
gamma-BHC; Lindane	58-89-9	8080	0.05
		8270	20
Bis(2-chloroethoxy)methane	111-91-1	8110	5
		8270	10
Bis(2-chloroethyl) ether; Dichloroethyl ether	111-44-4	8110	3
		8270	10
Bis-(2-chloro-1-methyl-ethyl) ether; 2,2[1]-Dichlorodiisopropyl ether; DCIP, See note 9	108-60-1	8110	10
		8270	10
Bis(2-ethylhexyl)phthalate	117-81-7	8060	20
Bromochloromethane; Chlorobromomethane	74-97-5	8021	0.1
		8260	5
Bromodichloromethane; Dibromochloromethane	75-27-4	8010	1
		8021	0.2
		8260	5
Bromoform; Tribromomethane	75-25-2	8010	2
		8021	15
		8260	5
4-Bromophenyl phenyl ether	101-55-3	8110	25
		8270	10
Butyl benzyl phthalate; Benzyl butyl phthalate	85-68-7	8060	5
		8270	10
Carbon disulfide	75-15-0	8260	100
Carbon tetrachloride	56-23-5	8010	1
		8021	0.1
		8260	10

EXPANDED PARAMETERS[1]

Common Name[2]	CAS RN[3]	Suggested Methods[4]	PQL[5] (µg/l)
Chlordane	See Note 10	8080	0.1
		8270	50
p-Chloroaniline	106-47-8	8270	20
Chlorobenzene	108-90-7	8010	2
		8020	2
		8021	0.1
		8260	5
Chlorobenzilate	510-15-6	8270	10
p-Chloro-m-cresol;	59-50-7	8040	5
4-Chloro-3-methylphenol		8270	20
Chloroethane;	75-00-3	8010	5
Ethyl chloride		8021	1
		8260	10
Chloroform;	67-66-3	8010	0.5
Trichloromethane		8021	0.2
		8260	5
2-Chloronaphthalene	91-58-7	8120	10
		8270	10
2-Chlorophenol	95-57-8	8040	5
		8270	10
4-Chlorophenyl	7005-72-3	8110	40
phenyl ether		8270	10
Chloroprene	126-99-8	8010	50
		8260	20
Chrysene	218-01-9	8100	200
		8270	10
m-Cresol; 3-methylphenol	108-39-4	8270	10
o-Cresol; 2-methylphenol	95-48-7	8270	10
p-Cresol; 4-methylphenol	106-44-5	8270	10
2,4-D; 2,4-Dichlorophen-			
oxyacetic acid	94-75-7	8150	10
4,4[1]-DDD	72-54-8	8080	0.1
		8270	10
4,4[1]-DDE	72-55-9	8080	0.05
		8270	10
4,4[1]-DDT	50-29-3	8080	0.1
		8270	10
Diallate	2303-16-4	8270	10
Dibenz[a,h]anthracene	53-70-3	8100	200
		8270	10
Dibenzofuran	132-64-9	8270	10
Dibromochloromethane;	124-48-1	8010	1
Chlorodibromomethane		8021	0.3
		8260	5

EXPANDED PARAMETERS[1]

Common Name[2]	CAS RN[3]	Suggested Methods[4]	PQL[5] (µg/l)
1,2-Dibromo-3-chloro-	96-12-8	8011	0.1
propane; DBCP		8021	30
		8260	25
1,2-Dibromoethane;	106-93-4	8011	0.1
Ethylene dibromide; EDB		8021	10
		8260	5
Di-n-butyl phthalate	84-74-2	8060	5
		8270	10
o-Dichlorobenzene;	95-50-1	8010	2
1,2-Dichlorobenzene		8020	5
		8021	0.5
		8120	10
		8260	5
		8270	10
m-Dichlorobenzene;	541-73-1	8010	5
1,3-Dichlorobenzene		8020	5
		8021	0.2
		8120	10
		8260	5
		8270	10
p-Dichlorobenzene;	106-46-7	8010	2
1,4-dichlorobenzene		8020	5
		8021	0.1
		8120	15
		8260	5
		8270	10
3,3[1]-Dichlorobenzidine	91-94-1	8270	20
trans-1,4-Dichloro-			
2-butene	110-57-6	8260	100
Dichlorodifluoromethane;	75-71-8	8021	0.5
CFC 12		8260	5
1,1-Dichloroethane;	75-34-3	8010	1
Ethyldidene chloride		8021	0.5
		8260	5
1,2-Dichloroethane;	107-06-2	8010	0.5
Ethylene dichloride		8021	0.3
		8260	5
1,1-Dichloroethylene;	75-35-4	8010	1
1,1-Dichloroethene;		8021	0.5
Vinylidene chloride		8260	5
cis-1,2-Dichloroethylene;	156-59-2	8021	0.2
cis-1,2-Dichloroethene		8260	5
trans-1,2-Dichloroethylene	156-60-5	8010	1
trans-1,2-Dichloroethene		8021	0.5
		8260	5
2,4-Dichlorophenol	120-83-2	8040	5
		8270	10

EXPANDED PARAMETERS[1]

Common Name[2]	CAS RN[3]	Suggested Methods[4]	PQL[5] (µg/l)
2,6-Dichlorophenol	87-65-0	8270	10
1,2-Dichloropropane;	78-87-5	8010	0.5
Propylene dichloride		8021	0.05
		8260	5
1,3-Dichloropropane;	142-28-9	8021	0.3
Trimethylene dichloride		8260	5
2,2-Dichloropropane;	594-20-7	8021	0.5
Isopropylidene chloride		8260	15
1,1-Dichloropropene	563-58-6	8021	0.2
		8260	5
cis-1,3-Dichloropropene	10061-01-5	8010	20
		8260	10
trans-1,3-Dichloropropene	10061-02-6	8010	5
		8260	10
Dieldrin	60-57-1	8080	0.05
		8270	10
Diethyl phthalate	84-66-2	8060	5
		8270	10
0,0-Diethyl 0-2-pyrazinyl	297-97-2	8141	5
phosphorothioate;		8270	20
Thionazin			
Dimethoate	60-51-5	8141	3
		8270	20
p-(Dimethylamino)azo-			
benzene	60-11-7	8270	10
7,12-Dimethylbenz[a]-			
anthracene	57-97-6	8270	10
3,3[1]-Dimethylbenzidine	119-93-7	8270	10
2,4-Dimethylphenol;	105-67-9	8040	5
m-Xylenol		8270	10
Dimethyl phthalate	131-11-3	8060	5
		8270	10
m-Dinitrobenzene	99-65-0	8270	20
4,6-Dinitro-o-cresol 4,6-	534-52-1	8040	150
Dinitro-2-methylphenol		8270	50
2,4-Dinitrophenol	51-28-5	8040	150
		8270	50
2,4-Dinitrotoluene	121-14-2	8090	0.2
		8270	10
2,6-Dinitrotoluene	606-20-2	8090	0.1
		8270	10
Dinoseb; DNBP; 2-sec-	88-85-7	8150	1
Butyl-4,6-dinitrophenol		8270	20
Di-n-octyl phthalate	117-84-0	8060	30
		8270	10

EXPANDED PARAMETERS[1]

Common Name[2]	CAS RN[3]	Suggested Methods[4]	PQL[5] (µg/l)
Diphenylamine	122-39-4	8270	10
Disulfoton	298-04-4	8140	2
		8141	0.5
		8270	10
Endosulfan I	959-98-8	8080	0.1
		8270	20
Endosulfan II	33213-65-9	8080	0.05
		8270	20
Endosulfan sulfate	1031-07-8	8080	0.5
		8270	10
Endrin	72-20-8	8080	0.1
		8270	20
Endrin aldehyde	7421-93-4	8080	0.2
		8270	10
Ethylbenzene	100-41-4	8020	2
		8021	0.05
		8260	5
Ethyl methacrylate	97-63-2	8015	5
		8260	10
		8270	10
Ethyl methanesulfonate	62-50-0	8270	20
Famphur	52-85-7	8270	20
Fluoranthene	206-44-0	8100	200
		8270	10
Fluorene	86-73-7	8100	200
		8270	10
Heptachlor	76-44-8	8080	0.05
		8270	10
Heptachlor epoxide	1024-57-3	8080	1
		8270	10
Hexachlorobenzene	118-74-1	8120	0.5
		8270	10
Hexachlorobutadiene	87-68-3	8021	0.5
		8120	5
		8260	10
Hexachlorocyclopentadiene	77-47-4	8270	10
		8120	5
		8270	10
Hexachloroethane	67-72-1	8120	0.5
		8260	10
		8270	10
Hexachloropropene	1888-71-7	8270	10
2-Hexanone; Methyl butyl ketone	591-78-6	8260	50
Indeno(1,2,3-cd)pyrene	193-39-5	8100	200
		8270	10

BASELINE PARAMETERS[1]

Common Name[2]	CAS RN[3]	Suggested Methods	PQL[4] (µg/1)
Selenium	(Total)	6010	750
		7740	20
		7741	20
Silver	(Total)	6010	70
		7760	100
		7761	10
Sodium	(Total)	7770	8
Thallium	(Total)	6010	400
		7840	1000
		7841	10
Vanadium	(Total)	6010	80
		7910	2000
		7911	40
Zinc	(Total)	6010	20
		7950	50
		7951	0.5
Organic Parameters:			
Acetone	67-64-1	8260	100
Acrylonitrile	107-13-1	8030	5
		8260	200
Benzene	71-43-2	8020	2
		8021	0.1
		8260	5
Bromochloromethane	74-97-5	8021	0.1
		8260	5
Bromodichloromethane	75-27-4	8010	1
		8021	0.2
		8260	5
Bromoform; Tribromomethane	75-25-2	8010	2
		8021	15
		8260	5
Carbon disulfide	75-15-0	8260	100
Carbon tetrachloride	56-23-5	8010	1
		8021	0.1
		8260	10
Chlorobenzene	108-90-7	8010	2
		8020	2
		8021	0.1
		8260	5
Chloroethane;	75-00-3	8010	5
Ethyl chloride		8021	1

BASELINE PARAMETERS[1]

Common Name[2]	CAS RN[3]	Suggested Methods	PQL[4] (µg/l)
Chloroform;	67-66-3	8010	0.5
Trichloromethane		8021	0.2
		8260	5
Dibromochloromethane;	124-48-1	8010	1
Chlorodibromomethane		8021	0.3
		8260	5
1,2-Dibromo-3-chloropro-	96-12-8	8011	0.1
pane; DBCP		8021	30
		8260	25
1,2-Dibromoethane; Ethyl-	106-93-4	8011	0.1
ene dibromide; EDB		8021	10
		8260	5
o-Dichlorobenzene;	95-50-1	8010	2
1,2-Dichlorobenzene		8020	5
		8021	0.5
		8120	10
		8260	5
		8270	10
p-Dichlorobenzene;	106-46-7	8010	2
1,4-Dichlorobenzene		8020	5
		8021	0.1
		8120	15
		8260	5
		8270	10
trans-1,4-Dichloro-2-bu-			
tene	110-57-6	8260	100
1,1-Dichloroethane;	75-34-3	8010	1
Ethylidene chloride		8021	0.5
		8260	5
1,2-Dichloroethane;	107-06-2	8010	0.5
Ethylene dichloride		8021	0.3
		8260	5
1,1-Dichloroethylene;	75-35-4	8010	1
1,1-Dichloroethene;		8021	0.5
Vinylidene chloride		8260	5
cis-1,2-Dichloroethylene;	156-59-2	8021	0.2
cis-1,2-Dichloroethene.		8260	5
trans-l,2-Dichloroethyl-	156-60-5	8010	1
ene; trans-1,2-Dichloro-		8021	0.5
ethene		8260	5
1,2-Dichloropropane; Pro-	78-87-5	8010	0.5
pylene dichloride		8021	0.05
		8260	5
cis-1,3-Dichloropropene	10061-01-5	8010	20
		8260	10
trans-1,3-Dichloropropene	10061-02-6	8010	5
		8260	10

EXPANDED PARAMETERS[1]

Common Name[2]	CAS RN[3]	Suggested Methods[4]	PQL[5] (µg/l)
Isobutyl alcohol	78-83-1	8015	50
		8240	100
Isodrin	465-73-6	8270	20
		8260	10
Isophorone	78-59-1	8090	60
		8270	10
Isosafrole	120-58-1	8270	10
Kepone	143-50-0	8270	20
Methacrylonitrile	126-98-7	8015	5
		8260	100
Methapyrilene	91-80-5	8270	100
Methoxychlor	72-43-5	8080	2
		8270	10
Methyl bromide;	74-83-9	8010	20
Bromomethane		8021	10
Methyl chloride;	74-87-3	8010	1
Chloromethane		8021	0.3
3-Methylcholanthrene	56-49-5	8270	10
Methyl ethyl ketone; MEK;	78-93-3	8015	10
2-Butanone		8260	100
Methyl iodide; Iodomethane	74-88-4	8010	40
		8260	10
Methyl methacrylate	80-62-6	8015	2
		8260	30
Methyl methanesulfonate	66-27-3	8270	10
2-Methylnaphthalene	91-57-6	8270	10
Methyl parathion;	298-00-0	8140	0.5
Parathion methyl		8141	1
		8270	10
4-Methyl-2-pentanone;	108-10-1	8015	5
Methyl isobutyl ketone		8260	100
Methylene bromide;	74-95-3	8010	15
Dibromomethane		8021	20
		8260	10
Methylene chloride;	75-09-2	8010	5
Dichloromethane		8021	0.2
		8260	10
Naphthalene	91-20-3	8021	0.5
		8100	200
		8260	5
		8270	10
1,4-Naphthoquinone	130-15-4	8270	10
1-Naphthylamine	134-32-7	8270	10
2-Naphthylamine	91-59-8	8270	10
o-Nitroaniline;			
2-Nitroaniline	88-74-4	8270	50

EXPANDED PARAMETERS[1]

Common Name[2]	CAS RN[3]	Suggested Methods[4]	PQL[5] (µg/l)
m-Nitroaniline; 3-Nitroaniline	99-09-2	8270	50
p-Nitroaniline; 4-Nitroaniline	100-01-6	8270	20
Nitrobenzene	98-95-3	8090	40
		8270	10
o-Nitrophenol;	88-75-5	8040	5
2-Nitrophenol		8270	10
p-Nitrophenol;	100-02-7	8040	10
4-Nitrophenol		8270	50
N-Nitrosodi-n-butylamine	924-16-3	8270	10
N-Nitrosodiethylamine	55-18-5	8270	20
N-Nitrosodimethylamine	62-75-9	8070	2
N-Nitrosodiphenylamine	86-30-6	8070	5
N-Nitrosodipropylamine; N-Nitroso-N-dipropylamine; Di-n-propylnitrosamine	621-64-7	8070	10
N-Nitrosomethylethalamine	10595-95-6	8270	10
N-Nitrosopiperidine	100-75-4	8270	20
N-Nitrosopyrrolidine	930-55-2	8270	40
5-Nitro-o-toluidine	99-55-8	8270	10
Parathion	56-38-2	8141	0.5
		8270	10
Pentachlorobenzene	608-93-5	8270	10
Pentachloronitrobenzene	82-68-8	8270	20
Pentachlorophenol	87-86-5	8040	5
		8270	50
Phenacetin	62-44-2	8270	20
Phenanthrene	85-01-8	8100	200
		8270	10
Phenol	108-95-2	8040	1
p-Phenylenediamine	106-50-3	8270	10
Phorate	298-02-2	8140	2
		8141	0.5
		8270	10
Polychlorinated biphenyls; PCB's; Aroclors	See Note 11	8080	50
		8270	200
Polychlorinated dibenzo-p-dioxins; PCDD's	See Note 12	8280	0.01
Polychlorinated dibenzofurans; PCDF's	See Note 13	8280	0.01
Pronamide	23950-58-5	8270	10
Propionitrile;	107-12-0	8015	60
Ethyl cyanide		8260	150
Pyrene	129-00-0	8100	200
		8270	10

EXPANDED PARAMETERS[1]

Common Name[2]	CAS RN[3]	Suggested Methods[4]	PQL[5] (µg/l)
Safrole	94-59-7	8270	10
Silvex; 2,4,5-TP	93-72-1	8150	2
Styrene	100-42-5	8020	1
		8021	0.1
		8260	10
2,4,5-T; 2,4,5-trichloro-phenoxyacetic acid	93-76-5	8150	2
1,2,4,5-Tetrachlorobenzene	95-94-3	8270	10
2,3,7,8-Tetrachlorodi-benzo-p-dioxin; 2,3,7,8-TCDD	1746-01-6	8280	0.005
1,1,1,2-Tetrachloroethane	630-20-6	8010	5
		8021	0.05
		8260	5
1,1,2,2-Tetrachloroethane	79-34-5	8010	0.5
		8021	0.1
		8260	5
Tetrachloroethylene; Tetrachloroethene; Perchloroethylene	127-18-4	8010	0.5
		8021	0.5
		8260	5
2,3,4,6-Tetrachlorophenol	58-90-2	8270	10
Toluene	108-88-3	8020	2
		8021	0.1
		8260	5
o-Toluidine	95-53-4	8270	10
Toxaphene	See Note 14	8080	2
1,2,4-Trichlorobenzene	120-82-1	8021	0.3
		8120	0.5
		8260	10
		8270	10
1,1,1-Trichloroethane; Methylchloroform	71-55-6	8010	0.3
		8021	0.3
		8260	5
1,1,2-Trichloroethane	79-00-5	8010	0.2
		8260	5
Trichloroethylene; Trichloroethene	79-01-6	8010	1
		8021	0.2
		8260	5
Trichlorofluoromethane; CFC-11	75-69-4	8010	10
		8021	0.3
		8260	5
2,4,5-Trichlorophenol	95-95-4	8270	10
2,4,6-Trichlorophenol	88-06-2	8040	5
		8270	10
1,2,3-Trichloropropane	96-18-4	8010	10
		8021	5
		8260	15

EXPANDED PARAMETERS[1]

Common Name[2]	CAS RN[3]	Suggested Methods[4]	PQL[5] (µg/l)
0,0,0-Triethyl phosphoro-thioate	126-68-1	8270	10
sym-Trinitrobenzene	99-35-4	8270	10
Vinyl acetate	108-05-4	8260	50
Vinyl chloride;	75-01-4	8010	2
Chloroethene		8021	0.4
		8260	10
Xylene (total)	See Note 15	8020	5
		8021	0.2
		8260	5

The department may modify this list as necessary.

EXPANDED PARAMETERS[1]

Notes

[1]The regulatory requirements pertain only to the list of substances; the right hand columns (Methods and PQL) are given for informational purposes only. See also footnotes 4 and 5.

[2]Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

[3]Chemical Abstracts Service registry number. Where "Total" is entered, all species in the groundwater that contain this element are included.

[4]Suggested Methods refer to analytical procedure numbers used in EPA Report SW-846 Test Methods for Evaluating Solid Waste, third edition, November 1986, as revised, December 1987 and Methods for Chemical Analysis of Water and Wastes, USEPA-600-4/79-020, March, 1979. CAUTION: The methods listed are representative procedures and may not always be the most suitable method(s) for monitoring an analyte under the regulations.

[5]Practical Quantitation Limits (PQLs) are the lowest concentrations of analytes in groundwaters that can be reliably determined within specified limits of precision and accuracy by the indicated methods under routine laboratory operating conditions. The PQLs listed are generally stated to one significant figure. PQLs are based on 5 ml samples for volatile organics and 1 L samples for semivolatile organics. CAUTION: The PQL values in many cases are based only on a general estimate for the method and not on a determination for individual compounds; PQLs are not a part of the regulation.

[6]Any floaters or sinkers found must be analyzed separately for baseline parameters.

[7]Surface water only.

[8]Any unusual conditions (colors, odors, surface sheens, etc.) noticed during well development, purging, or sampling must be reported.

[9]This substance is often called Bis(2-chloroisopropyl) ether, the name Chemical Abstracts Service applies to its noncommercial isomer, Propane, 2,2"-oxybis[2]-chloro- (CAS RN 39638-32-9).

[10]Chlordane: This entry includes alpha-chlordane (CAS RN 5103-71-9), beta-chlordane (CAS RN 5103-74-2), gamma-chlordane (CAS RN 5566-34-7), and constituents of chlordane (CAS RN 57-74-9 and CAS RN 12789-03-6). PQL shown is for technical chlordane. PQLs of specific isomers are about 20 µg/l by method 8270.

[11]Polychlorinated biphenyls (CAS RN 1336-36-3): This category contains congener chemicals, including constituents of Aroclor 1016 (CAS RN 12674-11-2), Aroclor 1221 (CAS RN 11104-28-2), Aroclor 1232 (CAS RN 11141-16-5), Aroclor 1242 (CAS RN 53469-21-9), Aroclor 1248 (CAS RN 12672-29-6), Aroclor 1254 (CAS RN 11097-69-1), and Aroclor 1260 (CAS RN 11096-82-5). The PQL shown is an average value for PCB congeners.

[12]Polychlorinated dibenzo-p-dioxins: This category contains congener chemicals, including tetrachlorodibenzo-p-dioxins (see also 2,3,7,8-TCDD), pentachlorodibenzo-p-dioxins, and hexachlorodibenzo-p-dioxins. The PQL shown is an average value for PCDD congeners. Upon request of the applicant, the department may waive the requirement to analyze for dioxins, where appropriate.

[13]Polychlorinated dibenzofurans: This category contains congener chemicals, including tetrachlorodibenzofurans, pentachlorodibenzofurans, and hexachlorodibenzofurans. The PQL shown is an average value for PCDF congeners. Upon request of the applicant, the department may waive the requirement to analyze for furans, where appropriate.

[14]Toxaphene: This entry includes congener chemicals contained in technical toxaphene (CAS RN 8001-35-2), i.e., chlorinated camphene.

[15]Xylene (total): This entry includes o-xylene (CAS RN 96-47-6), m-xylene (CAS RN 108-38-3), p-xylene (CAS RN 106-42-3), and unspecified xylenes (dimethylbenzenes) (CAS RN 1330-20-7). PQLs for method 8021 are 0.2 for o-xylene and 0.1 for m- or p-xylene. The PQL for m-xylene is 2.0 µg/L by method 8020 or 8260.

*The department may waive the requirement to analyze Hexavalent Chromium provided that Total and Hexavalent and Trivalent Chromium values do not exceed 0.05 mg/l.

Historical Note

Sec. filed Oct. 28, 1988; amds. filed: Aug. 5, 1993; Sept. 27, 1996; Nov. 4, 1999 eff. Nov. 24, 1999. Amended (d)(6).

§ 360-2.12 Landfill siting.

(a) *Applicability.* New landfills and lateral or vertical expansions of existing active landfills must be located on a site that exhibits the following characteristics unless the requirements of subdivision (b) of this section are met. A site selection study will be required only if the applicant proposes a site that does not exhibit all of the characteristics identified in either paragraph (1) or (2) of this subdivision.

(1) In the case of new landfills and lateral or vertical expansions of existing landfills:

(i) the site is not located in an area identified in section 360-1.7(a)(2) of this Part;

(ii) the site complies with the siting restrictions identified in subdivision (c) of this section;

(iii) bedrock subject to rapid or unpredictable groundwater flow must be avoided, unless it can be demonstrated that a containment failure of the facility would not result in contamination entering the bedrock system;

(iv) the site must not be in proximity of any mines, caves or other anomalous features that may alter groundwater flow;

(v) unconsolidated deposits underlying the proposed landfill must either exist or be constructed to be 20 feet or greater in thickness as measured from the base of the constructed liner system; and

(vi) the upper 20 feet of the unconsolidated deposits on the site must consist predominantly (greater than 50 percent) of soils throughout the vertical section, with a maximum *in situ* coefficient of permeability of 5×10^{-6} centimeters per second, with no appreciable continuous deposits having a maximum coefficient of permeability of 5×10^{-4} centimeters per second.

(2) In the case of an existing landfill active on or after November 4, 1992 operating under and in compliance with a current Part 360 permit or order on consent, the department may allow lateral or vertical expansions if the site has less than 20 feet of unconsolidated deposits provided that:

(i) the proposed landfill expansion is identified in the local solid waste management plan approved by the department under Subpart 360-15 of this Part as a component of the integrated solid waste management system for the planning unit in which the facility is

located and the proposed landfill expansion must be consistent with the goals and objectives of such plan;

(ii) the unconsolidated deposits underlying the proposed landfill exist or are constructed to be 10 feet or greater in thickness as measured from the base of the constructed liner system;

(iii) the applicant demonstrates that the expansion site will have no significant adverse impact on human health, safety, or welfare, the environment, or natural resources; and

(iv) the site complies with subparagraphs (1)(i)-(iv) of this subdivision.

(3) Except in Nassau and Suffolk Counties, in the case of ash monofills for the disposal of fly ash treated in a manner consistent with section 360-3.6(g)(3) of this Part, combined ash, or bottom ash, the department may allow ash monofill development at sites that have less than 20 feet of unconsolidated deposits provided that:

(i) the proposed monofill must be identified in the local solid waste management plan approved by the department under Subpart 360-15 of this Part as a component of the integrated solid waste management system for the planning unit in which the facility is located and the proposed monofill must be consistent with the goals and objectives of such plan;

(ii) the unconsolidated deposits underlying the proposed landfill on the site exist or are constructed to be 10 feet or greater in thickness as measured from the base of the constructed liner system;

(iii) the applicant demonstrates that the monofill site will have no significant adverse impact on the public health, safety or welfare, the environment or natural resources; and

(iv) the site complies with subparagraphs (1)(i)-(iv) of this subdivision.

(b) *Exceptions.* New landfills and lateral or vertical expansions of existing landfills may be located on sites that do not exhibit the characteristics identified in subdivision (a) of this section provided that the requirements of paragraphs (1) and (2) of this subdivision are met. The department may impose additional requirements to assure that the permitted activity will have no significant adverse impact on the public health, safety or welfare, the environment or natural resources for any site selected pursuant to this subdivision.

(1) The proposed landfill must be identified in the local solid waste management plan approved by the department under Subpart 360-15 of this Part as a component of the integrated solid waste management system for the planning unit in which the facility is located, and the proposed landfill must be consistent with the goals and objectives of such plan.

(2) The applicant must perform a site selection study and submit a site selection report as part of a complete application. This report must describe the factors that prevent the applicant from using a site exhibiting the characteristics identified in subdivision (a) of this section. Such factors may include, but are not limited to, the proximity to receiving waters or proximity to sewer lines or POTWs to ensure proper management of leachate during the operational and post-closure period of the landfill. The site selection report must also demonstrate that the chosen site will have no significant adverse impact on public health, safety, or welfare, the environment or natural resources, and will be consistent with the provisions of the ECL.

(i) The site selection process must be comprehensive and must identify and evaluate a reasonable range of alternative sites which are feasible considering the capabilities and objectives of the applicant. All of the criteria used to eliminate and evaluate the suitability of the potential sites must be clearly defined and consistently applied. A phased approach must be used, in which a more detailed evaluation of sites occurs as the number of potential sites is reduced.

(*a*) The applicant must exclude inappropriate siting areas by avoiding the prohibited siting areas identified in section 360-1.7(a)(2) of this Part and applying the landfill siting restrictions identified in subdivision (c) of this section.

(*b*) The applicant must evaluate potential siting areas to identify alternative sites that are suitable for landfill development. When applying the siting criteria, the evaluation

must include the use of the type of data listed in section 360-2.11(a)(2) of this Subpart. Field reconnaissance to confirm the published information and a morphologic evaluation of landforms must be performed to identify the areas which are likely to have thick low permeable soils available within the study area. The applicant must use the following criteria in the landfill site selection study:

(*1*) Unconsolidated deposits on the site must be those most likely to minimize the migration of contaminants from the landfill. In evaluating the sites, preferred sites should have the greatest possible thickness of these materials to provide a barrier to contaminant migration into bedrock;

(*2*) bedrock subject to rapid or unpredictable groundwater flow must be avoided unless it can be demonstrated that a containment failure of the facility would not result in contamination entering the bedrock system resulting in a contravention of groundwater standards;

(*3*) probable groundwater flow patterns and water quality must be considered in finding areas where containment failure would do the least environmental damage and would be easiest to correct;

(*4*) proximity and hydrogeologic relationship to water supply sources;

(*5*) natural topography and its impacts upon the proposed facility; and

(*6*) relationship to mines, caves, or other anomalous hydrogeologic features that might alter groundwater flow.

(*c*) Preliminary field investigations must be conducted at the highest ranking available site or sites, to identify any major obstacles to site development, and to provide sufficient data to differentiate among the preferred sites and support a siting decision.

(ii) The report must describe the process used to select the proposed site, including evaluation criteria, deferral (elimination) criteria, assumptions, data sources, decisionmaking means (such as numerical ranking systems) and other factors used to make the siting decisions. The report must demonstrate that, considering the capabilities and objectives of the applicant, a reasonable range of alternative sites available throughout the planning unit in which the project is proposed were evaluated and that the selected site is the most appropriate alternative. The decisionmaking process must be described to provide a clear understanding of how and why the siting decisions were made, and at a level of detail sufficient to provide for a comparative assessment of the alternatives discussed. The report must also include maps of sites and describe the results of the field investigations, the comparative advantages and disadvantages of the highest ranked sites, and the basis for selecting the proposed sites.

(c) *Landfill siting restrictions.* In addition to the provisions of section 360-1.7(a)(2) of this Part, the following landfill siting restrictions apply.

(1) Primary water supply, and principal aquifers:

(i) Except in Nassau and Suffolk Counties, and except as provided in subparagraph (ii) of this paragraph, no new landfill and no lateral or vertical expansion of an existing landfill may be constructed over primary water supply aquifers, principal aquifers, within a public water supply stabilized cone of depression area, or within a minimum distance of 100 feet to surface waters that are actively used as sources of municipal supply. Greater separation distances may be required in accordance with subparagraph (iii) of this paragraph.

(ii) The commissioner may allow lateral or vertical expansions of landfills, in operation pursuant to a valid Part 360 permit to operate or Order on Consent as of December 31, 1988, that are on principal aquifers, if there is a demonstrated public need for the capacity provided by the expansion that cannot be reasonably provided elsewhere, and that outweighs the potential risk of contamination to the aquifer. Additionally, the landfill expansion must promote the implementation of the State's solid waste management policy set forth in ECL 27-0106 and must be an integral part of any local solid waste management plan that may be in effect for the planning unit (as defined in ECL 27-0107) within which the facility is

located; and the expansion must comply with all other requirements of this Part. However, the maximum time period allocated by the commissioner for any such expansion must not allow operation beyond December 31, 1995. In granting any expansion pursuant to this subparagraph, the department must impose specific conditions that are reasonably necessary to assure that the expansion will, to the extent practicable, have no significant adverse impact on public health or safety, welfare, the environment or natural resources, and such approval contributes to the proper management of solid waste at the earliest possible time.

(iii) The required horizontal separation between deposited solid waste, and primary water supply aquifers, principal aquifers, public water supply stabilized cone of depression areas, or surface waters that are actively used as sources of municipal supply must be sufficient (based on the rate and direction of groundwater and surface water flow, landfill design and requirements for corrective action in the event of failure of the landfill's containment system) to preclude contravention of groundwater standards in the aquifer and surface water standards in waters that are currently used as a source of municipal drinking water supply.

(2) Floodplains. Owners or operators of new landfill units, existing landfill units, and lateral expansions located in 100-year floodplains must demonstrate that the unit will not restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the floodplain, or result in washout of solid waste so as to pose a hazard to human health and the environment.

(3) Aircraft safety. (i) A landfill or landfill subcell into which putrescible solid waste is to be disposed must be located no closer than 5,000 feet from any airport runway end used by piston-powered fixed-wing aircraft and no closer than 10,000 feet from any airport runway end used by turbine-powered fixed-wing aircraft.

(ii) A landfill or landfill subcell into which putrescible solid waste is to be disposed, which is located within five miles of any airport runway end, must not, in the opinion of the Federal Aviation Administration, pose a potential bird or obstruction hazard to aircraft.

(iii) The permittee of an existing landfill or landfill subcell that is authorized to dispose of putrescible solid waste and that is located less than 10,000 feet from any airport runway end used by turbine-powered fixed-wing aircraft or less than 5,000 feet from any airport runway end used only by piston-powered fixed-wing aircraft must provide in its permit renewal application documentation that the Federal Aviation Administration believes the landfill or landfill subcell does not pose a bird hazard to aircraft.

(iv) Landfills containing only nonputrescible solid waste may be located less than 10,000 feet from any airport runway end used by turbine-powered fixed-wing aircraft or less than 5,000 feet from any airport runway end used only by piston-powered fixed-wing aircraft, if in the opinion of the Federal Aviation Administration they will not present a safety hazard to air traffic.

(v) The final elevation of a new landfill or expansion of an existing landfill must not extend more than 200 feet above the highest elevation of the land surface that existed prior to landfill development, unless the Federal Aviation Administration believes that the proposed fill height in excess of 200 feet will not present a safety hazard to air traffic.

(4) Unstable areas. A landfill must not be located in unstable areas where inadequate support for the structural components of the landfill exists or where changes in the substrate below or adjacent to the landfill are capable of impairing the integrity of some or all of the landfill structural components responsible for preventing releases from a landfill. An application for expansion of an existing landfill must demonstrate that adequate support for the structural components of the landfill exists or can be engineered to support any additional loads that may be generated by continued operation of the facility. For purposes of this paragraph:

(i) *Unstable area* means a location that is susceptible to natural or human-induced events or forces capable of impairing the integrity of some or all of the landfill structural components responsible for preventing releases from a landfill. Unstable areas can include poor foundation conditions, areas susceptible to mass movements, and karst terrains.

(ii) *Structural components* means liners, leachate collection systems, final covers, run-on/run-off systems, and any other component used in the construction and operation of the landfill that is necessary for protection of human health and the environment.

(iii) *Poor foundation conditions* means those areas where features exist which indicate that a natural or human-induced event may result in inadequate foundation support for the structural components of a landfill.

(iv) *Areas susceptible to mass movement* means those areas of influence (*i.e.*, areas characterized as having an active or substantial possibility of mass movement) where the movement of earth material at, beneath, or adjacent to the landfill because of natural or human-induced events, results in the downslope transport of soil and rock material by means of gravitational influence. Areas of mass movement include, but are not limited to, landslides, avalanches, debris slides and flows, soil fluctuation, block sliding and rock fall.

(v) *Karst terrains* means areas where karst topography, with its characteristic surface and subterranean features, is developed as the result of dissolution of limestone, dolomite, or other soluble rock. Characteristic physiographic features present in karst terrains include, but are not limited to sinkholes, sinking streams, caves, large springs and blind valleys.

(5) Unmonitorable or unremediable areas. New landfills must not be located in areas where environmental monitoring and site remediation cannot be conducted. Identification of these areas must be based upon ability to sufficiently characterize groundwater and surface water flow to locate upgradient and downgradient directions; ability to place environmental monitoring points which will detect releases from the landfill; ability to characterize and define a release from the landfill and determine what corrective actions may be necessary; and the ability to carry out those corrective actions. Lateral expansions adjacent to existing landfills which are already contaminating groundwater may be allowed by the department if the proposed expansion area can be constructed in a way that demonstrates compliance with the regulations. This may be demonstrated using remedial actions at the existing site resulting in a demonstrated improvement in groundwater quality; and any additional monitoring requirements that the department needs to ensure the integrity of the expansion area, such as leakage detection lysimeters installed beneath the new liner, statistical triggers of groundwater monitoring, tracers, additional monitoring wells surrounding the entire site, and any other monitoring methods required by the department.

(6) Fault areas. New landfills and lateral expansions shall not be located within 200 feet of a fault that has had displacement in Holocene time unless the owner or operator demonstrates to the department that an alternative setback distance of less than 200 feet will not result in damage to the structural integrity of the landfill unit and will be protective of human health and the environment.

(7) Seismic impact zones. New landfills and lateral expansions shall not be located in seismic impact zones, unless the owner or operator demonstrates to the department that all permanent containment structures, including liners, leachate collection systems, and surface water control systems, are designed to resist the maximum horizontal acceleration in lithified earth material for the site pursuant to the provisions of section 360-2.7(b)(7) of this Subpart.

(8) Federally regulated wetlands. For the purpose of this Subpart, *federally regulated wetlands* means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marsh, bogs and similar areas. New landfills and lateral expansions shall not be located in federally regulated wetlands, unless the appropriate permits are obtained from the U.S. Army Corps of Engineers, and unless the owner or operator can make the following demonstrations to the department, to the extent required under federal or State law.

(i) The presumption that a practicable alternative to the proposed landfill is available, which does not involve federally regulated wetlands, is clearly rebutted.

(ii) The construction and operation of the landfill will not:

(*a*) cause or contribute to violations of any applicable water quality standard;

(*b*) violate any applicable toxic effluent standard or prohibition;

(*c*) jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of a critical habitat; and

(*d*) violate any requirement for the protection of a marine sanctuary.

(iii) The landfill will not cause or contribute to significant degradation of federally regulated wetlands. The owner or operator must demonstrate the integrity of the landfill and its ability to protect ecological resources by addressing the following factors:

(*a*) erosion, stability and migration potential of native wetland soils, muds, and deposits used to support the landfill;

(*b*) erosion, stability and migration potential of dredged and fill materials used to support the landfill;

(*c*) the volume and chemical nature of the waste managed in the landfill;

(*d*) impacts from release of the solid waste on fish, wildlife, and other aquatic resources and their habitat;

(*e*) the potential effects on catastrophic release of waste to the federally regulated wetland and the resulting impacts on the environment; and

(*f*) any additional factors, as necessary, to demonstrate that ecological resources in the federally regulated wetland are sufficiently protected.

(iv) Steps have been taken to attempt to achieve no net loss of federally regulated wetlands to the extent required under federal or State law (as defined by acreage and function) by first avoiding impacts to federally regulated wetlands to the maximum extent practicable, then minimizing unavoidable impacts to the maximum extent practicable, and finally by offsetting remaining unavoidable wetland impacts through all appropriate and practicable compensatory mitigation actions (*e.g.* restoration of existing degraded wetlands or creation of new wetlands).

(v) Sufficient information is available to make a reasonable determination with respect to these demonstrations.

Historical Note

Sec. filed Oct. 28, 1988; repealed, new filed Aug. 5, 1993; amds. filed: Sept. 27, 1996; Nov. 4, 1999 eff. Nov. 24, 1999. Amended (a)(1)(vi), (c)(8)(i).

§ 360-2.13 Landfill construction requirements.

Except as otherwise expressly provided in section 360-2.14 of this Subpart, all new landfills and lateral and vertical expansions of existing landfills regulated under this Subpart must conform to the requirements set forth in this section.

(a) *Horizontal separation requirements.* (1) The minimum horizontal separation between deposited solid waste in the landfill and the property line must be 100 feet.

(2) The required horizontal separation between deposited solid waste and any surface waters must be adequate to preclude contravention of State surface water standards in the surface water body, or flooding of the landfill from the surface water body. In no case can solid waste be deposited closer than 100 feet from the mean high water elevation of any surface waters. The department may require greater horizontal separation between solid waste and surface waters when those surface waters are actively used as sources of municipal water supply.

(b) *Survey control.* One permanent survey benchmark of known elevation measured from a U.S. Geological Survey benchmark must be established and maintained for each 25 acres of developed landfill, or part thereof, at the site. This benchmark must be the reference point for establishing vertical elevation control.

(c) *Location coordinates.* The New York Transverse Mercator (NYTM) coordinates must be established. Horizontal control must be established and one of its points must be the benchmark of known NYTM coordinates.

(d) *Groundwater separation.* A minimum separation of five feet must be maintained between the base of the constructed liner system and the seasonal high groundwater elevation. At sites where perched water is encountered the department will determine with respect to groundwater separation distances whether separation distances will be measured from the perched zone or the non-perched water table. The nature of the materials making up this separation, whether natural or backfilled, is subject to department approval. This minimum five feet separation requirement may be reduced or waived upon demonstration of selection of a suitable landfill site, as defined under section 360-2.12(a) of this Subpart, and upon demonstration that compliance with this provision would impose an unreasonable economic, technological, or safety burden; and, that the proposed activity will have no significant adverse impact on the overall stability of the landfill, the environment, or natural resources and that the landfill's performance will be consistent with that which is expected from the application of this Part. In such cases, the department will require additional groundwater drainage systems to ensure that the seasonal high groundwater table does not come in contact with the lowermost portion of the landfill liner during construction, and until such time that the hydrostatic pressures are equalized by weight of the liner system and/or waste.

(e) *Bedrock separation.* A minimum of 10 feet vertical separation must be maintained between the base of the constructed liner and bedrock. The nature of the materials making up this separation, whether natural or backfilled, is subject to department approval.

(f) *Liner system description.* The minimum liner requirement for all landfills accepting mixed solid waste must consist of the following:

(1) On all bottom areas where the landfill slope is less than or equal to 25 percent, the liner system must consist of a double composite liner separated by a secondary leachate collection and removal system.

(2) On all side slope areas where the landfill slope is greater than 25 percent the liner system need only consist of a primary leachate collection and removal system above the uppermost geomembrane liner and a lower composite liner separated by a secondary leachate collection and removal system.

(3) A composite liner must consist of two components, an upper geomembrane liner placed directly above a low permeability soil layer meeting the requirements specified in subdivisions (j) and (k) of this section. Each composite liner is considered a single liner.

(4) The double composite liner system must include a primary leachate collection and removal system consisting of a 24-inch granular soil layer with a leachate collection pipe network. The primary leachate collection and removal system lies above the primary (upper) composite liner. The primary composite liner consists of a 60 mil geomembrane that directly overlays an 18-inch thick low permeability soil layer. The primary composite liner lies above the secondary leachate collection and removal system. The secondary leachate collection and removal system consists of a leachate collection pipe network within either a 12-inch thick granular soil layer or an effectively configured layer of geonet drainage material. The secondary leachate collection and removal system lies above the secondary (lower) composite liner which consists of a 60 mil geomembrane that directly overlays a 24-inch thick low permeability soil layer. The double composite liner system described in this subdivision is considered the minimum liner configuration requirement for landfills.

(g) *Leachate collection and removal system design.* The leachate collection and removal system must be designed to effectively remove leachate from the landfill. A means of quantitatively assessing leachate flows in both the primary and secondary leachate collection and removal system must be detailed on plans and be discussed in the engineering report. The primary and secondary leachate collection and removal systems must conform to the following requirements:

(1) A primary leachate collection and removal system, located over the upper composite liner, must be hydraulically designed in accordance with the provisions of section 360-2.7(b)(9) of this Subpart to remove leachate from the landfill and ensure that the leachate head over the primary composite liner does not exceed one foot at the expected flow capacity except, during storm events and does not have to be maintained in designated sump areas within the double lined landfill as approved by the department. The primary leachate collection

and removal system must also be designed to provide a minimum of 24 inches of protective soil cover to the primary composite liner. This collection and removal system must be designed and constructed, at a minimum, in accordance with the requirements of subdivisions (h), (l) and (m) of this section.

(2) A secondary leachate collection and removal system must be located between the upper and lower liner systems and be designed to effectively collect and rapidly remove leachate from the lower liner system. This collection system must be designed and constructed, at a minimum, in accordance with the requirements of subdivisions (h), (l), (m) and (n) of this section.

(h) *Leachate collection pipe network design.* The primary and secondary leachate collection and removal piping systems must be designed and built to allow for representative sampling of leachate and to operate without clogging during the effective site life and post-closure maintenance period. All leachate collection pipe networks located in the primary and secondary leachate collection and removal systems must be designed to allow for accessibility of equipment and to facilitate effective routine cleaning and maintenance. All leachate conveyance lines and appurtenances, including manholes, sumps, and metering pits located outside the double composite liner system of the landfill must be designed to have double containment and must be constructed to provide for effective leak detection and collection. All leachate conveyance lines and appurtenances including manholes, sumps, and metering pits located outside the double composite liner system, need not maintain minimum five foot or ten foot separation of the seasonal high groundwater table or bedrock respectively.

(i) *Landfill subgrade.* The landfill subgrade is the uppermost *in situ* soil layer or select fill that must be graded and prepared for landfill construction. A foundation analysis must be performed to determine the structural integrity of the subgrade to support the loads and stresses imposed by the weight of the landfill and to support overlying facility components. For lateral expansions adjacent to existing landfills, the department may approve encroachment on the existing landfill's side slope if a leachate barrier system is designed and constructed to minimize leachate migration into the existing landfill.

(1) Materials required. The landfill subgrade material must be free of organic material (other than small roots of trees, shrubs, grasses, etc.) and consist of on-site soils, or any select fill, if approved by the department.

(2) Construction requirements. The landfill subgrade must be graded in accordance with the requirements of the approved engineering plans, report, and specifications to have a minimum post-settlement slope of two percent. The material must be sufficiently dry and structurally sound to ensure that the first lift, and all succeeding lifts of soil placed over the landfill subgrade, can be adequately compacted to the design requirements and assure stability of the landfill.

(3) Certification requirements. At a minimum, the subgrade surface must be inspected in accordance with the following requirements:

(i) before any material is placed over the subgrade, the project engineer must visually inspect the exposed surface to evaluate the suitability of the subgrade and to ensure that the surface is properly compacted, smooth, and uniform, and that elevations are consistent with the department approved plans;

(ii) the subgrade must be proof-rolled using procedures and equipment acceptable to the department; and

(iii) the subgrade must be tested for density and moisture content at a minimum frequency of nine tests per acre.

(j) *Soil component of the liner system.* The soil component of the liner system must be a continuous layer of low permeability soil constructed to control fluid migration.

(1) Materials required. (i) Primary composite liner. The soil component of the primary composite liner must be a minimum compacted thickness of 18 inches. The top six inches (minimum compacted thickness) directly below and in contact with the upper geomembrane liner must have a maximum remolded coefficient of permeability of 1×10^{-7} centimeters per

second. A geosynthetic clay liner acceptable to the department may be substituted for the top six-inch portion of the low permeability soil layer in the primary composite liner. The lower 12 inch soil layer (minimum compacted thickness), shall be specified as a structural fill layer to assure adequate separation of the primary composite liner from the secondary leachate collection and removal system and must be placed without damaging any geosynthetic or secondary leachate collection and removal system components below the primary composite liner. The soil material particles must be able to pass a one inch screen.

(ii) Secondary composite liner. The soil component of the secondary composite liner must be at least 24 inches in compacted thickness and must have a maximum remolded coefficient of permeability of 1×10^{-7} centimeters per second throughout its thickness and must be directly overlain by and in contact with a geomembrane. The soil material particles must be able to pass a one inch screen.

(2) Construction requirements. The project engineer must ensure that the soil component of the liner system installation conforms with the following minimum requirements:

(i) The soil component of the liner system must be placed on a slope of no less than two percent to promote positive drainage across the liner surface and at a maximum slope not greater than 33 percent to minimize erosion and facilitate construction.

(ii) Compaction must be performed by properly controlling the moisture content, lift thickness, compactive energy/kneading action to effectively destroy soil clods, placement operations to eliminate lift interfaces, and other necessary details to obtain satisfactory results. The maximum final compacted thickness of each lift of soil material must be six inches, unless otherwise approved by the department upon demonstration of compliance with the requirements of paragraph (1) of this subdivision. When placing the first lift of the soil component of the liner system, the thickness may be increased to ensure adequate compaction and to attain the desired permeability, depending upon the type and size of compaction equipment used and whether or not the liner and subgrade are of dissimilar materials. Any succeeding lifts of the soil component of the lining system may be reduced in thickness, depending upon the compaction equipment used.

(iii) The moisture content of the soil component of the liner system must be maintained, within the range identified in the moisture-density-permeability relation developed in accordance with paragraph (3) of this subdivision, before and during compaction of the soil lift to ensure that the remolded lift attains a maximum *in situ* permeability as required. The density after compaction must be within the range identified in the moisture-density-permeability relation developed in accordance with paragraph (3) of this subdivision to ensure that the remolded lift attains a maximum *in situ* permeability as required.

(3) Certification requirements. The project engineer must include in the construction certification report a discussion of all quality assurance and quality control testing required in this paragraph. The certification report must address all measures taken to prevent or remedy soil liner damage from either desiccation or freezing, both during and after construction. The testing procedures and protocols must be submitted prior to construction in accordance with section 360-2.8 of this Subpart and approved by the department. The results of all testing must be included in the construction certification report including documentation of any failed test results, descriptions of the procedures used to correct the improperly installed material, and statements of all retesting performed in accordance with the following requirements:

(i) The project engineer must certify the quality control testing of any soil liner materials to ensure that the specified material meets the permeability requirements of paragraph (1) of this subdivision and the approved engineering plans, reports, and specifications. Before and during construction of the soil component of the liner system, the following information must be approved by the project engineer: one analysis of soil particle size for every 2,500 cubic yards of soil liner materials placed; one Atterberg limits analysis of plastic and liquid limit and plasticity index for every 1,000 cubic yards of soil liner material placed; one laboratory permeability test using a triaxial cell with backpressure for every 5,000 cubic yards of material placed; one moisture content test for every 1,000 cubic yards of material placed; and a minimum of one comparison of the moisture-density-permeability relation for

every 5,000 cubic yards of material placed, and one for each time soil material changes are noted.

(ii) Quality assurance testing included in this subparagraph must be compared to and evaluated against the quality control testing of subparagraph (i) of this paragraph where applicable. Quality assurance testing locations must be proportionally distributed to reflect the areal extent of side slope verses bottom area of the landfill under construction and must include density and moisture content tests to be performed at a minimum of nine locations per acre per lift of soil material placed. For each location the density and moisture content must be compared to the appropriate moisture-density-permeability relation to determine the permeability at that location; and one shelby tube sample for laboratory permeability testing must be taken per acre per lift. Any tests resulting in penetration of the soil liner must be repaired using bentonite or other means acceptable to the department.

(k) *Geomembrane liners.* Geomembrane liners are low permeability geosynthetics used to control fluid migration from landfills.

(1) Materials required. The geomembrane liner material must have a demonstrated maximum water vapor transmission rate of 0.03 gram per meter squared per day and chemical and physical resistance not adversely affected by waste placement or leachate generated. Documentation must be submitted to ensure chemical compatibility of the geomembrane liner material chosen, or in absence of the appropriate documentation, chemical compatibility testing must be performed using a method acceptable to the department.

(2) Construction requirements. Geomembranes must be installed in accordance with the requirements of the approved engineering plans, report, and specifications and manufacturer's recommendations. The project engineer must ensure that the geomembrane installation, at a minimum, must conform with the following:

(i) the geomembrane in both the primary and secondary composite liner must have a minimum thickness of 60 mils;

(ii) all geosynthetic materials must be installed on a subgrade that has a minimum two percent slope to promote positive drainage;

(iii) any geosynthetic materials installed on landfill side slopes must be designed to withstand the calculated tensile forces acting upon the geosynthetic materials. At a minimum, the design must consider the maximum friction angle of the geosynthetic with regard to any soil-geosynthetic or geosynthetic-geosynthetic interface, along with seepage forces expected in the side slope soil drainage layer in the primary leachate collection and removal system, to ensure that overall slope stability is maintained;

(iv) the surface of the supporting soil upon which the geosynthetic material will be installed must be reasonably free of stones, organic matter, irregularities, protrusions, loose soil, and any abrupt changes in grade that could damage the geosynthetic. The supporting soil must conform to the requirements of subdivision (i) of this section (except for landfill closure);

(v) the anchor trench must be excavated to the length and width prescribed on the approved design drawings;

(vi) field seams should be oriented parallel to the line of maximum slope, *i.e.,* oriented along, not across the slope. In corners and irregularly shaped locations, the number of field seams should be minimized. No horizontal seam should be less than five feet from the toe of slope toward the inside of the cell;

(vii) the materials must be seamed using an appropriate method acceptable to the department. Seam testing must be in accordance with the requirements of paragraph (3) of this subdivision;

(viii) the seam area must be free of moisture, dust, dirt, debris, and foreign material of any kind before seaming;

(ix) field seaming is prohibited when either air or sheet temperature is below 32°F, when the sheet temperature exceeds 158°F, when the air temperature is above 120°F, during periods of precipitation, or when winds are in excess of 20 miles per hour; and

(x) the field crew foreman of the liner installer must have a documented minimum qualification of successful installation experience of at least 50 acres of previous landfill or comparable geosynthetic systems, on a minimum of five different projects.

(3) Certification requirements. The project engineer must include in the construction certification report a discussion of the approved data resulting from the quality assurance and quality control testing as required in this paragraph. The results of all testing must be included in the construction certification report including documentation of any failed test results, and descriptions of the procedures used to correct the failed material, and statements of all retesting performed.

(i) The project engineer must certify the quality control testing of any manufactured geosynthetic materials ensuring that the material and the finished product meet the requirements of the approved engineering plans, reports, and specifications. Before installing any geosynthetic material, the following information must be available to the project engineer for approval:

(*a*) origin and identification of the raw materials used to manufacture the geosynthetic material;

(*b*) copies of quality control certificates issued by the producer of the raw materials used to manufacture the geosynthetic material, which at a minimum must include reports of tests conducted to verify material quality, including specific gravity, melt flow index, percent carbon black, and carbon dispersion using methods acceptable to the department; and

(*c*) reports of tests conducted to verify the quality of the raw materials used to manufacture the geosynthetic material. At a minimum, the project engineer must review the following tests: for single-point stress rupture, tensile strength, tear and puncture resistance, and for the complete stress rupture curve for the geomembrane, using test methods acceptable to the department, to ensure proper geomembrane specification.

(ii) The project engineer must certify through appropriate documentation that the quality control testing of any geosynthetic rolls fabricated into geomembrane sheets at the factory took place in accordance with the following requirements:

(*a*) The geomembrane was continuously inspected for uniformity, damage, imperfections, holes, cracks, thin spots, and foreign materials. Additionally, the geomembrane liner must be inspected for tears, punctures, and blisters. Any imperfections must be immediately repaired and reinspected.

(*b*) Nondestructive seam testing was performed on all fabricated seams over their full length using a test method acceptable to the department.

(*c*) Destructive seam testing was performed on a minimum of two samples per geomembrane sheet. The samples must be taken from extra material at the beginning or end of sheet seams, such that the geomembrane sheet is not damaged and the sheet geometry is not altered. The size of the sample taken must be large enough to perform the required testing. A laboratory acceptable to the department must have performed the required testing on the samples taken. If a sample fails a destructive test, the entire seam length must be reconstructed or repaired using a method acceptable to the department, and retested using nondestructive seam testing over the full length of the seams using a test method acceptable to the department.

(iii) Quality assurance testing performed in the field under the supervision of the project engineer must assure conformity of the geosynthetic installation with the engineering plans, reports, and specifications submitted in accordance with the following requirements:

(*a*) During the construction phase, for each lot number of geomembrane material that arrives at the site, a sample should be taken for fingerprinting of the material. This sample should be archived at room temperature and in a light free environment for possible future testing and analysis. The geosynthetic material must be visually inspected for uniformity, damage, and imperfections. The geomembrane must be inspected for tears, punctures, or blisters. Any imperfections must be immediately repaired and reinspected.

(*b*) The project engineer must certify that test seams are made at each start of work for each seaming crew, after every four hours of continuous seaming, every time seaming equipment is changed, when significant changes in geomembrane temperature are observed, or as additionally required in the approved specifications.

(*c*) All field seams must be nondestructively tested in accordance with the procedures listed in this clause using a test method acceptable to the department. The project engineer or his/her designated representative must:

(*1*) monitor all nondestructive testing;

(*2*) record the location, date, test unit number, name of tester, and results of all testing;

(*3*) inform the installer of any required repairs; and

(*4*) overlay all seams which cannot be nondestructively tested with the same geomembrane. The seaming and patching operation must be inspected by the project engineer for uniformity and completeness.

(*d*) Destructive testing must be performed on the geomembrane liner seam sections in accordance with the requirements listed in this clause, and using test methods acceptable to the department.

(*1*) Seam samples for testing must be taken as follows: a minimum of one test per every 500 feet of seam length unless a more frequent testing protocol is agreed upon by the installer and project engineer; a minimum of one test for each seaming machine operating on a given day; additional test locations may be determined during seaming at the project engineer's discretion; all test locations must be appropriately documented.

(*2*) The project engineer must approve the sample size to be taken. The sample size must be large enough to perform the required testing.

(*3*) An independent laboratory acceptable to the department must perform the required testing, which must include testing for seam strength and adjacent geomembrane elongation, and peel adhesion (and separation if high density polyethylene [HDPE]) using testing procedures acceptable to the department.

(*4*) If a sample fails destructive testing, the project engineer must ensure that: the seam is reconstructed in each direction between the location of the sample that failed and the location of the next acceptable sample; or the welding path is retraced to intermediate locations at least 10 feet in each direction from the location of the sample which failed the test, and a second sample is taken for an additional field test. If this second sample passes, the seam must be reconstructed between the location of the second test and the original sampled location. If the second sample fails, this process must be repeated.

(*5*) All acceptable seams must lie between two locations where samples passed the test procedures found in subclause (*4*) of this clause and include one test location along the reconstructed seam.

(*6*) Nondestructive testing of the geomembrane liner must be performed in accordance with clause (*b*) of this subparagraph.

(*e*) Upon completion of geomembrane seaming, post-construction care of the installed geomembrane should commence and, at a minimum, include timely covering or temporary weighting using sandbags to prevent damage from wind uplift, construction, or other weather related damage.

(l) *Soil drainage layers.* All soil material used in the primary and secondary leachate collection and removal systems of the landfill must conform to the following requirements:

(1) Materials required. Soil materials used to construct a drainage layer must be designed to ensure proper hydraulic operation of the leachate collection and removal system pursuant to the provisions of subdivision (g) of this section. The soil drainage layer must be free of any organic material and have less than five percent of the material by weight pass the No. 200 sieve after placement. Soil material testing must be performed in accordance with paragraph (3) of this subdivision.

(2) Construction requirements. The soil drainage layer must be constructed and graded in accordance with the requirements of the approved engineering plans, report, and specifications along with the following requirements:

(i) The minimum thickness of the soil drainage layer in the primary leachate collection and removal system must be 24 inches and provide adequate physical protection to the underlying liner materials and leachate collection pipe network placed within the primary

leachate collection and removal system, and have a minimum coefficient of permeability of 1×10^{-2} centimeters per second.

(ii) The minimum thickness of the secondary leachate collection and removal system layer must be 12 inches, and provide adequate physical protection to the underlying liner materials and leachate collection pipe network placed within the secondary leachate collection and removal system, and have a minimum coefficient of permeability of 1×10^{-2} centimeters per second.

(iii) The soil drainage layer must be designed and placed on a minimum slope of two percent to promote efficient positive drainage to the nearest leachate collection pipe and to prevent ponding above the liner.

(3) Certification requirements. The project engineer must include in the construction certification report a discussion of the approved data resulting from quality assurance and quality control testing required in this paragraph. The results of all testing must be included in the construction certification report including any failed test results, descriptions of the procedures used to correct the failed material, and any retesting performed.

(i) The project engineer must certify the quality control testing of any soil drainage materials and ensure that the material meets the requirements of paragraph (1) and subparagraphs (2)(i) and (ii) of this subdivision and the approved engineering plans, reports, and specifications. A particle size analysis of the soil drainage layer material must be submitted to the project engineer for approval before installation of the soil drainage layer, and during installation at a frequency of at least one test for every 1,000 cubic yards of material delivered and placed. A laboratory constant head permeability test for a soil drainage layer sample shall be submitted to the project engineer for approval before placement and during construction at a frequency of at least one test for every 2,500 cubic yards of material delivered and placed.

(ii) The project engineer must certify that post-construction care procedures were carried out which, at a minimum, protected the soil drainage layers from fines related to water and wind borne sedimentation.

(iii) Quality assurance testing performed by the project engineer must ensure that the material is placed in accordance with the requirements of the engineering plans, reports, and specifications.

(m) *Leachate collection pipes.* Leachate collection pipes that are located in any soil or geosynthetic drainage layer of the primary and secondary leachate collection and removal systems must be hydraulically designed to remove leachate from the landfill and provide conveyance to an appropriately designed and sized storage or treatment facility, and must comply with the following:

(1) Materials required. The primary leachate collection pipe must have a minimum diameter of six inches, the secondary leachate collection pipe must have a minimum diameter of four inches and meet the following:

(i) The physical and chemical properties must not be adversely affected by waste placement or leachate generated by the landfill. The project engineer must certify that the leachate collection pipe is chemically compatible with leachate or waste which it will come in contact with, as verified by appropriate documentation of chemical compatibility testing, using a method acceptable to the department.

(ii) Piping must have adequate structural strength to support the maximum static and dynamic loads and stresses that will be imposed by the overlying material, including the drainage layer, liners, waste material, and any equipment used in the construction and operation of the landfill. Specifications for the proposed leachate collection pipe network must be submitted in the engineering report.

(2) Construction requirement. Leachate collection pipes must be installed in accordance with the requirements of the approved engineering plans, reports, and specifications. The leachate collection pipe size, spacing and slope of at least one percent must be designed, in accordance with the provisions of section 360-2.7(b)(9) of this Subpart, to ensure that the

leachate head on the primary liner does not exceed one foot at the expected flows from the drainage area except during storm events.

(3) Certification requirements. The project engineer must include in the construction certification report a discussion of all quality assurance and quality control testing to ensure that the material is placed in accordance with requirements of the approved engineering plans, reports, and specifications. The testing procedures and protocols must be acceptable to the department and submitted in accordance with section 360-2.8 of this Subpart. The results of all testing must be included in the construction certification report, including documentation of any failed test results, a description of the procedures used to correct the failed material and any retesting performed.

(n) *Geosynthetic drainage layers.* Any geosynthetic drainage layers used in the leachate collection and removal system of a landfill must be designed and constructed to have an equivalent hydraulic transmissivity to that of a one-foot sand layer with a minimum coefficient of permeability of 1×10^{-2} centimeters per second, and must comply with the following:

(1) Materials required. The hydraulic conductivity, transmissivity, and chemical and physical resistance of the geosynthetic material must not be adversely affected by waste placement or leachate generated by the landfill. Documentation must be submitted which demonstrates the chemical compatibility of the geosynthetic drainage layer material and the waste to be deposited, or chemical compatibility testing must be performed using a method acceptable to the department. Documentation must also be submitted to ensure effective liquid removal throughout the active life of the facility and that the maximum compressive load of the materials to be placed above the geosynthetic drainage layer does not impede transmissivity during the post-closure period.

(2) Construction requirements. The project engineer must ensure that the geosynthetic drainage layers are installed in accordance with the requirements of the approved engineering plans, reports, and specifications and conform with the following requirements:

(i) The geosynthetic drainage layer must be designed and constructed to effectively remove leachate from the landfill's primary and secondary leachate collection and removal systems and must be configured to allow for installation of a leachate collection pipe network as set forth in subdivision (m) of this section. If a geosynthetic drainage layer is specified in the primary leachate collection and removal system, a 24 inch protective soil layer shall be required and must have a minimum coefficient of permeability of 1×10^{-3} centimeters per second and must be free of any organic material and have less than five percent of the material by weight pass the No. 200 sieve at placement. Soil testing must be performed in accordance with paragraph (1)(3) of this section.

(ii) The geosynthetic drainage layer must be installed in accordance with the procedures set forth in subparagraphs (k)(2) (ii)-(vi) and (x) of this section.

(3) Certification requirements. The project engineer must include in the construction certification report a discussion of all quality assurance and quality control testing required in this paragraph. The testing procedures and protocols must be acceptable to the department and submitted in accordance with section 360-2.8 of this Subpart. The results of all testing must be included in the construction certification report including documentation of any failed test results, and a description of the procedures used to correct the failed material and any retesting performed.

(i) The project engineer must certify the quality control testing according to the requirements of subparagraph (k)(3)(i) of this section for any geosynthetic drainage materials. The project engineer must also certify that a hydraulic transmissivity test was performed on the geosynthetic drainage material at the maximum design compressive load on the materials to be used in the geosynthetic drainage layers. This test method must consider the physical properties of all the materials above and below the geosynthetic drainage material being tested.

(ii) Quality assurance testing as performed by the project engineer must adequately demonstrate that the material is placed in accordance with the requirements of the engineering plans, reports, and specifications.

(iii) The project engineer must certify that post-construction care procedures were carried out which, at a minimum, protected the geosynthetic drainage layer from the intrusion of fines related to waterborne and wind-borne sedimentation.

(o) *Filter layer criteria.* The filter layer must be designed to prevent the migration of fine soil particles into a coarser grained material, and to allow water or gases to freely enter a drainage medium (pipe or drainage blanket) without clogging.

(1) For graded cohesionless soil filters. The granular soil material used as a filter must have no more than five percent by weight passing the No. 200 sieve and no soil particles larger than three inches in any dimension.

(2) Geosynthetic filters. Geotextile filter material must demonstrate adequate permeability, soil particle retention, resistance to clogging and construction survivability along with demonstration of adequate chemical and physical resistance such that it is not adversely affected by waste placement, or any overlying material or leachate generated at the landfill. Geotextile filter openings must be sized in accordance with the following criteria, which takes into consideration the soil found in layers located adjacent to the geotextile filter as follows:

(i) $k_f > 10k_s$ (permeability criteria) where:

k_f is the geotextile permeability
k_s is the overlying soil permeability

(ii) O_{95} of the geotextile < (2-3) d_{85} (retention criteria) where:

O_{95} is the apparent opening size of the geotextile at which 95% of the soil particles will be retained.
d_{85} is the soil particle size at which 85% of the particles are finer.

(iii) clogging potential must be assessed using a long-term permeameter test of the soil/geotextile system with a test method acceptable to the department.

(iv) construction survivability of the geotextile must be assessed, whereby, the severity of the installation is defined by the type of material placed adjacent to the geotextile and the construction installation technique used and specification should be written to ensure that the minimum strength properties as prescribed by applicable industry guidelines are met based on the severity of the installation, using a test method acceptable to the department.

(3) Construction requirements. Both the soil filters and geotextile filters must be installed in accordance with the approved engineering plans, reports, and specifications.

(4) Certification requirements. The project engineer must include in the construction certification report the results of all the required quality assurance and quality control testing performed necessary to demonstrate compliance with the project specifications. For the geotextile filters the project engineer must assess the geotextile's polymer properties density, polymer type and ultraviolet stability, mechanical properties weight, tensile strength, permittivity, apparent opening size, and puncture strength. The testing procedures and protocols must be acceptable to the department and submitted in accordance with section 360-2.8 of this Subpart.

(5) The project engineer must certify that post-construction care procedures were implemented which will protect the soil or geotextile filter from the intrusion of fines related to waterborne and windborne sediments.

(p) *Gas venting layer.* A gas venting layer must be located directly below the barrier layer of the final cover system and above the compacted waste layer. Such layer must be designed and constructed in accordance with the requirements of this subdivision for a soil venting layer or as a geosynthetic venting layer designed and constructed to effectively perform the equivalent functions of the soil venting layer and found acceptable to the department.

(1) Materials required. Gas venting layers must consist of venting pipes with risers installed within the gas venting layer. The material used to construct the gas venting riser pipes

must be a minimum of six-inch diameter. The gas venting layer must have a minimum coefficient of permeability of 1×10^{-3} centimeters per second and a maximum of 10 percent by weight passing the No. 200 sieve after placement. The gas venting soil layer must be bounded on its upper and lower surfaces with a filter layer designed in accordance with subdivision (o) of this section (except where its upper surface is directly overlain by a geomembrane, then an upper filter is not required), to ensure that the effective integrity of the gas venting layer is maintained.

(2) Construction requirements. The gas venting soil layer and venting pipes must be constructed and graded in accordance with the requirements of the approved engineering plans, reports, and specifications which must be prepared as follows:

(i) the minimum thickness of the soil layer must be 12 inches;

(ii) gas venting risers must be spaced at a maximum separation of one vent per acre of final cover and be installed at a depth of at least five feet into the refuse, unless otherwise approved by the department. The riser pipe must be perforated only where it extends into the gas venting layer. Risers must be backfilled with rounded stone or other porous media or other material acceptable to the department;

(iii) gas venting risers must be exposed at least three feet above final elevation of the cover system and be fitted with a gooseneck cap or other equivalent cap to allow effective venting; and

(iv) the gas venting system must be designed and constructed to operate without clogging.

(3) Certification requirements. The project engineer must include, in a construction certification report, a discussion of all the quality assurance and quality control testing required in this paragraph. The testing procedures and protocols must be acceptable to the department and be submitted in accordance with section 360-2.8 of this Subpart. The results of all testing must be included in the construction certification report, including documentation of any failed test results and description of the procedures used to correct the failed material, as well as the results of any retesting performed.

(i) Quality control testing of the particle sizes of the soil material selected for the gas venting soil layer must be performed before installation at a frequency of one test for every 1,000 cubic yards of gas venting material being installed. Laboratory hydraulic conductivity testing shall be performed at a frequency of one test for every 5,000 cubic yards of gas venting material being installed.

(ii) Quality assurance testing, as performed by the project engineer must ensure that the material is placed in accordance with the approved engineering drawings, reports and specifications.

(q) *Low permeability barrier soil covers.* The provisions of this subdivision apply to landfills which meet the requirements of section 360-2.15(d)(2)(i) of this Subpart. A low permeability barrier soil cover is a layer of low permeability soil constructed to minimize precipitation migration into an inactive area of the landfill. In accordance with the provisions of section 360-2.7 of this Subpart the project engineer must consider settlement, erosion, and seepage forces in the overall stability of the final cover system design.

(1) Materials required. A low permeability barrier soil cover must consist of materials which have a maximum remolded coefficient of permeability of 1×10^{-7} centimeters per second throughout its thickness as set forth in paragraph (2) of this subdivision. The soil material must be able to pass a one-inch screen.

(2) Construction requirements. Low permeability barrier soil covers must be constructed in accordance with the requirements of paragraph (j)(2) of this section with the following exceptions:

(i) The low permeability barrier soil cover must have a minimum compacted thickness of 18 inches.

secondary leachate collection and removal system flow data. Unless otherwise approved by the department, this data is required as part of the construction certification documentation to verify that the primary liner system will effectively meet the 20 gallon per acre per day leakage rate threshold using either precipitation derived or pumped liquid loading to the primary leachate collection and removal system. The department will review the submitted material for approval within 30 days after receipt.

(v) *Waste quantification.* All landfills that accept at least 20 tons of solid waste per day must have weight scales to measure the waste received on a daily basis. At a minimum, an annual summary of the quantity of solid waste received must be reported to the department, or at a more frequent interval if required by the department. Landfills which accept less than 20 tons of solid waste per day must have an approved means of quantifying the weight of solid waste received, and submit an annual summary to the department. Those landfills which accept at least 20 tons of solid waste per day, and have submitted closure plans in accordance with section 360-2.15 of this Part to the department indicating that site capacity will be achieved within one year from the effective date of this Part, will not be required to install weight scales.

(w) *Equivalent design.* The applicant may propose an equivalent design of individual components of a landfill's liner and final cover systems through the submission in the application of documentation substantiating the alternative component's ability to perform in the same manner as the component specified in this section. When the equivalent design involves the substitution of waste materials for components of the landfill' s liner or final cover system; and where it can be demonstrated that these material substitutions are within the landfill's environmental containment system (*i.e.,* below the uppermost layer of the barrier layer of the final cover and above the secondary composite liner), such equivalency determinations are not subject to the variance requirements of this Part and this use is consistent with the beneficial use provision of section 360-1.15(b)(10) of this Part. It is highly recommended that the applicant discuss equivalent component design proposals with the department in a preapplication conference.

Historical Note

Sec. filed Oct. 28, 1988; amds. filed: Aug. 5, 1993; Sept. 27, 1996; Nov. 4, 1999 eff. Nov. 24, 1999. Amended (j), (k), (v).

§ 360-2.14 Industrial/commercial waste monofills and solid waste incinerator ash residue monofills.

(a) *Industrial/commercial waste monofills.* Monofills used solely for the disposal of solid waste resulting from industrial or commercial operations are subject to all requirements of this Subpart, unless the applicant demonstrates that specific landfill requirements in this Subpart are not necessary for the solid waste to be disposed of at the subject facility. The requirements in this Subpart may be modified on a case-specific basis. The department may impose additional or less stringent requirements on these monofills, based on the pollution potential of the waste. Pollution potential shall be based upon the volume and the physical, chemical, and biological properties of the solid waste, and, its variability. Changes in the monofill's design may include, but not be limited to, modifications to the leachate collection system, low permeability liners, and low permeability cover system designs. For those facilities where the applicant can demonstrate to the department that a specific regulatory requirement contained in either sections 360-2.13, 360-2.15 or 360-2.17 of this Subpart are not applicable as discussed in this subdivision, the need for a formal variance is waived. Alternative liner system designs for industrial waste monofills must demonstrate the following:

(1) In the case where an alternative liner system is proposed for an industrial waste monofill, a demonstration must be made as to the proposed liner's ability to adequately prevent a negative impact on groundwater and must address the following factors: the volume and physical and chemical composition of the leachate that will be generated at the disposal facility; the climatological conditions in the vicinity of the proposed site; and the hydrogeologic characteristics of the proposed site. The demonstration must include an assessment of leachate quality and quantity, anticipated liner system leakage to the subsurface and related contaminant transport to the closest environmental monitoring point. The demonstration

should focus on developing an accurate profile of leachate quality and production rates sufficient to be used in evaluating its fate and transport from the point of release to the first point of environmental monitoring in order to determine whether leachate constituents can be expected to exceed the State's groundwater quality standards. It must be demonstrated that the industrial wastes' chemical characterization be accurately defined and that there are no reasons to anticipate significant changes in the concentrations of compounds that could increase the wastes' pollution potential in the future. The demonstration must include chemical compatibility test data run on the proposed liner and/or leachate collection and removal system materials with representative waste leachate, using an appropriate permeameter test to determine potential changes in the permeability of the proposed liner. The demonstration must include an estimate of the volumetric release of leachate from the proposed liner design based on analytical approaches supported by empirical data and/or be verified from other existing operational facilities of similar design. A dilution calculation must then be modelled to evaluate the impacts of the characterized leachate on groundwater quality based upon the calculated liner system's leakage rate.

(2) Paper mill sludge monofills. The minimum components of the liner system, monofill closure, operation requirements and the environmental monitoring plan for paper mill sludge landfills must consist of the following:

(i) Components of liner system. A single composite liner system is the minimal level of containment that the department will accept for paper mill sludge monofills. The composite liner system must consist of a minimum of two components, an upper geomembrane liner placed directly above a low permeability soil layer. A leachate collection and removal system must be located over the composite liner. The construction of each of the components must be in conformance with the appropriate requirements of section 360-2.13 of this Subpart unless expressly stated otherwise in this paragraph. The department may require additional liner components to the single composite liner or other restrictions depending upon the waste expected to be produced, monitorability of the site and/or other site conditions.

(ii) The soil component of the composite liner must be a minimum of 24 inches in compacted thickness and must have a maximum remolded coefficient of permeability of 1×10^{-7} centimeters per second throughout its thickness. The geomembrane liner material must have physical and chemical resistance not adversely affected by construction placement or leachate generated. The geomembrane must have a minimum thickness of 40 mils, or 60 mils if HDPE is used. However, in selecting a geomembrane for a facility to be constructed in phases, the ability to effectively bond future liner sections to existing liner must be considered.

(iii) The leachate collection and removal system located over the composite liner must have a minimum thickness of 24 inches and have a minimum coefficient of permeability of 1×10^{-2} centimeters per second. This drainage layer must provide adequate protection to all liner materials and the piping placed within the layer, as well as effectively convey leachate to the leachate collection and removal system. A suitably designed filtration system, meeting the criteria of section 360-2.13(o) of this Subpart, must be placed between the waste and the drainage layer to minimize migration of fines from the waste into the drainage system. A frequent cleanout schedule must be maintained to decrease the risks of physical or biological clogging. It is recommended that key collection lines be designed so they can be easily accessed from both the upstream and downstream ends for effective remedial servicing.

(iv) All leachate conveyance lines and related structures and appurtenances outside of the composite liner system of the monofill must be designed and constructed to have double containment and be constructed to provide for effective leak detection monitoring and leachate collection and removal.

(v) Monofill closure. All of the landfill closure and post closure criteria outlined in this Subpart are applicable to paper mill sludge monofills. The gas venting layer may not be necessary for this type of monofill. The need for this venting system will be determined by the explosive gas investigation performed at the time of closure. If a gas venting layer is

(ii) The low permeability barrier soil cover must be placed on a slope of no less than four percent to promote positive drainage and at a maximum slope of 33 percent to minimize erosion.

(iii) A barrier protection layer of soil not less than 24 inches thick must be installed on top of the low permeability barrier soil cover. The material thickness, specifications, installation methods, and compaction specifications must be adequate to protect the low permeability soil barrier cover from anticipated desiccation cracking, frost action and root penetration, as well as to resist erosion and anticipated seepage forces to allow for a stable condition on the final slopes of the landfill cover.

(3) Certification requirements. Certification for the installation of barrier soil covers must be conducted in accordance with the requirements in paragraph (j)(3) of this section.

(r) *Geomembrane covers.* A geomembrane may be substituted for the low permeability barrier soil cover in final cover systems for those landfills which meet the requirements of section 360-2.15(d)(2)(i) of this Subpart. The geomembrane cover must be constructed to preclude precipitation migration into the landfill. The project engineer must consider settlement, erosion and seepage forces in the overall stability of the final cover system designed in accordance with section 360-2.7 of the Subpart.

(1) Materials required. The geomembrane material used in a final cover system must be chemically and physically resistant to materials it may come in contact with, and accommodate the expected forces and stresses caused by settlement of waste.

(2) Construction requirements. Geomembrane covers must be constructed in accordance with the same requirements as those found in paragraph (k)(2) of this section with the following exceptions:

(i) the geomembrane must have a minimum thickness of 40 mils; or 60 mils in the case of geomembranes comprised of a high density polyethylene polymer;

(ii) the geomembrane must be placed on a four percent minimum slope to promote gravity drainage and a 33 percent maximum slope to ensure stability of the capping system; and

(iii) a barrier protection layer of soil not less than 24 inches thick must be installed on top of the geomembrane cover. Material specifications, installation methods and compaction specifications must be adequate to protect the geomembrane barrier layer from frost action and root penetration, and to resist erosion and be stable on the final design slopes of the landfill cover. The lower six inches of this layer must be reasonably free of stones.

(3) Certification requirements. Certification for the installation of a geomembrane cover must be conducted in accordance with the same conditions found in paragraph (k)(3) of this section.

(s) *Composite covers.* The provisions of this subdivision apply to all landfills which meet the requirements of section 360-2.15(d)(2)(ii) of this Subpart. The composite cover component of the final cover system must be constructed to preclude precipitation migration into the landfill. The project engineer must consider settlement, erosion, and seepage forces in the overall stability of the final cover system designed in accordance with section 360-2.7 of this Subpart. The composite cover component of the landfill's final cover system must include a 40 mil geomembrane (or 60 mils in the case of geomembranes comprised of a high density polyethylene polymer) that directly overlays an 18 inch thick low permeability soil layer. The composite cover need only be installed on areas which have final cover slopes of less than 25 percent (except for side slope terraces with slopes of 4 percent or greater). On slopes equal to or greater than 25 percent, either a single low permeability barrier soil cover comprised of 24 inches of soil with a maximum remolded coefficient of permeability of 1×10^{-6} cm/sec or a single geomembrane cover is an acceptable substitution for the composite cover layer of the final cover system.

(1) Low permeability soil material requirements. A low permeability soil cover must consist of materials having a maximum remolded coefficient of permeability of 1×10^{-6} cm/sec throughout its thickness.

(i) Construction requirements. Low permeability soil covers must be constructed in accordance with the requirements of paragraph (j)(2) of this section with the following exceptions:

(*a*) The low permeability soil cover must have a minimum compacted thickness of either 18 inches on all landfilled areas where the cover slope is 25 percent or less, or 24 inches on all landfill areas where the cover slope is equal to or greater than 25 percent.

(*b*) The low permeability soil cover must be placed on a slope of no less than four percent to promote positive drainage and at a maximum slope of 33 percent to minimize erosion.

(ii) Certification requirements. Certification for the installation of low permeability barrier soil covers must be conducted in accordance with the requirements in paragraph (j)(3) of this section.

(2) Geomembrane cover material requirements. The geomembrane material used in a final cover system must be chemically and physically resistant to materials it may come in contact with, and accommodate the expected forces and stresses caused by settlement of waste.

(i) Construction requirements. Geomembrane covers must be constructed in accordance with the same requirements as those found in paragraph (k)(2) of this section with the following exceptions:

(*a*) the geomembrane must have a minimum thickness of 40 mils; or 60 mils in the case of geomembranes comprised of a high density polyethylene polymer;

(*b*) the geomembrane must be placed on a 4 percent minimum slope to promote gravity drainage and a 33 percent maximum slope to ensure stability of the capping system; and

(ii) Certification requirements. Certification for the installation of a geomembrane cover must be conducted in accordance with the same conditions found in paragraph (k)(3) of this section.

(3) a barrier protection layer of soil not less than 24 inches thick must be installed on top of the low permeability soil cover, geomembrane cover and composite cover. Material specifications, installation methods and compaction specifications must be adequate to protect the geomembrane barrier layer from frost action and root penetration, and to resist erosion and be stable on the final design slopes of the landfill cover. The lower six inches of this layer must be reasonably free of stones when placed above a geomembrane.

(t) *Topsoil.* A topsoil layer, or alternative soil material, must be designed and constructed to maintain vegetative growth over the landfill.

(1) Materials required. The topsoil or alternative soil material layer must be suitable to maintain vegetative growth.

(2) Construction requirements. The soil must be at least six inches thick. A thicker layer of soil may be required, as determined by the department, if either of the following conditions exist:

(i) sufficient moisture retention cannot be maintained to sustain vegetative growth; or

(ii) the proposed post-closure uses of the site warrant a thicker soil layer.

(u) *Construction certification report.* A construction certification report must be submitted to the department within 45 days after the completion of landfill construction. This report must include, at a minimum, the information prepared in accordance with the application requirements of section 360-2.8 of this Subpart containing results of all construction quality assurance and construction quality control testing required in this section, including documentation of any failed test results, descriptions of procedures used to correct the improperly installed material, and results of all retesting performed. In addition, the construction certification report must contain as-built drawings noting any deviation from the approved engineering plans, and must also contain a comprehensive narrative including, but not limited to, daily reports from the project engineer and a series of color photographs of major project features. Construction activities must be staged to allow for effective collection and tabulation of a minimum of 30 consecutive days of

shown not to be necessary at the time of closure, periodic follow up gas investigations must be performed to determine if there is any change in gas production that will necessitate gas venting in the future.

(vi) Monofill operation.

(*a*) The department may waive in writing the requirements for daily cover on all exposed surfaces of solid waste at the closure of each operating day, depending upon the type of waste deposited. However, a requirement to have daily cover available if odors or other nuisance conditions develop must be included in the operating plan or as a permit condition.

(*b*) Paper mill sludge must be dewatered to at least 20 percent solids with no free liquid evident in the dewatered sludge. The sludge must be analyzed quarterly for percent solids and the results submitted in the annual report.

(vii) Environmental monitoring plan.

(*a*) A water quality monitoring program which meets all requirements of section 360-2.11(c) of this Subpart must be implemented for paper mill sludge monofills to establish existing water quality for the site prior to landfilling. Water quality monitoring requirements for paper mill sludge monofills during the operation, closure and post-closure period can be monitored in view of the nature of the waste. The modified monitoring requirements must include a slightly enhanced analysis for baseline parameters four times a year at applicable environmental monitoring points. The routine parameters on the Water Quality Analysis Tables must be enhanced to include BOD_5, toluene, and specific toxic metals or other parameters identified in the leachate generated from the waste. If leachate composition varies over time, the water quality monitoring program must be modified to reflect leachate composition.

(*b*) The leachate sampling plan at a paper mill sludge monofill during the first year of operation must consist of two rounds of baseline parameter and two rounds of expanded parameter analyses in accordance with the Water Quality Analysis Tables. The sampling analyses shall be performed quarterly, and analytical parameters must be alternated between baseline and expanded. The leachate sampling plan following the first year of operation can then be reduced to include an analysis every quarter for three quarters for baseline parameters enhanced to include BOD_5, toxic metals or other parameters identified in the leachate generated from the waste and analyzed for expanded parameters during the remaining quarter, rotating the time of year the expanded parameters analysis is performed. A permit condition must be required for all paper mill sludge monofills to allow for adjustment of analytical requirements as appropriate, if there is a major change in the waste stream or paper making process.

(*c*) A sludge quality monitoring plan must be established to ensure that the material disposed of at a paper mill sludge monofill is nonhazardous. An analysis must be performed prior to sludge placement in the monofill, and at any time there is a major change in the paper making process.

(b) *Solid waste incinerator ash residue monofills.* (1) Except in Nassau and Suffolk Counties, monofills used for the disposal of fly ash treated in a manner consistent with section 360-3.5(g)(3) of this Part, combined ash or bottom ash are subject to the requirements of this Subpart except as follows:

(i) The provisions of section 360-2.13 of this Subpart apply to these monofills with the exception of subdivisions (f)-(h) of this section.

(ii) Liner system. The minimum liner must consist of a single composite liner. The composite liner must, at a minimum, consist of a soil and geomembrane component designed in accordance with the provisions of section 360-2.13(j) and (k) of this Subpart with the exception of subparagraph (j)(1)(i).

(iii) The leachate collection and removal system above the liner system must be designed, constructed, maintained, and operated to collect and remove leachate from the monofill and ensure that the leachate head on the liner system does not exceed one foot at the

expected flow capacity from a 24-hour, 25-year storm. This collection and removal system must be designed and constructed, at a minimum, in accordance with the requirement of section 360-2.13(l) and (m) of this Subpart (with the exception of subparagraph 360-2.13[l][2][ii]).

(iv) The leachate collection and removal system must be designed and constructed to operate without clogging throughout the effective facility life and post-closure maintenance period. The leachate collection and removal pipe network must be designed to be accessible for routine cleaning and maintenance.

(v) The provisions of section 360-2.15 of this Subpart apply to these monofills with the exception of the provisions of section 360-2.15(e), (f) and (g) as they pertain to landfill gas.

(2) All monofills used for disposal of fly ash only and all monofills in Nassau and Suffolk Counties used only for disposal of ash residue (including fly ash treated in a manner consistent with section 360-3.5[g][2] of this Part) are subject to all the requirements of this Subpart, with the exception of the gas venting requirements specified in section 360-2.15 of this Subpart.

Historical Note

Sec. filed Oct. 28, 1988; amd. filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-2.15 Landfill closure and post-closure criteria.

In addition to the requirements of Part 208 of this Title, Subpart 360-1 of this Part and sections 360-2.13 and 360-2.17 of his Subpart, all landfills subject to regulation under this Part must conform to the requirements for closure and post-closure care set forth in this section. For existing sites where this information is known through previous efforts (such as monitoring of the facility during its operating life), some or all of the requirements of subdivision (a) of this section may be waived upon approval of the department. For landfills subject to the requirements of Part 208 of this Title, some or all of the requirements of subdivisions (d) through (g) of this section may be waived upon approval of the department.

(a) *Closure site investigation.* To ensure that an adequate final closure plan is developed, the nature and extent of current and potential release or migration of contaminants from the site must be defined. The minimum elements of a site investigation are as follows:

(1) A hydrogeologic investigation performed using the methods described in section 360-2.11 of this Subpart that must, at a minimum:

(i) define the geologic and hydrogeologic conditions of the uppermost aquifer, and, as required by the department, and any other units in the critical stratigraphic section which may be impacted by the facility;

(ii) establish a long-term monitoring well network in the uppermost aquifer, and other units necessary to protect public health and the environment, to monitor the effects of facility closure or remediation; and

(iii) analyze the initial round of samples in each monitoring point for baseline parameters. If contamination is detected the department may require additional sampling and analysis as specified in section 360-2.11 of this Subpart.

(2) An explosive gas investigation must be performed to determine whether the site meets the requirements of section 360-2.17(f) of this Subpart. The explosive gas investigation must include at least three rounds of subsurface explosive gas monitoring. This must be performed along a perimeter outside the waste mass but within the property boundary. Monitoring must be performed at 100 foot maximum intervals, if temporary sampling locations are used, or at 400 foot maximum intervals, if permanent gas monitoring wells are constructed. Initial monitoring should be performed when atmospheric pressure and wind velocity are low and ideally when the ground surface has been wet or frozen for several days and monitoring must be done below the wet or frozen zone. The intent of this investigation must be to:

(i) identify the presence and concentration of explosive gases at or near the landfill, including at the property line, in all on-site structures, and in potentially impacted off-site structures;

(ii) determine the extent of actual or potential gas migration off-site; and

(iii) identify the applicable soil stratigraphy beneath and around the landfill.

(3) A surface leachate investigation must be performed. This investigation must identify the presence of uncontrolled leachate at, or emanating from, the landfill; document any instances where fugitive leachate from the landfill is discharging into local surface waters; and characterize the chemical constituents of surface leachate for baseline parameters. The surface leachate investigation must be performed when groundwater levels are at seasonal high elevations or at such other times as specified by the department.

(4) A vector investigation must be performed to identify the presence of any vectors at the landfill, including but not limited to rodents, insects, and birds.

(5) Upon completion of the closure site investigation, the data must be compiled and presented in a closure investigation report. The report, which must be completed and submitted to the department at least 180 days before last receipt of waste, must include a summary that describes the environmental conditions including, but not limited to, general site conditions, land use, soil conditions, hydrogeologic characteristics, surface and groundwater quality, presence and migration of explosive gas and surface leachate and vector populations. Landfill owners or operators or their consultants should have preliminary discussions with the appropriate regional solid waste engineer to review the specific landfill considerations and findings of the closure investigation.

(b) *Conceptual closure plan.* Complete applications to construct and operate a new landfill, or an expansion to an existing landfill; and complete renewal applications must contain a conceptual closure plan prepared in conformance with the provisions of this subdivision. Landfills that are active on the effective date of this Part must submit the information described in paragraphs (3) and (4) of this subdivision to the department on the effective date of this Part. The conceptual closure plan will describe the steps necessary to close the landfill at any point during its active life, in accordance with the requirements of subdivisions (b) and (c) of this section. It shall, at a minimum, include the following:

(1) a site plan which shows proposed final contours, property lines, storm water drainage systems, streams and water courses, roads, structures and, if applicable, groundwater and leachate treatment systems, air pollution control and landfill gas recovery systems;

(2) typical details of cap components and facility structures which comply with requirements set forth in this section;

(3) an estimate of the largest active portion of the landfill that will require a final cover at any time during the active life of the landfill;

(4) an estimate of the maximum inventory of wastes ever on site during the active life of the landfill;

(5) sufficient information upon which to base closure and post-closure monitoring and maintenance cost estimates as required in subdivisions 360-2.19(b) and (c) of this Subpart. This information shall include:

(i) estimates of material, quantities and costs;

(ii) estimates of cost of each major final cover component and structure; and

(iii) estimates of post-closure monitoring and maintenance costs based on the requirements set forth in subdivision (k) of this section.

(c) *Final closure plan.* An approvable final closure plan must be submitted to the department within 60 days before the last receipt of waste, within 60 days before the last day of the operating permit, or in accordance with permit requirements, whichever is earlier, and must be in compliance with this subdivision.

(1) The plan must:

(i) meet the requirements of paragraphs (b)(1) and (2), and subdivisions (d)-(j) of this section;

(ii) meet the requirements of subdivision (k) of this section, including the post-closure monitoring and maintenance operations manual prepared in accordance with paragraph (k)(7) of this section;

(iii) address unacceptable environmental impacts identified in the closure investigation report required in paragraph (a)(5) of this section;

(iv) provide an estimate of the landfill area to be covered;

(v) provide an estimate of the inventory of wastes in the landfill;

(vi) provide a closure construction schedule which conforms with the requirements of subdivision (d) of this section; and

(vii) provide amended closure and post-closure monitoring and maintenance cost estimates, prepared in accordance with subdivisions 360-2.19(b) and (c) of this Subpart.

(2) Financial assurance for closure monitoring and maintenance are to be amended in accordance with subdivision 360-2.19(b) and (c) of this Subpart.

(d) *Final cover system.* At a minimum, the final cover must consist of a layered system meeting the following requirements:

(1) the bottom layer of a final cover system must consist of a gas venting layer meeting the requirements of subdivision 360-2.13(p) of this Subpart; and

(2) the gas venting layer shall be overlain by the following:

(i) for landfills that meet the requirements of section 360-1.7(a)(3)(viii)(*a*) of this Part either a low permeability soil cover barrier layer meeting the requirements of subdivision 360-2.13(q) of this Subpart, or geomembrane cover meeting the requirements of subdivision 360-2.13(r) of this Subpart, or a cover meeting the requirements of subparagraph (ii) of this paragraph; or

(ii) for landfills meeting the requirements of section 360-1.7(a)(3)(viii)(*b*) of this Part, a composite cover consisting of a low permeability soil barrier cover layer and geomembrane cover meeting the requirements of subdivision 360-2.13(s) of this Subpart;

(3) the low permeability soil barrier cover layer, geomembrane cover, or composite cover layer shall be overlain by either a barrier protection layer meeting the requirements of subparagraph 360-2.13(q)(2)(iii), or subparagraph 360-2.13(r)(2)(iii) of this Subpart; and

(4) the barrier protection layer shall be overlain by a topsoil layer meeting the requirements of subdivision 360-2.13(t) of this Subpart;

(5) alternative individual components of the final cover system that meet the equivalent design provisions of subdivision 360-2.13(w) of this Subpart may also be used;

(6) the owner or operator must complete landfill closure activities in accordance with the final closure plan prepared in accordance with subdivision (c) of this section within 210 days following last receipt of waste, or within a time frame deemed acceptable by the department;

(7) closure construction certification report. A construction certification report must be submitted to the department within 45 days after the completion of landfill closure construction for approval and file record. This report must include the results of all construction quality assurance and construction quality control testing required in subdivisions 360-2.13(p)-(t) of this Subpart and documentation of any failed test results, descriptions of procedures used to correct the improperly installed material, and statements of all retesting performed. In addition, the construction certification report must contain as-built drawings noting any deviation from the approved final closure plans.

(e) *Landfill gas control.* Landfill gas control systems must be designed to prevent the migration of concentrated amounts of landfill gases off-site. Gas venting systems are necessary for all landfills upon closure and must be designed and constructed in accordance with the requirements of subdivision 360-2.13(p) of this Subpart. These systems must prevent the accumulation of gas at greater than 25 percent of the lower explosive limit in structures on-site and off-site; prevent damage to vegetation both on the final cover and off-site; and control objectionable odors due to any gas emissions.

(f) *Perimeter gas collection systems.* Perimeter gas collection systems must be installed if landfill gases are found to pose a hazard to health, safety, or property. Perimeter gas collection systems must be designed and constructed in accordance with the requirements of this subdivision

along with any other provisions required by the department. A perimeter gas collection system must consist of either:

(1) trenches keyed into a low permeability soil, a bedrock layer, or the seasonally low groundwater table, which can effectively cut off the lateral migration of gas; or

(2) gas wells screened in the unsaturated zone to the seasonably low water table or low permeability soil/bedrock layer that are spaced along the perimeter of the landfill to sufficiently prevent gas migration.

(g) *Gas control using flares.* All gas control systems which utilize flares must be designed in accordance with any applicable requirements of Parts 201 and 212 of this Title.

(h) *Condensate from gas processing or control systems.* Condensate generated and collected from gas processing or control systems must not be recirculated into the landfill unless it is demonstrated that the landfill has a department approved liner and leachate collection and removal system, and providing it is demonstrated that the landfill is operating in compliance with the provisions of section 360-2.17 of this Subpart, and prior written approval is obtained from the department. Otherwise, the condensate must be appropriately disposed of by other means.

(i) *Leachate collection system.* If required by the department, a leachate collection system must be constructed to control leachate outbreaks that could adversely affect the landfill cover or threaten surface waters. If the collection system includes the construction and operation of a leachate storage facility, such facility must be designed, constructed, and operated in accordance with the requirements of Subpart 360-6 of this Part.

(j) *Vectors.* If, through the site closure investigation report, vector problems are identified, an appropriate remediation program must be implemented. The vector remediation program must be implemented to mitigate vector problems before cessation of waste disposal occurs at the landfill.

(k) *Post-closure operation and maintenance.* For a landfill subject to closure, a provision must be included in the property deed indicating the period of time during which the property has been used as a landfill, describing the wastes contained within and noting that records of the facility have been filed with the department. The deed must also reference a map which shall be filed with the county clerk and which will clearly indicate the limits of the landfilled areas within the property boundary. The deed must also indicate that the use of the site is restricted pursuant to the provisions of paragraph (9) of this subdivision.

(1) For landfills that are without a department approved plan for closure where the maximum slope of 33 percent was exceeded before December 31, 1988, the landfill may be closed with slopes exceeding 33 percent if supported by a slope stability analysis, which must be submitted to the department, and providing the following are met:

(i) final grades must not exceed 50 percent for more than a 20 feet vertical rise; and

(ii) for longer slopes, run-off diversion terraces must be constructed at vertical intervals not exceeding 20 feet. The terraces must be designed to intercept run-off for diversion to appropriately spaced drainage ways leading off the landfill slopes. All terrace and drainage way slopes must be at least four percent.

(2) Drainage control structures must be designed, graded, and maintained to prevent ponding and erosion to the cover. The surface drainage system must be designed and constructed to protect the cover from, at a minimum, the peak discharge of a 24-hour, 25-year frequency storm.

(3) Soil cover integrity, slopes, cover vegetation, drainage structures, and gas venting structures must be maintained during the period of post-closure monitoring and maintenance, or as required by the department.

(4) Environmental and facility monitoring points including gas monitoring points must be maintained and sampled during the post-closure period for a minimum of 30 years. Post-closure explosive gas monitoring must be performed at least quarterly to determine if the facility meets the requirements of section 360-2.17(f) of this Subpart. If this monitoring shows explosive gas levels in excess of the lower explosive limit at the property boundary or in excess

of the 25 percent of the lower explosive limit within any structures, appropriate actions must be taken and the department must be notified. Annual summary reports must be submitted to the department describing the results of the maintenance, monitoring and/or sampling for the environmental and facility monitoring points. Annual baseline and quarterly routine monitoring must be performed on groundwater, surface water, and leachate samples for a minimum period of five years. After this five-year period, the permittee may request that the department modify the sampling and analysis requirements.

(5) Maintenance and operation of the leachate collection system are required during the post-closure period and the method of leachate treatment or disposal must be addressed for as long as leachate is capable of adversely impacting the environment. The department may waive this requirement when the owner demonstrates that leachate no longer poses a threat to human health or the environment.

(6) A vegetative cover must be established and maintained on all exposed final cover material within four months after placement. If this cannot be achieved due to seasonal constraints, measures must be taken to ensure the integrity of the final cover system before the establishment of vegetative cover.

(7) A comprehensive post-closure monitoring and maintenance operations manual is required. This document shall provide all information needed to effectively monitor and maintain the facility for the entire post-closure period. Minimum components of this manual include:

(i) description of type, location, sampling and sample preservation methodology, and recordkeeping and reporting requirements for all environmental monitoring activities. The monitoring plan shall conform to paragraph (4) of this subdivision;

(ii) description of all environmental control systems including:

(*a*) process control monitoring types, locations, recordkeeping and reporting requirements. Leachate management activities shall include recording of the total volume of leachate stored and removed from the facility, sampling and analysis, and proper maintenance;

(*b*) environmental control maintenance requirements including description, type, frequency, and recordkeeping;

(iii) description of types, location and frequency of all other facility maintenance activities including:

(*a*) maintaining the integrity and effectiveness of any final cover, including making repairs to the cover as necessary to correct the effects of settlement, subsidence, erosion, or other events, maintaining the appropriate vegetative cover, and preventing run-on and run-off from eroding or otherwise damaging the final cover;

(*b*) maintaining the leachate collection system in accordance with subdivision (i) of this section;

(*c*) maintaining and operating the gas control and monitoring systems in accordance with the requirements of section 360-2.17(f) of this Subpart; and

(*d*) recordkeeping and reporting requirements;

(iv) description of resource requirements including:

(*a*) minimum personnel qualifications and numbers; and

(*b*) minimum equipment needs;

(v) a contingency plan which shall include:

(*a*) responses to problems that have a reasonable likelihood of occurrence including, but not limited to, major erosion problems, significant differential settlement, and fire;

(*b*) action levels above which identified environmental monitoring, environmental control, or maintenance problems require prompt action by the owner and notification to the department; and

(*c*) a summary of any corrective measures that must be done to be in accordance with section 360-2.20 of this Subpart;

(vi) name, address and telephone number of the person or office to contact on post-closure monitoring and maintenance, and corrective measure concerns during the post-closure period;

(vii) a summary of financial assurance criteria concerns that must be addressed to remain in compliance with the provisions of section 360-2.19(c) and (d) of this Subpart. This includes:

(*a*) submittal to the department of annual adjustments to cost estimates of post-closure care and corrective measures; and

(*b*) notification to the department of increases in post-closure care costs and corrective measure costs; and

(viii) a description of the planned uses of the property during the post-closure period. Planned uses shall be in compliance with paragraph (9) of this subdivision.

(8) Quarterly inspections and inspections after major rainfall events (five-year storms) shall be performed on all facility components during the minimum 30-year post-closure period, unless specific department approval is given to eliminate some or all of these requirements, to ensure that the facility is functioning as intended. The results of those inspections shall be submitted to the department as part of a registration renewal report as described in paragraph (l)(4) of this section, or more frequently, if deemed appropriate by the department.

(9) A description of the planned uses of the property during and after the post-closure period is required. Use of the property shall not disturb the integrity of the final cover, liners, or any other components of the containment system, or the function of the monitoring or environmental control systems, unless necessary to comply with the requirements of section 360-2.20 of this Subpart. The department will approve any other disturbance if the owner or operator demonstrates that disturbance of the final cover, liner or other component of the containment system, including any removal of waste, will not increase the potential threat to human health or the environment.

(l) *Closure and post-closure registration report.* (1) The owner or operator of a closing facility must register with the department at least one year before the facility is scheduled to cease accepting waste. The owner or operator must register on a form prescribed by the department.

(2) The registration must be renewed every five years until the department determines that the post-closure monitoring and maintenance period for the facility has ended.

(3) The initial registration report must include: the facility's name, address and telephone number; the owner's name, address and telephone number, and the name, address and telephone number of the person who will be responsible for closure and post-closure care of the facility, and other information deemed necessary by the department.

(4) Subsequent registration reports must also include the following information:

(i) a certification that the facility complies with all applicable closure and post-closure criteria contained in this section, financial assurance criteria contained in section 360-2.19, and corrective measures report criteria contained in section 360-2.20 of this Subpart; and

(ii) any other information which the department determines to be necessary to protect the public health and welfare and the environment or natural resources.

(5) A registration issued pursuant to this subdivision is transferable only upon prior written approval of the department and a demonstration that the prospective transferee will be able to comply with all applicable laws, regulations and requirements.

Historical Note

Sec. filed Oct. 28, 1988; amds. filed: Aug. 5, 1993; Sept. 27, 1996; Sept. 22, 1998; Nov. 4, 1999; July 1, 2002 eff. 60 days after filing. Amended opening para.

§ 360-2.16 Landfill gas recovery facilities.

(a) *Purpose.* This section regulates the construction and operation of all on-site landfill gas recovery facilities (LGRF) that remove landfill gas from landfills subject to regulation under the provisions of this Part.

(b) *Applicability.* All LGRF's existing on the effective date of this Part must obtain a permit pursuant to this Part. All such LGRF's that are operating without such a permit must submit to the department within 180 days after the effective date of this Part a complete application prepared in accordance with the provisions of this subdivision and containing the following:

(1) An engineering plan detailing:

(i) a vicinity plan or map that must show the area within one mile of the boundaries of the landfill from which the gas is being recovered; the existing and proposed zoning and land uses within that area; and residences, access roads, and other existing and proposed man-made or natural features relating to the landfill gas recovery facility and associated landfill;

(ii) a site plan (certified by an individual licensed to practice land surveying in the State of New York) showing the landfill's property boundaries from which the landfill gas is to be removed; the location of the landfill gas recovery facility; off-site and on-site utilities, including electric, gas, water, storm, and sanitary sewer systems and right-of-way easements; the names and addresses of abutting property owners; the location of existing and proposed gas venting structures, wells, piezometers, environmental and landfill monitoring points and devices identified in accordance with a numbering system acceptable to the department and whose horizontal and vertical locations are accurate to the nearest 500th and 100th foot, respectively, as measured from the ground surface; and on-site buildings and appurtenances, fences, gates, roads, parking areas, drainage culverts, and signs; the delineation of the total landfill area from which landfill gas is to be recovered, including sequential or planned modular development of the landfill's operation; a wind rose; and the site topography with five feet minimum contour intervals of the landfill from which landfill gas is to be recovered; and

(iii) detailed plans of the landfill gas recovery facility must adequately delineate in plan views and in cross-sectional views, the location and grades of all landfill gas collection lines, locating and showing all critical elevations of the collection pipe inverts, cleanouts, and valves; layout of the facility structure including equipment locations, sampling locations; on-site drainage structures; and extraction well location, depth of placement, and construction materials.

(2) The engineering report must contain the following:

(i) a description of the operation of the facility and how the recovered landfill gas will be used;

(ii) an estimate of the quantities of condensate currently generated or expected to be generated and a description of how the condensate is being or will be disposed of;

(iii) an estimate of the cost to properly close the LGRF in accordance with the provision of subparagraph (viii) of this paragraph;

(iv) a description of all machinery, equipment, and materials used at the facility, including the equipment's make, model, manufacturer, design capacity, and performance data;

(v) a description of how the LGRF relates to the landfill's overall gas venting and control system;

(vi) a description of the procedures for taking, analyzing, and reporting data from condensate sampling;

(vii) a contingency plan that discusses an organized and planned method of responding to unexpected events during the construction and during the operation of a LGRF. The plan must address actions to be taken with respect to noise; personal injury; explosions; fires; detection of explosive landfill gases both on-site and off-site; and the equipment to be

draulic conditions surrounding the disposal site; and the location of any man-made structures and property boundaries. The minimum frequency of monitoring shall be quarterly.

(3) Upon detection of methane or other explosive gas levels exceeding the limits specified in paragraph (1) of this subdivision, the landfill operator and the appropriate officials identified in the department-approved contingency plan must immediately take all steps necessary to ensure safety and protection of human health and must immediately notify the department:

(i) within seven days of detection submit to the department the methane gas levels detected and provide a description of the steps taken to protect human health; and

(ii) within 45 days of detection, submit a plan to implement a remediation plan for the methane gas releases and schedule for the implementation of this plan within 60 days beyond the date of the detection. This plan must describe the nature and extent of the problem and the proposed remedy.

(g) *Leachate generation and migration.* All landfills must be constructed, operated, and closed to minimize the generation of leachate and to prevent the migration of leachate into surface and groundwater.

(h) *Maintenance schedule for primary leachate collection and removal system.* The primary leachate collection and removal system must be maintained in accordance with the provisions of subdivision 360-2.9(j) of this Subpart to prevent clogging of the system.

(i) *Monitoring schedule for secondary leachate collection and removal system.* Daily monitoring of the secondary leachate collection and removal system must be accomplished to determine the presence, quantity, nature, and significance of any liquid detected in accordance with the appropriate provisions of subdivision 360-2.9(j) of this Subpart.

(j) *Leachate recirculation.* Leachate recirculation is prohibited unless the landfill meets the following requirements:

(1) For existing landfills operating under Part 360 permit and that have received department approval to recirculate leachate, may continue for the duration of the permit or subsequent permit renewals as long as the landfill meets all of the operating requirements of this Part and providing that groundwater monitoring data verifies no landfill induced contamination pursuant to the provisions of Part 703 of this Title.

(2) For all new landfills, or an existing landfill that does not have department approval to recirculate leachate, a double liner system acceptable to the department is required, along with demonstration of a minimum of six months of acceptable primary liner performance being submitted for department approval.

(3) In all cases, leachate recirculation is prohibited on areas where any soil cover has been applied, unless provisions for run-off collection and containment are provided. In no double lined landfill shall the volume of leachate to be recirculated increase the primary liner systems leakage rate beyond the 20 gallons per acre per day operational threshold based on a 30-day average and/or increase the potential for groundwater contamination.

(4) All leachate recirculation proposals must have in support an operations manual prepared in accordance with the provisions of subdivisions 360-2.9(a) and (j) of this Subpart.

(k) *Bulk liquids.* Disposal of bulk liquids in any landfill is prohibited. For the purpose of this Part, liquid containers from households five gallons or less in size are not considered bulk liquids.

(l) *Industrial/commercial wastes.* Disposal of solid waste in a landfill resulting from industrial or commercial operation is prohibited except pursuant to specific department authorization.

(m) *Hazardous waste and low-level radioactive waste.* No hazardous waste as defined in Part 371 of this Title that is required to be managed at a facility subject to regulation under Part 373 or 374 of this Title and no low-level radioactive waste or NARM waste as defined in Parts 380, 382, and 383 of this Title that are required by Parts 380 and 383 of this Title to be disposed at a Part 383 permitted facility shall be disposed of in a landfill.

(n) *Sludge disposal.* All sludges, including publicly owned treatment works sludges and septage authorized by the department for disposal must first be stabilized, and dewatered to 20

percent solids with no free liquid as defined by the paint filter liquids test (method 9095) in *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,* EPA publication SW-846 (see section 360-1.3 of this Part) evident in the dewatered sludge.

(o) *Sludge and other solid waste.* Landfills without leachate collection, treatment, and monitoring facilities must not accept sludge whose wet weight exceeds 25 percent of the combined total weight of the sludge and other solid waste accepted on a daily basis.

(p) *Asbestos waste disposal.* Asbestos waste may be disposed of at a landfill if it has been removed and packaged in accordance with 40 CFR part 61, Subparts A and M, and 29 CFR parts 1910 and 1926 (see section 360-1.3 of this Part), and provided the following measures and precautions are taken to prevent the asbestos fibers from becoming airborne.

(1) The transporter, having a permit pursuant to Part 364 of this Title must first inform the landfill operator of his intent to dispose of asbestos waste, the volume of the waste, and the anticipated date the shipment will arrive at the landfill.

(2) The landfill owner or operator must then direct the transporter to the selected disposal area. This area must be recorded on an operations site plan so that necessary precautions can be taken to handle the asbestos waste in a safe manner in the event of future construction or regrading activity in this area.

(3) The asbestos waste material may be placed into a predug trench in the existing refuse, provided that a five-feet groundwater separation distance at existing landfills is adhered to, or may be placed at the bottom of the working face. The asbestos waste must be backfilled with at least three feet of refuse or 18 inches of soil before compaction. This backfill material must be able to bridge the asbestos waste containers and act as a buffer between the asbestos and the tracks or wheels of the compaction equipment. Additional backfill must be placed over the asbestos waste before compaction if necessary to adequately separate equipment from the asbestos waste containers. At the end of the operation, the appropriate cover material must be immediately applied.

(4) If the owner or operator or the department inspector believes that the above requirements are insufficient to prevent the asbestos waste material from becoming airborne or coming in contact with landfill equipment because of site-specific conditions or otherwise, added precautions must be taken.

(q) *Inspection for unauthorized waste.* The owner or operator must select a waste collection vehicle at random at least once weekly and unload its solid waste at the working face for inspection for unauthorized wastes. Unauthorized waste shall include, but not be limited to, hazardous waste as defined in Part 371 of this Title. A record of this inspection must be kept on the premises and be available for department review to ensure only authorized solid waste is being accepted at the facility.

(r) *Tank disposal.* When accepting any tank for disposal, the tank ends must be removed or cut off and the tank must be cleaned of residue and be effectively compressed to its smallest practical volume.

(s) *Perimeter access road.* Every landfill must have and maintain a perimeter access road.

(t) *Annual report.* For all active landfills, the operator must submit to both the central office and the appropriate regional office of the department, an annual report including but not limited to the data requested in this subdivision, no later than 60 days after the first day of January of each year of operation. In addition to the requirements of subdivision 360-1.4(c) of this Part, this report must detail:

(1) the total quantity in tons of solid waste disposed of from January 1st to December 31st. This information must be compiled by waste type, such as refuse, sludge, energy recovery facility residue, industrial waste, or other waste forms, and in both tons per day and total tons per quarter;

(2) the remaining site life and capacity in cubic yards of the existing constructed landfill and the remaining capacity and site life of those other areas not yet built, but which have received entitlement under a permit;

(3) an estimate of the actual *in situ* waste density shall be made, considering the accumulative volume of landfill airspace utilized and the amount of waste disposed of;

(4) a compilation of all water and leachate quality data collected throughout the year as required in section 360-2.11(c)(5)(iv)(*e*) of this Subpart;

(5) for all landfills that collect leachate on-site, the total amounts of leachate collected and the amount transported off-site or treated on a monthly basis. For leachate treated off-site, the treatment facility utilized must be identified;

(6) for landfills with double liners using secondary leachate collection and removal systems, the amount of leachate collected in the secondary leachate collection and removal system must be compiled on a monthly basis and reported annually to the department to assess primary liner system performance;

(7) any changes from the approved report, plans, and specifications or permit conditions must be listed with justification for each change given, including any deviation from the approved fill progression plan;

(8) the tipping fee charged by waste type in dollars per ton, and the cost of leachate treatment (including transportation if appropriate);

(9) the amount (tons per year) of each solid waste type (recyclables) recovered from disposal, and its final destination; and

(10) annual adjustments to closure and post-closure care cost estimates and financial assurance documents as required in section 360-2.19 of this Subpart, and of applicable annual adjustments to corrective measures cost estimates and financial assurance documents as required in section 360-2.19 of this Subpart.

(u) *Weight scales.* All landfills accepting more than 20 tons per day of solid waste must effectively operate and maintain weight scales in accordance with the provisions of section 360-2.13(v) of this Subpart.

(v) *Tires.* Disposal of whole tires in any landfill is prohibited.

(w) *Lead acid batteries.* Disposal of lead acid batteries in any landfill is prohibited.

(x) *Air criteria.* Owners or operators of all solid waste landfills must ensure that air emissions from the landfill will not violate any applicable requirements developed pursuant to section 111 of the Clean Air Act (see section 360-1.3 of this Part).

Historical Note

Sec. filed Oct. 28, 1988; amds. filed: Aug. 5, 1993; Sept. 27, 1996; Nov. 4, 1999 eff. Nov. 24, 1999. Amended (a).

§ 360-2.18 Landfill reclamation.

(a) *Applicability.* (1) All landfill reclamation activities must conform to the provisions of this section. For the purpose of this section, *landfill reclamation*is defined as excavation of a portion or all of a landfill with the ultimate goal of reducing landfill volume through separation of materials into recyclable, reusable, and combustible components; reducing closure and post-closure costs by complete or partial exclusion of the landfill; creating capacity; or reducing environmental impacts. Landfill closure projects which only involve recontouring (other than incidental recontouring) of the existing waste mass must comply with subdivision (e) of this section.

(2) Feasibility studies must be conducted prior to any reclamation activities and in accordance with a department-approved work plan. Demonstration projects and other landfill reclamation activities must be conducted under a valid consent order or permit issued pursuant to this Part.

(3) All landfill reclamation activities, including feasibility study field investigations, must be conducted in accordance with work plans previously approved by the department. If any of the required information is known through previous efforts, some or all of the requirements of this section may be waived upon approval of the department. Work plans may be submitted and

approved in phases prior to commencing feasibility studies, demonstration projects, or full scale reclamation activities.

(b) *Feasibility study work plans.* Landfill reclamation feasibility study work plans must include:

(1) Preliminary site investigation, including site inspection, personal interviews, review of landfill records, and review of site history. This investigation must include the following:

(i) a description of the vertical and areal extent of the landfill;

(ii) a delineation of sections, trenches, cells, berms, or other diversions forming discrete or partially separated areas of the landfill, or special waste (*e.g.,* sewage sludge, ash, asbestos waste, C&D debris, etc.) disposal areas;

(iii) a description of the age, type of waste and cover material, landfill operation method, and estimate of volume for each area of the landfill identified in subparagraph (ii) of this paragraph;

(iv) an estimate of the water table depth throughout the area to be reclaimed;

(v) an assessment of available work space for equipment staging, material storage, and other work areas;

(vi) an evaluation of landfill's existing groundwater monitoring system, procedures, and most recent analytical data;

(vii) a description of the regulatory status of the landfill (*e.g.,* results of department inspections, compliance history, permit status, etc.);

(viii) a description of the owner/operator's future use plan for the landfill after reclamation; and

(ix) a determination if a field investigation should be conducted.

(2) A field investigation work plan that describes all of the field work and laboratory analysis that is part of the feasibility study, including:

(i) all proposed work areas;

(ii) the number and location of all borings, trenches, and test pits and their estimated depth and volume;

(iii) a description of all excavation and material handling operations;

(iv) a description of all material quantification methods, laboratory analyses, and test burns which will be used to characterize and estimate the quantities of recyclables, combustibles, reusable soil, rejects, and other components;

(v) a delineation of project management responsibilities and a proposed work schedule; and

(vi) a contingency plan as described in subdivision (f) of this section.

(c) *Feasibility study field investigation and report.* Upon approval of the feasibility study work plan, the field investigation may be performed. Upon completion of the field investigation, the data must be compiled and presented in a feasibility study report submitted to the department. The report must include:

(1) a description of actual sampling, analysis, test pits and test borings;

(2) the thickness of solid waste fill and depth to water table;

(3) a characterization of excavated materials (*e.g.,* recyclables, combustibles, reusable soil, rejects, and other components);

(4) an evaluation of the suitability of the excavated material for reuse or recycling; need for further processing; and expected final disposition;

(5) an assessment of potential landfill reclamation costs and potential landfill closure costs;

(6) an assessment of the impacts associated with landfill reclamation; and

(7) a determination if landfill reclamation is feasible.

(d) *Landfill reclamation work plans.* Engineering drawings and work plans for demonstration projects or landfill reclamation must include:

(1) A vicinity plan or map that shows the area within one mile of the boundaries of the landfill to be reclaimed; the existing and proposed zoning and land use within that area; and residences, access roads, and other existing and proposed artificial or natural features relating to the reclamation of the landfill.

(2) A site plan showing the landfill's property boundaries; the utilities including electric, gas, water, storm, and sanitary sewer systems and right-of-way easements; the names and addresses of abutting property owners; the location of the proposed reclamation; the landfill liner system and leachate collection, storage, treatment and pumping system; on-site buildings and appurtenances, fences, gates, roads, parking areas, drainage culverts, and signs; a wind rose; and, the site topography.

(3) The detail of the proposed reclamation area must adequately delineate in plan and cross-sectional view, the depth of excavation, proximity to the liner and leachate collection and disposal system, if any, other landfill structures and equipment, and direction of progression. Footprint reduction areas must be cleaned by completely removing waste and sufficient subbase soil from below the reclaimed area.

(4) A description of the excavation and sorting procedures, and a contingency plan, as described in subdivision (f) of this section.

(5) A description of procedures for processing, storage, removal, transfer, use, and disposal of excavated material.

(i) The separation, handling, storage, and transfer of excavated materials must meet the operational requirements of section 360-12.2 (except paragraph [a][1]) and section 360-11.4 (except subdivision [n]) of this Part.

(ii) The off-site reuse of soil components or residues must be approved in advance in accordance with section 360-1.15(d) of this Part.

(iii) If combustion of residual material is proposed, combustible components must be subjected to a test burn for determination of suitability for combustion and monitoring of the air emissions.

(6) A run-on/run-off and leachate management plan.

(7) The procedure for site clean-up and grading after reclamation must be described with detailed drawings showing original and final grades. Landfill footprint reduction must meet the requirements of subdivision (e) of this section.

(e) *Landfill footprint reduction.* If landfill reclamation results in a reduction in the landfill footprint, the following requirements must be met.

(1) A petition for the exclusion of the reclaimed landfill area, completely or partially from the landfill closure and post-closure criteria described in section 360-2.15 of this Subpart, must be submitted for approval by the department. The footprint reduction petition must include the following:

(i) details of the footprint reduction area in plan and cross-sectional views;

(ii) a sampling plan, approved by the department, that describes the number and method of sampling, analytical parameters and methods to be used with detection limits, and includes, at the minimum, analysis for parameters in the Water Quality Analysis Table (see section 360-2.11[d][6] of this Subpart); and

(iii) an evaluation of the results of sampling and analysis of the *in situ* landfill subbase soil.

(2) A notice in the deed to the property may be required in accordance with section 360-2.15(k) of this Subpart.

(3) Any future use of reclaimed areas as solid waste management facilities must comply with the applicable provisions of this Part.

(f) *Contingency plans.* (1) Contingency plans must include a description of the courses of action which should be taken in responding to events that may occur during field investigation and land reclamation activities. The plan must describe actions to be taken with respect to personnel safety, on-site personnel injury, fires, explosion, landfill gases, dust, litter, odor, noise, vectors, and excavation and release of hazardous or toxic materials.

(2) The contingency plan must address hazard evaluation and protection from potential hazards, including engineering controls, personal protection equipment, and air monitoring techniques. The plan must also include designation of exclusion, decontamination and support zones, decontamination procedures, on-site communication procedures, and emergency procedures.

(3) A site health and safety coordinator must be designated on a full time basis at least during excavation. The coordinator must be trained in hazardous waste and emergency response operations as referenced in 29 CFR part 1910.120 (see section 360-1.3 of this Part).

Historical Note

Sec. filed Aug. 5, 1993; amd. filed Nov. 4, 1999 eff. Nov. 24, 1999. Amended (a)(3).

§ 360-2.19 Financial assurance criteria.

(a) *Applicability and effective date.* (1) The requirements of this section do not apply to owners and operators of landfills who are State or Federal government entities whose debts and liabilities are the debts and liabilities of a State or the United States.

(2) For municipal solid waste landfills that receive solid waste after October 9, 1993, the effective date of this section is April 9, 1997.

(3) A *third party,* for the purposes of this section, is a party who is neither a parent nor a subsidiary of the owner or operator.

(b) *Financial assurance for closure.* (1) The owner or operator must have a detailed written estimate, in current dollars, of the cost of hiring a third party to close the largest active portion of the landfill requiring a final cover as required under section 360-2.15 of this Subpart at any time during the active life in accordance with the closure plan. This cost estimate must be approved by the department.

(i) At a minimum, the cost estimate must equal the cost of closing the largest active portion of the landfill requiring a final cover at any time during the active life when the extent and manner of its operation would make closure the most expensive, as indicated by its closure plan (see section 360-2.15 of this Subpart).

(ii) During the active life of the landfill, the owner or operator must annually adjust the closure cost estimate for inflation and submit a copy of the adjusted estimate to the department.

(iii) The owner or operator must notify the department and increase the closure cost estimate and the amount of financial assurance provided under paragraph (2) of this subdivision if changes in inflation, the closure plan, or landfill conditions increase the maximum cost of closure at any time during the remaining active life.

(iv) If approved by the department, the owner or operator may reduce the closure cost estimate and the amount of financial assurance provided under paragraph (2) of this subdivision if the cost estimate exceeds the maximum cost of closure at any time during the remaining active life of the landfill. The justification for the reduction of the closure cost estimate and a copy of the revised financial assurance documentation must be submitted to the department.

(2) The owner or operator of each landfill must establish financial assurance for closure of the landfill in compliance with subdivision (e) of this section. The owner or operator must provide continuous coverage for closure until released from financial assurance requirements by demonstrating compliance with section 360-2.15 of this Subpart.

(c) *Financial assurance for post-closure care.* (1) The owner or operator must have a detailed written estimate, in current dollars, of the cost of hiring a third party to conduct post-

closure care for the landfill in compliance with the final closure plan developed under section 360-2.15 of this Subpart. The post-closure cost estimate used to demonstrate financial assurance in paragraph (2) of this subdivision must account for the total costs of conducting post-closure care, including annual and periodic costs as described in the final closure plan over the entire post-closure care period. This post-closure care cost estimate must be approved by the department.

(i) At a minimum, the cost estimate for post-closure care must be based on the most expensive costs of post-closure care during the post-closure care period.

(ii) During the active life of the landfill and during the post-closure care period, the owner or operator must annually adjust the post-closure cost estimate for inflation and submit a copy of the adjusted estimate to the department.

(iii) The owner or operator must notify the department and increase the post-closure care cost estimate and the amount of financial assurance provided under paragraph (2) of this subdivision if changes in inflation, the post-closure plan, or landfill conditions increase the maximum costs of post-closure care.

(iv) If approved in advance by the department in writing, the owner or operator may reduce the post-closure cost estimate and the amount of financial assurance provided under paragraph (2) of this subdivision if the cost estimate exceeds the maximum costs of post-closure care remaining over the post-closure care period. The justification for the reduction of the post-closure cost estimate and a copy of the revised financial assurance documentation must be submitted to the department.

(2) The owner or operator of each landfill must establish, in a manner in accordance with subdivision (e) of this section, financial assurance for the costs of post-closure care as required under section 360-2.15 of this Subpart. The owner or operator must provide continuous coverage for post-closure care until released from financial assurance requirements for post-closure care by demonstrating compliance with section 360-2.15 of this Subpart.

(3) Unless otherwise specifically approved in advance by the department in writing, a trust fund or a solid waste management facility reserve fund must be established for post-closure care. The trust fund must be established in a manner that allows the department to direct the trustee to hire a third party to conduct post-closure care if the owner fails to comply.

(d) *Financial assurance for corrective measures.* (1) An owner or operator of a landfill required to undertake corrective measures pursuant to section 360-2.20 of this Subpart must have a detailed written estimate, in current dollars, of the cost of hiring a third party to perform the corrective measures in accordance with the program required under section 360-2.20 of this Subpart. The cost estimate must account for the total costs of corrective measures as described in the plan for the entire corrective measures period. The cost estimate must be approved by the department.

(i) The owner or operator must annually adjust the estimate for inflation until the corrective measures are completed in accordance with section 360-2.20 of this Subpart and submit a copy of the adjusted estimate to the department for approval.

(ii) The owner or operator must notify the department and increase the corrective measures cost estimate and the amount of financial assurance provided under paragraph (2) of this subdivision if changes in inflation, the corrective measures program, or landfill conditions increase the maximum costs of corrective measures.

(iii) If approved in advance by the department in writing, the owner or operator may reduce the amount of the corrective measures cost estimate and the amount of financial assurance provided under paragraph (2) of this subdivision if the cost estimate exceeds the maximum remaining costs of corrective measures. The justification for the reduction of the corrective measures cost estimate and a copy of the revised financial assurance documentation must be submitted to the department.

(2) The owner or operator of each landfill required to undertake corrective measures under section 360-2.20 of this Subpart must establish, in accordance with subdivision (e) of this section, financial assurance for the most recent corrective measures program. The owner or

operator must provide continuous coverage for corrective measures until released from financial assurance requirements for corrective measures by demonstrating compliance with section 360-2.20 of this Subpart.

(e) *Allowable financial assurance mechanisms.* Allowable financial assurance mechanisms must be acceptable to the department and the mechanisms used to demonstrate financial assurance under this section must ensure that the funds necessary to meet the costs of closure, post-closure care, and corrective measures for known releases will be available whenever they are needed. Except where indicated otherwise, owners and operators must choose from the options specified in paragraphs (1)-(11) of this subdivision.

(1) Trust fund. (i) An owner or operator may satisfy the requirements of this subdivision by establishing a trust fund which conforms to the requirements of this paragraph. The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or State agency. An original, signed duplicate of the trust agreement must be submitted to the department.

(ii) Payments into the trust fund shall be made annually by the owner or operator over the term of the initial permit (for new landfills) or over the remaining operating life of the active portion of the landfill or over the next 10 years of operation of that active portion (for existing landfills), whichever is shorter, in the case of a trust fund for closure or post-closure care, or over one-half of the estimated length of the corrective measures program in the case of corrective measures for known releases. This is referred to as the pay-in period.

(iii) For a trust fund used to demonstrate financial assurance for closure and post-closure care, the first payment into the fund shall be at least equal to the current cost estimate for closure or post-closure care, except as provided in paragraph (11) of this subdivision, divided by the number of years in the pay-in period as defined in subparagraph (ii) of this paragraph. The amount of subsequent payments must be determined by the following formula:

$$\text{Next Payment} = \frac{CE - CV}{Y}$$

where CE is the cost estimate for closure or post-closure care (updated for inflation or other changes), CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(iv) For a trust fund used to demonstrate financial assurance for corrective measures, the first payment into the trust fund must be at least equal to one-half of the current cost estimate for corrective measures, except as provided in paragraph (11) of this subdivision, divided by the number of years in the corrective measures pay-in period as defined in subparagraph (ii) of this paragraph. The amount of subsequent payments must be determined by the following formula:

$$\text{Next Payment} = \frac{RB - CV}{Y}$$

where RB is the most recent estimate of the required trust fund balance for corrective measures (*i.e.*, the total costs that will be incurred during the second half of the corrective measures period), CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(v) Except as provided herein, the initial payment into the trust fund must be made 60 days before the initial receipt of waste or before April 9, 1997, whichever is later, in the case of closure and post-closure care, or no later than 120 days after the corrective measures remedy has been selected in accordance with the requirements of section 360-2.20 of this Subpart. In the case of closure and post-closure for landfills requiring financial assurance under section 360-2.14(a) of this Subpart and sections 360-7.4 and 360-8.6 of this Part, the initial payment must be made 60 days prior to the initial receipt of waste (for new facilities) or permit renewal.

utilized to maintain proper landfill gas venting and control when normal operations cease; and

(viii) a closure plan that must include, at a minimum, methods to vent and control landfill gases after operation of the facility ceases, and any other requirements pertaining to landfill gas venting and control contained in section 360-2.15 of this Part.

(3) The operation and maintenance plan for the LGRF must include the following:

(i) a description of the project's personnel requirements including a discussion of their responsibilities and duties;

(ii) a description of the equipment machinery, operational controls, and processes to be used during normal operation;

(iii) a description of procedures to be followed by project personnel during start-up and planned and unplanned shutdown of operations;

(iv) a description of the safety features of equipment, controls, and machinery;

(v) site security methods;

(vi) a description of the facility's landfill gas condensate collection, storage, and treatment systems. The design capacity for these systems must be based on the engineering report's estimate of the amount of landfill gas condensate produced; and

(vii) a description of the procedures for reporting information required by subdivision (f) of this section.

(c) *Application requirements.* All persons proposing a LGRF must apply for an application for a permit to construct and operate that facility pursuant to this Part. An application for a permit to construct a LGRF must contain all the information and documentation required pursuant to subdivision (b) of this section and Subpart 360-1 of this Part.

(d) *Permit renewals.* An application for renewal of a permit must be accompanied by necessary information documenting that the subject facility is capable of meeting the specific standards of subdivision (e) of this section and Subpart 360-1 of this Part.

(e) *Operational requirements.* In addition to the requirements of Subpart 360-1 of this Part, all LGRF owners or operators must ensure that air emissions will not violate any applicable requirements developed pursuant to section 111 of the Clean Air Act (see section 360-1.3 of this Part), and must conform to the operational requirements of this section:

(1) condensate generation must be kept to a minimum and condensate recirculation, if proposed, must be in accordance with section 360-2.15(h) of this Subpart;

(2) all LGRF's that use combustion of any type must be designed and operated in accordance with all applicable requirements of Parts 201, 212, 225 and 227 of this Title;

(3) during the first year of operation, condensate sampling must occur quarterly and annually thereafter. The analysis must include at least those parameters in the Water Quality Analysis Tables, in section 360-2.11(d)(6) of this Subpart;

(4) the owner or operator of the facility must report all condensate quality monitoring results within 60 days after sampling;

(5) the landfill gas recovery piping and extraction wells must not interfere with the integrity of the proposed or existing landfill cover system; and

(6) an annual report on the operation of the LGRF must be submitted to the department no later than 60 days after the first day of January of each year of operation. This report must contain the following information compiled on a monthly basis:

(i) quantity of landfill gas recovered;

(ii) quantity of condensate generated;

(iii) quantity of steam generated (if applicable);

(iv) quantity of electricity generated (if applicable);

(v) quantity of low Btu or pipeline quality gas produced (if applicable);

(vi) summary of sampling data;

(vii) hours of operation; and

(viii) list of all full- and part-time employees and their titles.

Historical Note

Sec. filed Oct. 28, 1988; amds. filed: Aug. 5, 1993; Sept. 27, 1996; Sept. 22, 1998 eff. Nov. 21, 1998. Amended (a).

§ 360-2.17 Landfill operation requirements.

In addition to the operational requirements in section 360-1.14 of this Part, all landfills regulated under this Subpart must conform to the operation requirements in this section.

(a) *Water quality monitoring program.* A water quality monitoring program must be implemented that satisfies the appropriate requirements of section 360-2.11 of this Subpart and special permit conditions pertaining to such a program.

(b) *Waste placement requirements.* (1) Solid waste must be spread in layers not exceeding two feet in thickness and must be compacted upon deposition at the working face by appropriately sized compaction equipment making a minimum of three passes. The working face must be restricted to the smallest area practicable, based on peak usage traffic conditions at the landfill.

(2) Lift height must not exceed 10 feet and shall not have a final slope greater than 33 percent. Wastes must be placed and graded in accordance with the provisions of the fill progression plan set forth in section 360-2.9(e) of this Subpart, and shall not be placed at a grade of less than four percent to accommodate facility closure.

(3) The first layer of refuse placed above the leachate collection layer must be a minimum of five feet in compacted thickness, and be of a select nature containing no large rigid objects, such as bed springs or posts, placed in a manner to damage the liner system.

(c) *Daily cover.* A minimum of six inches of compacted cover material must be applied on all exposed surfaces of solid waste at the close of each operating day to control vectors, fires, odors, blowing litter and scavenging. The department may approve the use of alternative daily cover materials of an alternative thickness, upon a demonstration that the alternative daily cover material will adequately control vectors, fires, odors, blowing litter and scavenging without presenting a threat to human health and the environment. Such demonstrations are not subject to variance procedures of this Part.

(d) *Intermediate cover.* A minimum of 12 inches of compacted cover material, must be applied and maintained on all landfill surfaces where no additional solid waste has been or will be deposited within 30 calendar days. The facility owner or operator may request department approval to remove all or a portion of the intermediate cover before placing an additional lift of solid waste, if odors and blowing litter are effectively controlled on-site.

(e) *Final cover system.* The final cover system must be designed, constructed and maintained in accordance with the requirements of section 360-2.15 of this Subpart.

(f) Decomposition gases generated within a landfill must be controlled to avoid hazards to health, safety, or property. Measures to control decomposition gases must be undertaken in accordance with the following requirements:

(1) the concentration of methane and other explosive gases generated by the facility must not exceed:

(i) 25 percent of the lower explosive limit for gases in structures on or off-site, excluding gas control or recovery system components; and

(ii) the lower explosive limit for the gases at or beyond the property boundary.

(2) An ongoing gas monitoring program must be initiated upon initial operation of the landfill to ensure that the standards of paragraph (1) of this subdivision are met. The type and frequency of monitoring must be approved by the department and based on the following factors: soil conditions; the hydrogeologic conditions surrounding the disposal area; the hy-

(vi) If the owner or operator establishes a trust fund after having used one or more alternate mechanisms specified in this section, the initial payment into the trust fund must be at least the amount that the fund would contain if the trust fund were established initially and annual payments made according to the specifications of this paragraph and paragraph (11) of this subdivision, as applicable.

(vii) The owner or operator, or other person authorized to conduct closure, post-closure care, or corrective measures activities may request reimbursement from the trustee for these expenditures by submitting itemized bills and supporting documentation to the department. If approved, the department will instruct the trustee to make reimbursements in those amounts the department specifies in writing. Requests for reimbursement will be granted only if sufficient funds are remaining in the trust fund to cover the remaining costs of closure, post-closure care, or corrective measures. The owner or operator must notify the department that reimbursement has been received.

(viii) The trust fund may be terminated by the owner or operator only if approved in advance by the department in writing and the owner or operator substitutes alternate financial assurance as specified in this section or if the owner or operator is no longer required to demonstrate financial responsibility in accordance with the requirements of paragraph (b)(2), (c)(2) or (d)(2) of this section.

(2) Surety bond guaranteeing payment or performance.

(i) An owner or operator may demonstrate financial assurance for closure or post-closure care by obtaining a payment or performance surety bond which conforms to the requirements of this paragraph. An owner or operator may demonstrate financial assurance for corrective measures by obtaining a performance bond which conforms to the requirements of this paragraph. Except as provided herein, the bond must be effective 60 days before the initial receipt of waste or before April 9, 1997, whichever is later, in the case of closure and post-closure care, or no later than 120 days after the corrective measures remedy has been selected in accordance with the requirements of section 360-2.20 of this Subpart. In the case of closure and post-closure care for landfills requiring financial assurance under section 360-2.14(a) of this Subpart and sections 360-7.4 and 360-8.6 of this Part, the bond must be effective 60 days prior to the initial receipt of waste (for new facilities) or permit renewal. The owner or operator must submit the bond to the department. The surety company issuing the bond must, at a minimum, be among those listed as acceptable sureties on federal bonds in Circular 570 of the U.S. Department of the Treasury (see section 360-1.3 of this Part).

(ii) The penal sum of the bond must be an amount at least equal to the current closure, post-closure care, or corrective measures cost estimate, whichever is applicable, except as provided in paragraph (11) of this subdivision.

(iii) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond, or fails to provide alternate financial assurance as specified in this section and obtain the department's written approval of the assurance provided within 90 days after receipt, by both the owner or operator and the department, of a notice of cancellation of the bond from the surety.

(iv) The owner or operator must establish a standby trust fund. The standby trust fund must meet the requirements of paragraph (1) of this subdivision except the requirements for initial payment and subsequent annual payments specified in subparagraphs (ii)-(v) of that paragraph.

(v) Payments made under the terms of the bond will be deposited by the surety directly into the standby trust fund. Payments from the trust fund must be approved in advance by the department in writing.

(vi) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner and operator and to the department 120 days in advance of cancellation. If the surety cancels the bond, the owner or operator must obtain alternate financial assurance as specified in this section.

(vii) The owner or operator may cancel the bond only if approved in advance by the department in writing and alternate financial assurance is substituted as specified in this section or if the owner or operator is no longer required to demonstrate financial responsibility in accordance with paragraph (b)(2), (c)(2) or (d)(2) of this section.

(3) Letter of credit. (i) An owner or operator may satisfy the requirements of this section by obtaining an irrevocable standby letter of credit that conforms to the requirements of this paragraph. Except as provided herein, the letter of credit must be effective 60 days before the initial receipt of waste or before April 9, 1997, whichever is later, in the case of closure and post-closure care, or no later than 120 days after the corrective measures remedy has been selected in accordance with the requirements of section 360-2.20 of this Subpart. In the case of closure and post-closure care for landfills requiring financial assurance under section 360-2.14(a) of this Subpart and sections 360-7.4 and 360-8.6 of this Part, the letter of credit must be effective 60 days prior to the initial receipt of waste (for new facilities) or permit renewal. The owner or operator must submit the letter of credit to the department. The issuing institution must be an entity that has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a Federal or State agency.

(ii) The letter of credit must be accompanied by a letter from the owner or operator referring to the letter of credit by number, issuing institution, and date, and providing the following information: name and address of the facility and the amount of funds assured must be included with the letter of credit that is submitted to the department.

(iii) The letter of credit must be irrevocable and issued for a period of at least one year in an amount at least equal to the current cost estimate for closure, post-closure care or corrective measures, whichever is applicable, except as provided in paragraph (11) of this subdivision. The letter of credit must provide that the expiration date will be automatically extended for a period of at least one year unless the issuing institution has cancelled the letter of credit by sending notice of cancellation by certified mail to the owner and operator and to the department 120 days in advance of cancellation. If the letter of credit is cancelled by the issuing institution, the owner or operator must obtain alternate financial assurance.

(iv) The owner or operator may cancel the letter of credit only if approved in advance by the department in writing and alternate financial assurance is substituted as specified in this section or if the owner or operator is released from the requirements of this section in accordance with paragraph (b)(2), (c)(2) or (d)(2) of this section.

(v) An owner or operator who uses a letter of credit to satisfy the requirements of this subdivision may also be required to establish a standby trust fund. Under the terms of the letter of credit, all amounts paid pursuant to a draft by the department will be made in accordance with instructions from the department. The standby trust fund, if required, must meet the requirements of paragraph (1) of this subdivision, except for initial payment and subsequent annual payments specified in subparagraphs (ii)-(v) of that paragraph.

(vi) Following a determination pursuant to sections 360-2.15 and 360-2.20 of this Subpart that the owner or operator has failed to perform when required to do so, the department may draw on the letter of credit.

(vii) If the owner or operator does not establish alternate financial assurance as specified in this subdivision and obtain written approval of such alternate assurance from the department within 90 days after receipt, by both the owner or operator and the department, of a notice from the issuing institution that it has decided not to extend the letter of credit beyond the current expiration date, the department will draw on the letter of credit. The department may delay the drawing if the issuing institution grants an extension of the term of credit. During the last 30 days of any such extension the department will draw on the letter of credit if the owner or operator has failed to provide alternate financial assurance as specified in this subdivision and obtain written approval of such assurance from the department.

(4) Insurance. (i) An owner or operator may demonstrate financial assurance for closure and post-closure care by obtaining insurance which conforms to the requirements of this paragraph. Except as provided herein, the insurance must be effective 60 days before the initial receipt of waste or before April 9, 1997, whichever is later. For landfills requiring

financial assurance under section 360-2.14(a) of this Subpart and sections 360-7.4 and 360-8.6 of this Part, the insurance must be effective 60 days prior to the initial receipt of waste (for new facilities) or permit renewal. At a minimum, the insurer must be authorized by the superintendent of the New York State Insurance Department to conduct the business of insurance or eligible to provide insurance as an excess or surplus lines insurer, in New York State. The owner or operator must submit the certificate of insurance and a copy of the insurance policy to the department.

(ii) The closure or post-closure care insurance policy must guarantee that funds will be available to close the landfill whenever final closure occurs or to provide post-closure care for the landfill whenever the post-closure care period begins, whichever is applicable. The policy must also guarantee that once closure or post-closure care begins, the insurer will be responsible for the paying out of funds to the owner or operator or other person authorized to conduct closure or post-closure care upon the direction of the department, up to an amount equal to the face amount of the policy.

(iii) The insurance policy must be issued for a face amount at least equal to the current cost estimate for closure or post-closure care, whichever is applicable, except as provided in paragraph (11) of this subdivision. *Face amount* means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer's future liability will be lowered by the amount of the payments.

(iv) An owner or operator, or any other person authorized to conduct closure or post-closure care, may receive reimbursements for closure or post-closure expenditures, whichever is applicable. Requests for reimbursement must be approved in advance by the department in writing and will be granted only if the remaining value of the policy is sufficient to cover the remaining costs of closure or post-closure care, and if justification and documentation of the cost is submitted to the department. The owner or operator must notify the department that reimbursement has been received.

(v) Each policy must contain a provision allowing assignment of the policy to a successor owner or operator. Such assignment may be conditional upon consent of the insurer, provided that such consent is not unreasonably refused.

(vi) The insurance policy must provide that the insurer may not cancel, terminate or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy must, at a minimum, provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer may cancel the policy by sending notice of cancellation by certified mail to the owner and operator and to the department 120 days in advance of cancellation. If the insurer cancels the policy, the owner or operator must obtain alternate financial assurance as specified in this section.

(vii) For insurance policies providing coverage for post-closure care, commencing on the date that liability to make payments pursuant to the policy accrues, the insurer will thereafter annually increase the face amount of the policy. Such increase must be equivalent to the face amount of the policy, less any payments made, multiplied by an amount equivalent to 85 percent of the most recent investment rate or of the equivalent coupon-issue yield announced by the U.S. Department of the Treasury for 26-week treasury securities.

(viii) The owner or operator may cancel the insurance policy only if approved in advance by the department in writing and alternate financial assurance is substituted as specified in this section or if the owner or operator, is no longer required to demonstrate financial responsibility in accordance with the requirements of paragraph (b)(2), (c)(2) or (d)(2) of this section.

(5) Corporate financial test. (Reserved)

(6) Local government financial test. (Reserved)

(7) Corporate guarantee. (Reserved)

(8) Local government guarantee. (Reserved)

(9) State-approved mechanism. An owner or operator may satisfy the requirements of this section by obtaining any other mechanism that meets the criteria specified in paragraph (12) of this subdivision, and that is approved in advance by the department in writing.

(i) A capital reserve fund or a solid waste management facility reserve fund established and funded pursuant to General Municipal Law meets these criteria provided the pay-in period is consistent with paragraph (1) of this subdivision.

(ii) The financial test and corporate guarantee for closure under section 373-2.8(d)(5) meets these criteria, provided the substantive requirements of section 373-2.8(d)(5) of this Title are met. No revenue oriented facilities will be allowed to use this financial assurance mechanism.

(10) State assumption of responsibility. If the department either assumes legal responsibility for an owner or operator's compliance with the closure, post-closure care and/or corrective measures requirements of this Part, or assures that the funds will be available from State sources to cover the requirements, the owner or operator will be in compliance with the requirements of this subdivision. Any State assumption of responsibility must meet the criteria specified in paragraph (12) of this subdivision.

(11) Use of multiple financial mechanisms. An owner or operator may satisfy the requirements of this subdivision by establishing more than one financial mechanism per facility. The mechanisms must be as specified in paragraphs (1)-(10) of this subdivision, except that it is the combination of mechanisms, rather than the single mechanism, which must provide financial assurance for an amount at least equal to the current cost estimate for closure, post-closure care or corrective measures, whichever is applicable. The financial test and a guarantee provided by a corporate parent, sibling, or grandparent may not be combined if the financial statements of the two firms are consolidated. Use of a mechanism for financial assurance of both closure and post-closure care may be acceptable if approved in advance by the department in writing. The amount of funds available through the mechanism must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for financial assurance of closure and post-closure care.

(12) The language of the mechanisms listed in paragraphs (1)-(11) of this subdivision must ensure that the instruments satisfy the following criteria:

(i) The financial assurance mechanisms must ensure that the amount of funds assured is sufficient to cover the costs of closure, post-closure care, and corrective measures for known releases when needed.

(ii) The financial assurance mechanisms must ensure that funds will be available in a timely fashion when needed.

(iii) Except as provided herein, the financial assurance mechanisms must be obtained by the owner or operator by April 9, 1997 or 60 days prior to the initial receipt of solid waste, whichever is later, in the case of closure and post-closure care, and no later that 120 days after the corrective measures remedy has been selected in accordance with the requirements of section 360-2.20 of this Subpart, until the owner or operator is released from the financial assurance requirements under subdivisions (b)-(d) of this section. In the case of closure and post-closure care for landfills requiring financial assurance under section 360-2.14(a) of this Subpart and sections 360-7.4 and 360-8.6 of this Part, the financial assurance mechanism must be effective 60 days prior to the initial receipt of waste (for new facilities) or permit renewal.

(iv) The financial assurance mechanisms must be legally valid, binding, and enforceable under State and Federal law.

(v) Section 373-2.8 of this Title provides additional guidance on criteria and wording of financial assurance mechanisms that the department will consider in assessing the acceptability of financial assurance mechanisms.

(vi) No revenue-oriented facility will be allowed to use the financial test or corporate guarantee for closure or post-closure care. *Revenue oriented facility* means any facility for which a majority of both its operating revenues and profits after tax at that facility for the

prior three years and for the current and next year have been and are expected to be attributable to the landfilling of solid waste.

Historical Note

Sec. filed Aug. 5, 1993; amds. filed: April 22, 1994; Sept 27, 1996; Nov. 4, 1999 eff. Nov. 24, 1999. Amended (c)(1)(ii).

§ 360-2.20 Corrective measures report.

The owner or operator must complete a corrective measures report and implement a corrective measures program consistent with this section if any of the parameters listed in the expanded parameter list in section 360-2.11 of this Subpart are detected at a level exceeding the groundwater protection standards specified under section 360-2.11(c)(5)(iii)(*f*) of this Subpart. The requirements of this section do not apply to landfills that stop accepting solid waste prior to October 9, 1993, or to facilities subject to Part 375 of this Title.

(a) *Corrective measures assessment.* (1) If any expanded parameters are detected at a level exceeding the groundwater protection standards specified under section 360-2.11(c)(5)(iii)(*f*) of this Subpart, then the facility owner or operator must notify the department and must begin a corrective measures assessment within 90 days of the detection and complete the corrective measures assessment within a time acceptable to the department.

(2) The facility owner or operator must continue to monitor the facility in accordance with section 360-2.11(c)(5)(iii) of this Subpart.

(3) The corrective measures assessment must include a list of possible corrective measures including, but not limited to closure in accordance with section 360-2.15 of this Subpart and the effectiveness of each method. Each listed corrective measure must include, at a minimum:

(i) the corrective measure's performance, reliability and ease of implementation;

(ii) the corrective measure's potential impacts including at a minimum safety effects, cross-media effects and control of any probable residual contamination;

(iii) the time required to begin and complete each corrective measure;

(iv) the cost of each corrective measure; and

(v) identify any State and local permits or other public health or environmental requirements that may affect the corrective measure implementation.

(4) The facility owner or operator must discuss the corrective measures assessment in a public meeting and with the department before the selection of the corrective measure. A responsiveness summary which addresses comments received at the public meeting must be included with the corrective measures report submitted under subdivision (b) of this section.

(i) The public meeting shall be properly noticed.

(*a*) This shall include a notice in a newspaper having general circulation in the area within which the landfill is located, and a direct mailing to contiguous property owners; and

(*b*) The notice shall be published and mailed not less than two weeks before the meeting; and

(*c*) The notice shall indicate the date, time, place and purpose of the meeting, and the name and address of the landfill owner or the owner's representative.

(b) *Corrective measure selection.* (1) The facility owner or operator must select a corrective measure based on the results of the corrective measures assessment conducted under subdivision (a) of this section. A corrective measures report must be submitted to the department within 14 days after completion of the proposed corrective measures assessment. The report must address the requirements of this subdivision and include the results of the corrective measures assessment, the proposed corrective measures, and a schedule for initiating and completing the corrective measures. The corrective measures report is subject to department approval.

(2) The selected corrective measure must:

(i) protect public health, safety, the environment and natural resources;

(ii) attain the groundwater protection standard established pursuant to section 360-2.11(c)(5)(iii)(*f*) of this Subpart;

(iii) control the sources of releases to the maximum extent practical so as to reduce or eliminate further releases of the contaminants into the environment; and

(iv) comply with other applicable State and Federal requirements.

(3) The facility owner or operator, in selecting a corrective measure, must consider the following factors:

(i) The long-term and short-term effectiveness and protectiveness of the corrective measures.

(ii) The probable success of the corrective measure including, but not limited to closure in accordance with section 360-2.15 of this Subpart, specifically considering the following:

(*a*) the reduction of existing risks;

(*b*) the potential of residual risks due to waste remaining after implementation of the corrective measure;

(*c*) the type and extent of long-term management required, including monitoring, operation and maintenance;

(*d*) short-term risks that might be posed to public health, safety, the environment and natural resources while implementing the corrective measure. This includes any potential threats to human health and the environment that may be associated with excavation, transportation, and redisposal of wastes;

(*e*) time until full protection is achieved;

(*f*) the potential adverse effects on public health, safety, the environment or natural resources resulting from exposure to remaining wastes compared to the potential of such adverse effects associated with further corrective measures;

(*g*) long-term reliability of the engineering and institutional controls;

(*h*) potential need to replace the corrective measure;

(*i*) the compatibility of the corrective measure with department cleanup and pollution-prevention initiatives for nonhazardous solid wastes; and

(*j*) the compatibility of the corrective measure with the solid waste management policy contained in ECL 27-0106.

(iii) The corrective action's effectiveness in preventing the release of additional contaminants. The probable effectiveness of the corrective measure should consider the following:

(*a*) the extent to which containment practices will reduce further releases; and the time period for such reduction; and

(*b*) the extent to which treatment technologies, including *in situ* treatment technologies, may be used.

(iv) The ease or difficulty of implementing a potential corrective measure, specifically considering the following:

(*a*) the difficulty of the construction;

(*b*) operational reliability of the technologies;

(*c*) need to coordinate with and obtain necessary approvals and permits from other agencies;

(*d*) availability of necessary equipment and specialists; and

(*e*) available capacity and location of needed treatment, storage, and disposal services.

(v) The technical and economic resources of the facility owner or operator or available to the facility owner or operator.

(vi) The degree to which community concerns are addressed by a potential corrective measure.

(4) Within 90 days after the selection of a department approved corrective measure, the facility owner or operator must complete and submit to the department an approvable corrective measures work plan, which must include an implementation schedule, for all corrective activities. The work plan must be revised and resubmitted in accordance with the department's comments within 30 days. The owner or operator must consider the following factors in determining the schedule of corrective activities:

(i) the extent and nature of contamination and level of adverse impact that it poses for public health, safety, the environment or natural resources;

(ii) the objectives of the corrective measure and the practical capabilities of corrective technologies in remediating contamination and leading to compliance with the groundwater protection standards specified in this section;

(iii) availability of treatment or disposal capacity for wastes managed during implementation of the corrective measure;

(iv) desirability of using technologies that are not currently available, but which may offer significant advantages over already available technologies in terms of effectiveness, reliability, safety, or ability to achieve corrective objectives;

(v) potential risks to public health, safety, the environment or natural resources resulting from exposure to contamination prior to completion of the corrective measure;

(vi) resource value of the contaminated aquifer, including:

(*a*) whether the aquifer is a primary or principal aquifer or within a public water supply stabilized cone of depression area or within a regulated wetlands, floodplain or other applicable prohibited or restricted siting area as defined in this Part;

(*b*) current and future uses;

(*c*) withdrawal rate of users;

(*d*) groundwater quantity and quality;

(*e*) potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to the waste constituent;

(*f*) hydrogeologic characteristics of the facility and surrounding land;

(*g*) groundwater removal and treatment costs; and

(*h*) cost and availability of alternative water supplies;

(vii) practical capability of the facility owner or operator;

(viii) an evaluation of any interim measures necessary to ensure the protection of human health and the environment. The interim measures should be consistent with the objectives of and contribute to the performance of any corrective measure that may be required under subdivision (b) of this section. The interim measures evaluation must be submitted to the department to determine if interim measures are needed. An interim measures evaluation must consider the following factors:

(*a*) time required to develop and implement a final corrective measure;

(*b*) actual or potential exposure of contaminants to nearby populations or environmental receptors;

(*c*) actual or potential contamination of drinking water supplies, primary or principal aquifers, or sensitive ecosystems or environments;

(*d*) further degradation of the groundwater that may occur if a corrective measure is not initiated expeditiously, including but not limited to direction and rate of contaminant movement in the groundwater flow system;

(*e*) weather conditions that may cause contaminants to migrate or be released or otherwise aid in their transmission;

(*f*) risks of fire or explosion, or potential for exposure to contaminants as a result of an accident or failure of a container or handling system; and

(*g*) other situations that may pose threats to human health and the environment;

(ix) other relevant factors.

(5) The department may determine that the proposed corrective measure for a contaminant parameter is not necessary if the facility owner or operator demonstrates to the satisfaction of the department that:

(i) the groundwater is additionally contaminated by substances that have originated from a source other than the landfill and that those substances are present in concentrations such that cleanup of the landfill would provide no significant reduction in risk to public health, or safety, the environment or natural resources; or

(ii) the groundwater is not currently or reasonably expected to be a source of drinking water; and

(*a*) is not within the critical stratigraphic section or hydraulically connected with waters to which the contaminants are migrating or are likely to migrate in a concentration that would exceed the groundwater protection standards specified in this section;

(*b*) the remediation of the release is technically impractical; or

(*c*) the remediation results in unacceptable cross-media impacts.

(6) A determination by the department under paragraph (5) of this subdivision does not affect the authority of the department to require the facility owner or operator to undertake source control measures or other measures that may be necessary to eliminate or minimize further contamination of groundwater or to mitigate the groundwater to concentrations that are technically practical and significantly reduce threats to human health or the environment, nor does it diminish the department's authority to seek civil or criminal penalties or other damages or relief as part of an enforcement action under State or Federal law.

(c) *Corrective measure implementation.* (1) Once the corrective measure work plan is approved by the department the facility owner or operator must:

(i) establish and implement a corrective measure groundwater monitoring program, approved in advance by the department, that:

(*a*) meets the requirements of section 360-2.11(c)(5)(iii) of this Subpart and any additional condition imposed by the department as part of a permit, administrative order, or court order;

(*b*) indicates the effectiveness of the corrective measure;

(*c*) complies with the groundwater protection standard specified in this section; and

(ii) implement the corrective measure selected under subdivision (b) of this section in accordance with the terms, conditions and schedule set forth in an approved corrective measures work plan; and

(iii) take any interim measures necessary to protect public health, safety, the environment and to ensure the protection of natural resources.

(2) The department may determine that compliance with paragraph (b)(2) of this section is not being achieved through the selected corrective measure. In these cases, the department may require the facility owner or operator to implement other methods or techniques that could practically achieve compliance with paragraph (b)(2) of this section, unless the department makes a determination under paragraph (3) of this subdivision.

(3) If the facility owner or operator determines that they cannot practically achieve the requirements of paragraph (b)(2) of this section with any currently available methods, then the owner or operator must:

(i) submit a justification for the department's approval, which indicates that the requirements under paragraph (b)(2) of this section cannot be practically achieved with any currently available methods;

(ii) implement alternate measures acceptable to the department, to control exposure to humans, wildlife, the environment or other receptors to residual contamination;

(iii) implement any technically practical measures acceptable to the department, for control of the sources of contamination, or for removal or decontamination of equipment, units, devices, or structures that are consistent with the overall objective of the corrective measure; and

(iv) notify the department that the report justifying the alternative measures has been placed in the operating record. The department must be notified within 14 days prior to implementing the alternative measures.

(4) All solid wastes that are managed according to a corrective measure required under this section must be managed in a manner that:

(i) protects public health, safety or welfare, the environment or natural resources; and

(ii) complies with applicable State and Federal requirements and this Part.

(5) Corrective measures selected according to subdivision (b) of this section are considered complete when:

(i) The facility owner or operator complies, to the satisfaction of the department, with the groundwater protection standards specified in this section at all points within the plume of contamination that lie beyond the groundwater monitoring wells system established pursuant to section 360-2.11(c) of this Subpart.

(ii) The facility owner or operator complies with the groundwater protection standards specified in this section. This is demonstrated when concentrations of contaminants required to be measured have not exceeded the groundwater protection standard for three consecutive years using the procedures and performance standards in the environmental monitoring plan under section 360-2.11(c)(5)(i)(*d*) of this Subpart. The department may specify an alternative length of time during which the facility owner or operator must demonstrate that concentrations of baseline and expanded parameters have not exceeded the groundwater protection standard(s) taking into consideration:

(*a*) extent and concentration of the release;

(*b*) behavior characteristics of the contaminants in the groundwater;

(*c*) accuracy of monitoring or modeling techniques, including any seasonal, meteorological, or other environmental variabilities that may affect the accuracy; and

(*d*) characteristics of the groundwater.

(iii) All actions required to complete the corrective measure have been satisfied.

(6) The facility owner or operator must notify the department within 14 days that the corrective measure has been completed according to the requirements of paragraph (5) of this subdivision. The certification must be signed by the facility owner or operator and be approved by the department.

(7) When, upon completion of the certification, the department determines that the corrective measure has been completed in accordance with the requirements under paragraph (5) of this subdivision, then the facility owner or operator shall be released from the requirements for financial assurance for corrective measure under section 360-2.19 of this Subpart.

Historical Note

Sec. filed Aug. 5, 1993; amds. filed: Sept. 27, 1996; Nov. 4, 1999 eff. Nov. 24, 1999. Amended (b).

§ 360-2.21

Historical Note

Sec. filed Sept. 22, 1998; repealed, filed July 1, 2002 eff. 60 days after filing.

SUBPART 360-3

SOLID WASTE INCINERATORS OR REFUSE-DERIVED FUEL PROCESSING FACILITIES OR SOLID WASTE PYROLYSIS UNITS

Sec.

Historical Note

Subpart (§§ 360-3.1—360-3.5) filed Oct. 28, 1988; amd. filed Aug. 5, 1993 eff. Oct. 9, 1993. Amended Subpart title.

§ 360-3.1 Applicability.

(a) *Applicability.* Except as provided in subdivision (b) of this section, this Subpart regulates the construction and operation of solid waste incinerators, refuse-derived fuel processing facilities and solid waste pyrolysis units. In addition, those facilities managing regulated medical waste must comply with the applicable provisions of Subpart 360-17 of this Part. Regulations governing construction and operation of solid waste incinerators for the purposes of air pollution control are set forth in Parts 200, 201, 219, 222 and 257 of this Title.

(b) *Exemptions.* (1) A solid waste incinerator described in section 360-17.1(c) of this Part is exempt from this Part.

(2) Solid waste incinerators existing on December 31, 1988 that have a total design capacity of less than 2,000 pounds of solid waste per hour are exempt from this Part, except that such a solid waste incinerator that combusts regulated medical waste, and is not described in section 360-17.1(c) of this Part, must have submitted an operation plan as described in section 360-17.3(g) of this Part before July 29, 1989.

(c) *Registration.* An energy recovery incinerator or solid waste pyrolysis unit that accepts off-site generated solid waste as alternate fuels is subject to the registration provisions of section 360-1.8(h) of this Part, rather than the permit provisions of this Part, provided such waste is nonhazardous, nonputrescible, recognizable, unadulterated and uncontaminated and:

(1) the storage of solid waste prior to combustion or pyrolysis must be located on surfaces capable of minimizing leachate release into the groundwater underneath the site and surrounding land;

(2) all leachate must be collected and treated by a method approved by the department;

(3) an annual report must be prepared and submitted to the department in accordance with section 360-3.4(f)(3) of this Part; and

(4) representative samples must demonstrate that the alternate fuels have a minimum heating value of 4,000 Btu per pound as-received.

Historical Note

Sec. filed Oct. 28, 1988; amds. filed: Nov. 26, 1991; Aug. 5, 1993; Sept. 27, 1996 eff. 60 days after filing. Amended (b)(2).

§ 360-3.2 Definitions.

The following terms have the following meanings when used in this Subpart:

(a) *Downtime waste* means the amount of waste that cannot be processed due to breakdowns and scheduled or unscheduled maintenance and repairs.

(b) *Nonprocessible waste* means, for a solid waste incinerator, that portion of the municipal solid waste stream which cannot be incinerated due to legal, technical or environmental limita-

tions. Nonprocessible wastes include but are not limited to: batteries, such as dry cell batteries, mercury batteries and vehicle batteries; refrigerators; stoves; freezers; washers; dryers; bedsprings; vehicle frame parts; crankcases; transmissions; engines; lawn mowers; snow blowers; bicycles; file cabinets; air conditioners; hot water heaters; water storage tanks; water softeners; furnaces; oil storage tanks; metal furniture; propane tanks; and yard waste.

(c) *Processible waste* means, for a solid waste incinerator, that portion of the municipal solid waste stream which after being subjected to the maximum feasible recycling requires disposal including, but not limited to: newspaper; junk mail; corrugated cardboard; office paper; magazines; books; kraft; paperboard; other paper; glass containers (non-deposit); steel cans (non-deposit); aluminum cans (non-deposit); other glass; ferrous and non-ferrous metals; plastics; rubber; textiles; and leather from residential, commercial, and institutional sources only; wood; food wastes; and other combustible portions of the municipal solid waste stream as approved by the department.

(d) *Pyrolysis* means a process using applied heat in an oxygen-deficient or oxygen-free environment for chemical decomposition of solid waste. For purposes of this Part, any by-products or residues of pyrolysis are not considered refuse-derived fuel. Residues remaining after pyrolysis must be managed pursuant to the provisions of section 360-3.5 of this Subpart.

Historical Note

Sec. filed Oct. 28, 1933; renum. 360-3.3, new filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-3.3 Application requirements for a permit to construct and operate.

In addition to the requirements set forth in Subpart 360-1 of this Part, an application for a permit to construct (which for the purposes of this Subpart includes start-up) and operate a solid waste incinerator or refuse-derived fuel processing facility or solid waste pyrolysis unit must contain the following:

(a) *Engineering report.* An engineering report that, in addition to the requirements of section 360-1.9(e) of this Part, must include the following:

(1) A general description of the overall process and functional description of all equipment to be used, with design criteria, anticipated performance, and process flow diagrams.

(2) Pertinent facts and calculations relating to the development of the material and energy balances.

(3) A description of the proposed service area.

(4) Identification of sufficient support equipment to maintain operation of equipment functions.

(5) A general description of the facility operation which includes:

(i) a sequential description of the major components used for the treatment of the solid waste, starting from its delivery at a weigh scale and continuing through the residue and ash residue treatment and loading operations;

(ii) procedures for facility start-up, scheduled and unscheduled shutdowns;

(iii) a description of how the operator will utilize the process and instrumentation controls for start-up and shutdown operation;

(iv) a description of the internal communications system;

(v) a description of potential safety hazards and methods of control, including but not limited to, arrangements to detect explosion potential and equipment installed to minimize the impact of explosion;

(vi) a description of methods which will be used to minimize vectors, noise, dust, litter, blowing debris and odors;

(vii) a description of the ash residue system and ash residue removal procedures in case of a mechanical system breakdown (in the case of facilities utilizing a wet ash system, drag conveyors must be of sufficient length and incline to remove free liquid);

(viii) a description of the method of solid waste removal from the feed hopper or mechanism in case of mechanical system breakdown; and

(ix) a description of the methods and equipment to recover materials, if provided.

(6) A description of the processible waste proposed to be treated, processed or disposed of for the initial year and annually for the projected life of the facility, including estimates of the quantity and composition of the current waste stream, demographic projections and future per capita waste generation rates, facility downtime, the need to account for seasonal variations, the success of waste reduction and recycling programs, and the Btu value of the waste stream that will be incinerated.

(7) A description of the storage methods to be used at the facility, including:

(i) Solid waste or refuse-derived fuel must be stored inside an enclosed structure or building which provides a minimum of three days storage capacity of solid waste and/or refuse-derived fuel, considering both volume (cubic yards) and weight (tons), at the installed design capacity of the facility.

(ii) Except for solid waste incinerators which combust only nonputrescible solid waste, the solid waste storage area and tipping area must be designed to contain a negative air pressure, compared to atmospheric conditions, when the facility is in operation.

(iii) The solid waste storage area and tipping area must include fire-detection and protection equipment, and must be separated from the solid waste combustion or pyrolysis equipment by a wall.

(8) A summary of the utility requirements, including:

(i) an estimate of the type, quantity, and on-site storage of fuels needed for the facility;

(ii) estimates of steam generated and used on-site in terms of pressure, temperature and pounds per hour;

(iii) estimates of the total electric power consumed and generated on-site in kilowatts; and

(iv) estimates of water used for cooling, quench, sanitary and processing, including that which is, or may be, recycled or treated.

(9) Estimates of stormwater runoff and drainage and construction dewatering, and a description of its use or disposal, including point of discharge.

(10) A list and description of all authorizations, permits and approvals that may be required for this facility, including but not limited to, those from the department, other State agencies, federal agencies, local governments, the Adirondack Park Agency, agricultural districts, and those from the fire equipment insurance underwriter (*e.g.,* Insurance Service Organization, Factory Mutual) and electric utility.

(11) A description of the facility's equipment. A solid waste incinerator facility must have at least three separate solid waste process trains capable of being operated independently of each other. However, an alternative number of process trains may be approved if it can be demonstrated to the department's satisfaction that, there would be a significant increase in capital and operating costs that would outweigh the benefits associated with the installation of three process trains, and that other provisions are made to minimize downtime and bypass waste, and to ensure that the facility does not create economic incentives for diverting solid wastes from recycling.

(12) A description of the auxiliary power to be provided and sized to enable emergency shutdown of the facility to occur.

(13) A description of the pertinent economic information, including:

(i) an estimate of annual tipping fees over the projected life of the facility, considering the economic impacts for achieving the goals of the recyclables recovery program under section 360-1.9(f) of this Part; and

(ii) this economic analysis must project, for each year of the anticipated life of the project, the minimum solid waste that must be treated at the facility.

(b) *Engineering plans and specifications.* The following are required in addition to the requirements of section 360-1.9(e) of this Part:

(1) An identification of the vendor and supplier of the combustion equipment.

(2) Engineering plans that contain information on known site conditions and projected site utilization. The engineering plans must show general dimensions of the proposed structures and identify the overall process.

(i) the site plan must show the facility's property boundaries; site acreage; distances from adjacent residences, property owners and population centers; off-site utilities such as electric, gas, water, storm, and sanitary sewer systems; a north arrow; site topography; the location of screening provided, regulated wetlands, rights-of-way, surface water conditions, floodplains, buildings, appurtenances, fences, gates, roads, staging areas, parking areas, drainage culverts and signs; location of soil borings, if available; transportation systems in the vicinity of the facility including, but not limited to, airports, railways, and ports; the location and identification of special waste handling and storage areas; and a wind rose;

(ii) general plan and cross-sectional views of the facility, which must include: the storage area for the solid waste, equipment locations and configurations, air supply ductwork locations, ash residue collection, handling, and storage systems; and

(iii) plans that contain a process flow diagram or diagrams to illustrate the complete material and process sequence. They must depict all major equipment associated with the processing, heating, cooling, transportation, and storage of all material flow streams that can be anticipated for the facility and must include air, water, solids and energy balances. The material flow streams must show all inputs and outputs and be characterized by the following process variables:

(*a*) average flow rates, including temperature and pressure, as measured by weight or volume per unit of time; and

(*b*) energy balances, which must include the maximum, average, and minimum heat content (measured in Btu's per pound) for all input and output material for any equipment that changes the heat content of these streams. Energy converted, transferred or released as heat must be indicated in Btu's per hour. All major sources of heat input and loss must be noted. Electrical energy either generated or used must be shown in kilowatt hours, with average use and peak demands shown.

(3) Performance specifications for all major equipment.

(4) Proposed project construction schedules. Schedules must incorporate specific information essential for monitoring a project's progress. Time requirements must be shown for design and engineering, construction milestone dates, equipment deliveries, and the start and completion dates of construction. Following issuance of a permit, progress reports must be submitted quarterly to the department indicating the percentage of work completed.

(c) *Comprehensive recycling analysis.* A comprehensive recycling analysis as required by, and prepared in accordance with, section 360-1.9(f) of this Part.

(d) *Landfill.* Ninety days prior to the anticipated facility start-up date, the applicant must identify each landfill that the applicant plans to use for the disposal of the ash residue, downtime waste, and bypass waste. Such landfill or landfills must, in the aggregate, have capacity sufficient to receive all ash residue, downtime waste and bypass waste from the proposed facility for five years from the anticipated facility start-up date.

(1) Each such landfill must be either:

(i) owned by the applicant, be in operation, and be authorized by the department or other appropriate regulatory agency to operate, and have the capacity to accept ash residue, downtime waste, or bypass waste from the solid waste incinerator or refuse-derived fuel processing facility or solid waste pyrolysis unit for five years after the anticipated operation start date; or

(ii) owned by another person, be in operation, be authorized by the department or other appropriate regulatory agency to operate, and have the capacity to accept the ash residue,

downtime waste, or bypass waste from the solid waste incinerator or refuse-derived fuel processing facility for five years after the anticipated operation start date. A commitment for the use of this landfill must be submitted in the form of a contract for a term of five years from the anticipated operation start date.

(2) The requirements for landfill capacity to accept the downtime waste and/or bypass waste may be waived if contractual arrangements can be executed with one or more existing solid waste management facilities for the acceptance of such waste, provided such facilities have the capacity to accept such waste from the solid waste incinerator or refuse-derived fuel processing facility or solid waste pyrolysis unit for a period of five years from the anticipated operation start-up date. The committed use of solid waste management facilities must be in the form of a contract for a term of five years.

(3) Transition. The landfill identification requirements of this subdivision shall apply to: permits to construct and operate solid waste incinerators, refuse-derived fuel processing facilities or solid waste pyrolysis units that were issued before the effective date of this Part;, applications for permits to construct and operate such facilities that were pending before the department on the effective date of this Part; and new applications to construct and operate such facilities that are submitted to the department on or after the effective date of this Part.

(e) *Final disposition of refuse-derived fuel.* Prior to the issuance of the permit to construct and operate, the applicant must inform the department of the market arrangement for the final disposition of the refuse-derived fuel. This arrangement must be in the form of a contract with a facility for a minimum period of two years from the anticipated facility start-up date. Such facility must be authorized by the department or other appropriate regulatory agency to operate and must have the capacity to combust the refuse-derived fuel.

(f) *Facility operation and maintenance manual.* In addition to the requirements set forth in Subpart 360-1 of this Part, an application for a permit to construct and operate a solid waste incinerator or refuse-derived fuel processing facility or solid waste pyrolysis unit must include a draft operation and maintenance manual containing the following:

(1) Facility operation manual. This manual must establish operating parameters that will enable the facility to achieve a goal of at least 85 percent equipment availability and minimize downtime and bypass solid waste. The facility operation manual must include the following:

(i) a description of the proposed operation procedures for each major facility component;

(ii) procedures to be followed during start-up and scheduled and unscheduled shutdown of operations;

(iii) identification of the operating variables for the process and any control devices used to detect a malfunction or failure, the normal range of these variables, and a description of the method of monitoring; and the sequence of responsible action in the event that the equipment and instruments exceed normal operating ranges;

(iv) methods and schedules to check operation of control equipment and instrumentation, exclusive of emission monitoring equipment, including a list of all equipment and instruments requiring calibration and a schedule of proposed calibration intervals. All process instruments must be calibrated at least once per year. Process control instruments must be maintained in an operable condition;

(v) a description of the proposed measures to control dust, noise, litter, odor, rodents and insects at the facility;

(vi) a description of the proposed measures to handle incoming solid waste flow during periods of emergencies, equipment breakdown, or facility shutdown;

(vii) an inventory and location of all facility records and as-built drawings;

(viii) other items, as identified by the department, that are specific to the individual facility due to its location, technology, or delivered solid waste (such as processing and handling of regulated medical waste or other waste not authorized by the department to be received at the facility); and

(ix) schedules for anticipated repairs; major equipment replacement; and list of equipment dealers to supply standby or emergency equipment.

(2) Operation and maintenance manual submission review. (i) The operation and maintenance manual must be submitted to the department for review and approval not less than 90 days before any solid waste is received by the facility.

(ii) A final operation and maintenance manual must be approved by the department before any solid waste is received by the facility.

(iii) An updated manual must be submitted to the department for review and approval with each application for a renewal of the permit under this Part.

(iv) Any substantial changes made to the department-approved operation and maintenance manual must be forwarded to the department.

(g) *Personnel training plan.* (1) This plan must describe how all facility personnel will complete a program of classroom instruction and/or on-the-job-training that teaches them to perform their duties in a way that ensures the facility's compliance with the requirements of this Part, and for processing and handling of nonprocessible waste, regulated medical waste, and solid waste not authorized by the department to be received at the facility.

(2) This plan must identify the personnel who will be trained in the procedures, equipment, and processes at the facility. The training must include instruction that teaches facility personnel solid waste management procedures (including contingency plan implementation) relevant to the positions in which they are employed.

(3) The plan must be designed to ensure that facility personnel are able to respond effectively to emergencies by familiarizing them with emergency and safety equipment, emergency procedures and emergency systems. The plan must include, where applicable:

(i) procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment;

(ii) key parameters for automatic waste feed cutoff systems;

(iii) communication or alarm systems;

(iv) response to fires or explosions;

(v) response to groundwater contamination incidents;

(vi) start-up and shutdown of operations; and

(vii) identifying nonprocessible solid waste or solid waste not authorized by the department to be received at the facility.

(4) Facility personnel must successfully complete the personnel training requirements of this Subpart within six months after the date of their employment or assignment to a facility. Employees hired after the effective date of this Part must not work in unsupervised positions until they have completed the training requirements of subdivision 360-3.3(g) of this Part.

(5) Facility personnel must take part in an annual review of the training required in subdivision 360-3.3(g) of this Part.

(6) The following records must be maintained at the facility.

(i) the title for each position related to solid waste management, the name of the employee filling each position, and a written job description for each title. This description must include the requisite skill, education, qualifications, and duties of employees assigned to each position;

(ii) a written description of the type and amount of both introductory and continuing training that will be given to each person who fills a position listed under subparagraph (i) of this paragraph; and

(iii) documentation that the training or job experience required under subdivision 360-3.3(g) of this Part has been given to, and completed by, facility personnel.

(7) Training records on current personnel must be kept until closure of the facility; training records on former employees must be kept for at least three years from the date the employee

last worked at the facility. All records must be available for inspection by appropriate department personnel.

(8) The on-site operation of a solid waste incinerator which combusts mixed solid waste subject to the requirements of this Subpart must be directed by a person who is certified pursuant to American Society of Mechanical Engineers Qualification and Certification of Resource Recovery Facility Operators (ASME-QRO).

(h) *Facility maintenance, monitoring and inspection plan.* A facility maintenance, monitoring and inspection plan, which in addition to the matters identified in section 360-1.14(h) of this Part, includes:

(1) A description of the monitoring and inspection to be undertaken at the facility to discover and correct equipment malfunctions or deteriorations, operator errors, and discharges that may threaten the environment or human health.

(2) A schedule for inspecting all aspects of the facility necessary to ensure maximum facility availability. The frequency of inspection must be based on the projected rate of equipment deterioration or malfunction, and the probability of failure between inspections. Areas of the facility subject to spills and areas in which adverse environmental or health consequences may result if breakdown occurs, must be inspected daily when in use.

(3) A schedule for inspection of: safety and emergency equipment, security devices, operating process equipment and structural aspects of the facility. The plan must identify the types of problems to be looked for during the inspection; the frequency of inspections, and the minimum standards of acceptability where applicable.

(4) A list of chemicals, including quantities to be used at the facility, amounts to be stored, location of storage, and safety procedures for handling and storage.

(5) Schedules for anticipated repairs and major equipment replacement; and a list of equipment dealers to supply standby or emergency equipment.

(6) At least annually, a general facility inspection must be undertaken to determine the operating condition of the safety, emergency, security, process, and control equipment. This annual inspection must be performed under the direction of an individual licensed to practice engineering in the State of New York. This individual must prepare a summary report of the inspection which must be submitted to the department's central office and the office of the department administering the region within which the facility is located, as part of the annual facility report (see section 360-3.4[f][3] of this Subpart).

(i) *Staffing plan.* A written plan that will demonstrate adequate staffing of essential positions whenever the facility is operational.

(j) *Waste control plan.* (1) A waste control plan that, in addition to addressing the matters contained in section 360-1.14(f) of this Part:

(i) Ensures that the facility receives and treats only household waste, nonhazardous commercial waste, nonhazardous industrial waste, and solid waste specifically authorized by the department to be treated at the facility.

(ii) Describes the contents of a solicitation letter and questionnaire that must be mailed to all known industries whose solid waste will be sent to the facility, requesting the name of their solid waste haulers, the name of the finished product, the names of chemicals used or wastes generated to produce such products and the wastes to be delivered to the proposed facility. The letter and questionnaire must be mailed at least three months before start-up of the facility and must be remailed no less frequently than every five years thereafter. This letter and questionnaire must also be mailed to commercial establishments and institutions that are reasonably expected to produce solid waste not authorized by the department to be treated at the facility.

(iii) Provides a program to identify, control, separate out, record, and prevent nonprocessible waste and solid waste not authorized by the department from being accepted and/or treated at the facility. The plan must include a description of how these wastes will be handled and disposed of if received at the facility and provisions to notify the department

within the quarterly monitoring report of receipt and disposal of such wastes. The waste control plan must also identify the personnel trained for this purpose. No facility will be allowed to start-up unless a waste control plan has been submitted to the department.

(iv) Ensures a program, acceptable to the department, is developed and implemented to identify, control, separate, and dispose of nonprocessible waste. Such a program must include:

(*a*) a location at the facility for the separation and storage of nonprocessible waste;

(*b*) contractual requirements or other appropriate notification and inspection procedures to minimize the quantity of nonprocessible waste received at the facility;

(*c*) provide that a sign must be conspicuously posted at the entrance to the facility which states that nonprocessible waste must be separated from solid waste and placed at a designated storage area.

(v) Ensures a program, acceptable to the department, is developed and implemented for detecting and preventing the disposal of regulated hazardous wastes at the facility. This program must include, but not be limited to:

(*a*) random inspections of incoming loads;

(*b*) inspections of suspicious loads;

(*c*) records of inspections;

(*d*) training of facility personnel to recognize regulated hazardous waste;

(*e*) procedures for notifying the proper authorities if a regulated hazardous waste is discovered at the facility; and

(*f*) a minimum of one random inspection of a solid waste delivery vehicle per day.

(2) Other nonhazardous solid waste (which may include regulated medical waste that may be processed in a solid waste incinerator in accordance with the Certificate to Operate issued pursuant to Part 219 of this Title, industrial waste, and sewage sludges) may be accepted at a solid waste incinerator, refuse-derived fuel processing facility, or solid waste pyrolysis unit. Such waste may be accepted if: specifically authorized by permit; transported to the facility in a manner acceptable to the department; and if appropriate personnel protection and solid waste handling procedures are employed. These procedures may include:

(i) separate handling of untreated regulated medical waste from other solid waste received, and special handling of treated regulated medical waste at the facility;

(ii) securely wrapping or containerizing such waste to prevent exposing personnel or the environment to the contents;

(iii) direct unloading of untreated regulated medical waste into the incinerator;

(iv) producing an ash residue that will comply with the provisions of section 360-3.5(c)(3) of this Subpart. A solid waste incinerator not producing ash residue meeting these requirements is prohibited from further combusting such waste until the operator can demonstrate to the department's satisfaction that such waste can be combusted producing an ash residue that will comply with the provisions of section 360-3.5(c)(2)(i)(*c*) of this Subpart;

(v) identification of safety procedures for employees that are required to work with such waste; and

(vi) regulated medical waste treatment, storage, transfer, destruction, and disposal must be in accordance with the requirements of Subparts 360-10 and 360-17 of this Part.

(k) *Contingency plan.* In addition to the requirements set forth in section 360-1.9(h) of this Part, the plan must include, but not be limited to the following:

(1) Scope. The contingency plan must minimize hazards to human health and the environment resulting from fires, explosions, or releases into the air, onto the soil, or into groundwater or surface water.

(2) Contents. The contingency plan must describe the actions facility personnel must take in response to a fire, explosion, or releases which could threaten human health or the environment, and actions to be taken if the facility is shutdown for more than 24 hours.

(3) A copy of the contingency plan and all revisions to this plan must be maintained at the facility; and copies must be submitted to all local police departments, fire departments, hospitals, State and local emergency response teams that may be called upon to provide emergency services. The operator must assure that the provisions of this plan are carried out in the event of an incident covered by it.

(4) Any amendments to this plan must be submitted to the department. This plan must be immediately amended whenever:

(i) it fails to provide information to respond to an emergency situation;

(ii) the facility changes in its design, construction, operation, maintenance or other circumstance in a way that materially increases the potential for fires, explosions, or releases of pollutants or changes the response necessary in an emergency;

(iii) the list of emergency coordinators changes; or

(iv) the list of emergency equipment changes.

(l) *Closure plan.* In addition to the closure requirements of section 360-1.14(w) of this Part, the closure plan must also identify the steps necessary to close the facility. The plan may be amended at any time during the active life of the facility with department approval. The plan must be amended whenever changes in operating plans or facility design affect the closure plan, or whenever there is a change in the expected year of closure.

(1) The owner or operator must notify the department in writing at least 180 days before the date the facility is expected to begin closure. No solid waste may be received after the date of closure.

(2) Within 30 days after receiving the final quantity of solid waste, the owner or operator must remove from the site, or properly dispose of on-site, all solid waste and ash residue in accordance with the approved closure plan.

(3) The owner or operator must complete closure in accordance with the approved closure plan within 180 days after receiving the final quantity of solid waste.

(4) When closure is completed, the owner or operator must submit to the department, certification, by an individual licensed to practice engineering in the State of New York and retained by the operator or owner, that the facility has been closed in accordance with the approved closure plan.

(m) *Additional requirements.* In addition to the requirements of this section, an application for a permit to construct and operate a solid waste incinerator must comply with the ash residue requirements of section 360-3.5 of this Subpart.

(n) *Operation and maintenance manual submission review.* (1) A draft operation and maintenance manual must be submitted to the department for review and approval with an application for a permit to construct and operate the facility.

(2) A final operation and maintenance manual must be submitted to, and approved by, the department before any solid waste is received by the facility.

(3) An updated operation and maintenance manual must be submitted to the department for review and approval with each application for renewal of the permit under this Part.

Historical Note

Sec. filed Oct. 28, 1988; amd. filed Nov. 26, 1991; renum. 360-3.3(f); new added by renum. and amd. 360-3.2, filed Aug. 5, 1993; amd. filed Nov. 4, 1999 eff. Nov. 24, 1999. Amended (j)(1).

§ 360-3.4 Operational requirements.

All solid waste incinerators or refuse-derived fuel processing facilities or solid waste pyrolysis units subject to this Subpart must operate in compliance with the following:

(a) *Operation and maintenance manual.* All activities at the facility must be performed in accordance with a department-approved Operation and Maintenance Manual, which includes all plans and programs required by this Part. The operation and maintenance manual, and all plans and programs required by this Part must be maintained and be available for reference and inspection at the facility. The operation and maintenance manual must be updated no less frequently than the duration of the permit.

(b) *Receipt and handling of solid waste.* (1) The facility shall not knowingly accept types of solid waste that are not authorized by the department. All solid waste received at the facility, and residues, ash residues, bypass waste, nonprocessible waste, and waste not authorized by the department, leaving the facility, must be weighed and recorded and the results must be incorporated into the quarterly report.

(2) All solid waste delivered to the facility must be processed and contained within a completely enclosed area to minimize the effects of weather, wind and precipitation. Unless specifically authorized by the department, solid waste stored on-site must be confined to the storage area designed in accordance with section 360-3.3(a)(7) of this Subpart. In no case shall the solid waste stored on-site exceed seven times the approved daily design capacity.

(3) External storage of putrescible solid waste is prohibited. Solid waste identified as nonputrescible recyclables or oversized, bulky, or nonprocessible solid waste may be temporarily stored outside the facility for a period not to exceed one week unless an extension is authorized by the department.

(4) All rejected, oversized, bulky, nonprocessible, and bypass waste that is not recyclable must be disposed of at a department-approved facility if located within the State, or an authorized facility if located out-of-state.

(c) *Drainage.* The site and facility must have adequate drainage and be free of standing water.

(d) *Process changes.* The department must be notified of all process changes before they are implemented. Permit modification procedures are discussed in sections 360-1.8(e) and 360-1.9(c) of this Part.

(e) *Access.* The operator must restrict the presence of, and must minimize the possibility for any unauthorized entry onto the facility. A description of the security measures must be provided and must include, but not be limited to, a means to control entry at all times through the gates or other entrances to the facility (as by a 24-hour surveillance system which continuously monitors and controls entry, or an artificial or natural barrier). Signs, legible from a distance of at least 25 feet, that read "VISITORS AND UNAUTHORIZED PERSONNEL MUST REPORT TO THE OFFICE" also must be posted at each entrance to the facility, and at other locations, in sufficient numbers to be seen from any approach to the facility.

(f) *Reporting.* In addition to the requirements of sections 360-1.4(c) and 360-1.14(j) of this Part, all facilities must:

(1) Immediately notify the department's solid waste engineer in the departmental region in which the facility is located, if an unscheduled total facility shutdown exceeds 24 hours. A written confirmation letter describing the incident that resulted in the unscheduled shutdown, and an assessment of any impacts of the shutdown, including the disposition of any solid waste that was diverted from the facility due to the shutdown, must be sent to the regional solid waste engineer within 15 days of the incident.

(2) Prepare and file a quarterly report, compiled for each month, in a form provided by or acceptable to the department. Copies of the report must be sent to the department's central office and the office of the department administering the region within which the facility is located, within 60 days after the end of each quarter.

(3) Prepare and file with the department's central office and the departmental region within which the facility is located, an annual report in a form provided by, or acceptable to, the department within 60 days after the last day of the calendar year for which the report is being prepared.

(g) *Preparedness and prevention.* In addition to the requirements, set forth in the contingency plan in section 360-3.3(k) of this Subpart, all facilities subject to this Subpart must, at a minimum:

(1) Be equipped with the following:

(i) an internal communications system capable of providing immediate emergency instruction to facility personnel, and an alarm system to notify facility personnel of an emergency condition;

(ii) a device, such as a telephone (immediately available at the scene of operations) or a hand-held two-way radio, capable of summoning emergency assistance from local police departments, fire departments, and State or local emergency response teams;

(iii) portable fire extinguishers, fire control equipment (including special extinguishing equipment, such as that using foam, inert gas, or dry chemicals), and spill control equipment;

(iv) water available at adequate volume and pressure to supply water hose streams, foam producing equipment, automatic sprinklers, or water spray systems; and

(2) Test and maintain as necessary to assure its proper operation, all facility emergency equipment, including, but not limited to communications or alarm systems, and fire protection, spill control, and personal safety equipment.

(3) Provide all personnel involved in the facility operation with immediate access to an internal alarm or emergency communication device.

(4) Provide for an emergency coordinator.

(i) At all times during facility operation, there must be at least one employee with the responsibility for coordinating all emergency response measures who is either on the facility premises or available to respond to an emergency by reaching the facility within a short period of time. This emergency coordinator must be thoroughly familiar with all aspects of the contingency plan, all operations and activities, the location and characteristics of the solid waste, the location of all records, and the facility layout. In addition, this employee must have the authority to commit the personnel, equipment, and financial resources needed to implement the contingency plan.

(ii) Whenever there is an emergency situation, the emergency coordinator must immediately ensure that internal facility alarms or communication systems are activated to notify all facility personnel and, if their help is needed, all appropriate State or local agencies with designated response roles.

(iii) If the emergency coordinator determines that the facility has had a fire or explosion which could threaten human health or the environment beyond the facility, must be reported by the emergency coordinator to the appropriate officials outlined in the contingency plan.

(iv) During an emergency, the emergency coordinator must take all reasonable measures necessary to ensure that fires and explosions, do not occur, recur, or spread into other areas of the facility. These measures must include, where applicable, stopping equipment and operations, collecting and containing solid waste, and removing or isolating containers.

(v) If facility operations cease in response to a fire or explosion, the emergency coordinator must monitor for leaks, pressure buildup, gas generation or ruptures in valves, pipes, or other equipment, wherever this is appropriate.

(vi) Immediately after an emergency, the emergency coordinator must provide or arrange for treatment, storage or disposal of solid waste, contaminated soil or water, and any other material at the facility.

(vii) The emergency coordinator must ensure that cleanup procedures are completed and emergency equipment, listed in the contingency plan, is cleaned and prepared for its intended use, if required. The owner or operator must notify the department and appropriate State and local officials when the facility is to resume operations in the affected areas.

(viii) The owner or operator must note in the operating record and the quarterly report, the time, date, and details of any incident that requires implementing the contingency plan

and must submit a written report to the department's central office and the office of the department administering the region within which the facility is located within 15 days of the incident. The report must include:

(*a*) the name, address and telephone number of the operator and the facility;

(*b*) the date, time, and type of incident (*e.g.*, fire, explosion, etc.);

(*c*) the type and quantity of materials involved;

(*d*) the extent of injuries, if any;

(*e*) an assessment of actual or potential hazards to human health or the environment, where this is applicable;

(*f*) the estimated quantity and disposition of solid waste, liquids, or material recovered that resulted from the incident; and

(*g*) the procedures or equipment available to prevent a recurrence of the reported event.

Historical Note

Sec. filed Oct. 28, 1988; amd. filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-3.5 Ash residue requirements.

(a) *General.* The following types of ash residue are subject to the requirements of this section:

(1) Ash residue generated by solid waste incinerators providing energy recovery from mass burning of solid waste and burning of refuse-derived fuel, are regulated by this Part provided that:

(i) the facility:

(*a*) receives and combusts only:

(*1*) household waste;

(*2*) solid waste from commercial or industrial sources that does not contain hazardous waste;

(*3*) other nonhazardous solid waste (including regulated medical waste); and

(*b*) does not accept hazardous waste;

(ii) the permittee has established contractual requirements or other appropriate notification or inspection procedures to assure that hazardous waste is not received at or combusted in such facility.

(2) That generated from the incineration of household waste only, without energy recovery.

(b) *Additional requirements.* Ash residue generated by solid waste incinerators that receive and combust solid waste other than identified in subclause (a)(1)(i)(*a*)(*1*) of this section and do not recover energy, are subject to the procedures for identifying the ash residue generated at the facility as hazardous waste under this Title. If this ash residue is not subject to regulation under Parts 370 through 373 of this Title, the ash residue must be managed in accordance with provisions of this section.

(c) *Testing requirements.* (1) The permittee must separately test the bottom ash and the fly ash unless the fly ash and bottom ash are combined, in which case, the combined ash must be tested in accordance with procedures established by the department.

(2) The permittee must conduct testing of the ash residues as follows:

(i) A representative sample of ash residue must be tested for volatile matter on a weekly basis, or other such period authorized by the department:

(*a*) testing for volatile matter must begin within seven days after commencement of operation;

(*b*) testing must be performed in accordance with the test procedures for *Total Fixed and Volatile Solids in Solid and Semisolid Samples* as published in *Methods or Chemical Analysis of Water and Wastes,* USEP A-600/4-79-020, March 1979, revised March 1983 (see section 360-1.3 of this Part).

(*c*) Ash residue must contain less than 10 percent volatile matter by weight.

(*d*) If the ash residue contains more than 10 percent volatile matter as measured by the test identified in clause 360-3.5(c)(2)(i)(*b*) of this Part, the permittee must prepare a plan identifying a schedule of actions to be undertaken to achieve less than 10 percent volatile matter in the ash residue. This plan must be submitted to the department central office and department regional office in which the facility is located within 30 days after the receipt of the sample test results.

(*e*) The test results of all such tests must be incorporated into the quarterly report. Records must be maintained in accordance with subdivision 360-1.14(i) of this Part.

(ii) Ash residue must be tested for leaching potential upon exposure to acid and nonacid conditions, and for compositional analysis. Testing must begin within one month following the commencement of operation, and must continue semiannually thereafter.

(d) *Testing procedures.* (1) Semiannual testing must be performed in accordance with a department-approved sampling and analysis plan. This Plan shall identify both the sample collection and analytical protocols that must be used to obtain a representative sample of ash residue. This plan must reflect the appropriate scientific criteria for sampling and analysis; considering the heterogeneous characteristics of solid waste to be combusted and ash residue, including seasonal variations, in the constituents of such solid waste and ash residue.

(2) The sampling and analysis plan must include procedures and techniques for:

(i) sample collection;

(ii) sample preservation and shipment;

(iii) analytical procedures for determining leaching potential of arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver upon exposure to both acid and nonacid liquids;

(iv) analytical procedures for analysis of the total content of the following; arsenic, beryllium, barium, cadmium, chromium (total and hexavalent), copper, lead, mercury, nickel, silver, zinc, calcium, iron, silicon, tin, aluminum, chloride, sulfate, and any other parameters determined by the department to be necessary;

(v) chain of custody control;

(vi) means of assuring consistency and quality in laboratory procedures and results; and

(vii) results of the semiannual testing must be submitted to the department central office and departmental region within which the facility is located no later than 60 days after the last date of sample collection.

(e) *Management requirement.* The ash residue covered by this section is limited to bottom ash that is managed separately, fly ash which is managed separately, combined fly ash and bottom ash, fly ash treated in accordance with paragraph (g)(4) of this section, and ash residue disposed of with mixed solid waste.

(f) *Ash residue management plan.* (1) All applications for permits to construct and operate solid waste incinerators must include an ash residue management plan.

(2) This plan must describe the methods, equipment, and structures necessary to prevent the uncontrolled dispersion of ash residue, considering potential pathways of human or environmental exposure, including but not limited to inhalation, direct contact, and potential for groundwater and surface water contamination.

(3) The ash residue management plan must address the generation, handling, storage, transportation, treatment, and disposal or use of ash residue as described in this Subpart.

(4) Generation. The plan must estimate the quantity of bottom ash, fly ash or combined ash generated from the facility on a daily basis. This estimate must identify and quantify those

components of ash residue that can potentially be segregated for reuse/recycling before disposal.

(5) Handling. The permittee must design, construct, operate, and maintain ash handling systems that ensure ash residue (whether bottom ash, fly ash or combined ash) is properly wetted or contained to ensure that dust emissions are controlled during on-site and off-site storage, loading, transport, and unloading. The ash residue must be wet enough so that the surface of the ash remains damp after unloading at a landfill.

(6) Storage. The permittee must provide sufficient on-site ash residue storage capacity to ensure that facility operations continue during short term interruptions of ash residue transportation and/or disposal. The quantity of residue stored on-site must be limited to no more than seven times the daily design output. Residue stored on-site may be either:

(i) stored in watertight, leak resistant containers located inside a building or enclosed structure. All containers must allow free liquid to drain from the ash residue during the loading process. Liquid drained during this process must be collected and, if discharged, must meet appropriate discharge limits. Loaded containers may be stored outside of a building or enclosed structure if all free liquid has been drained and the container is sealed and covered to prevent rainwater infiltration or airborne emissions; or

(ii) stored on-site in a waste pile which is located in an enclosed structure. The residue must be placed on an impermeable base. A run-off management system must be provided to collect and control the free liquid that is allowed to drain from the ash residue.

(7) Ash residue transportation. Ash residue must be drained of free liquid before transport. Ash residue transportation containers or vehicles must be watertight and leak resistant, and must be designed and constructed such that any closures at or near the bottom are sealed to prevent leakage under normal transportation conditions. Closures must be fitted with gaskets or materials that will not be deteriorated by the ash. The transport vehicle must be enclosed or covered to prevent the top surface of the load from becoming dried, resulting in fugitive emissions during transport.

(g) *Disposal.* (1) The residue management plan submitted pursuant to subdivision 360-3.5(f) of this Subpart must identify the landfill or landfills that will receive the ash residue from the facility.

(2) Fly ash must be disposed of in a monofill having a double composite liner system constructed in accordance with section 360-2.14(b)(2) of this Part.

(3) Except as provided in paragraph (5) of this subdivision, ash residue other than fly ash must be disposed of in any of the following disposal methods:

(i) Except in Nassau and Suffolk Counties, fly ash treated in a manner consistent with paragraph (4) of this subdivision (called, for purposes of this subdivision, "treated fly ash"), combined ash, or bottom ash may be co-disposed with solid waste in a landfill having a double composite liner system constructed in accordance with section 360-2.13 of this Part.

(ii) Except in Nassau and Suffolk Counties, treated fly ash, combined ash, bottom ash, or any combination of same, may be disposed of in a monofill having a single composite liner system constructed in accordance with section 360-2.14(b)(1) of this Part.

(iii) In Nassau and Suffolk Counties, ash residue (including treated fly ash), whether or not co-disposed with other ash residue or with other solid waste, must be disposed of in one or more of the following:

(*a*) In an existing landfill (as that term is defined in section 360-8.2 of this Part), provided that its construction must satisfy the requirements of section 360-8.3(e) or 360-2.14(b)(2) of this Part;

(*b*) In a landfill expansion (as that term is defined in section 360-8.2 of this Part). However, no such waste may be disposed of in an expansion in a deep-flow recharge area (as that term is defined in ECL 27-0704). In the case of an expansion constructed before December 31, 1988, the construction must satisfy the provisions of either section 360-8.3(e) or 360-2.14(b)(2) of this Part. In the case of an expansion constructed on or

after the effective date of this Part, the construction must satisfy the provisions of section 360-2.14(b)(2) of this Part.

(c) In a new landfill (as that term is defined in section 360-8.2[d] of this Part) outside the deep-flow recharge area. In the case of a new landfill constructed before the effective date of this Part, the construction must satisfy the provisions of either section 360-8.3(e) or 360-2.14(b)(2) of this Part. In the case of a new landfill constructed on or after the effective date of this Part, the construction must satisfy the provisions of section 360-2.14(b)(2) of this Part.

(4) Treatment of fly ash. Treatment of fly ash may be provided if the permittee can demonstrate to the department's satisfaction that the proposed treatment process can physically or chemically alter the fly ash, such that the extract generated upon exposure to acidic and nonacidic conditions does not contain inorganic constituents at concentrations greater than 100 times the respective ground water quality standard set forth in Part 703 of this Title. The inorganic constituents to be analyzed will include, but not be limited to arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver, chloride, copper, iron, sulfate, and zinc. The permittee must establish performance standards and operational criteria for the treatment process and provide documentation, in the form of certified laboratory analyses, that the treatment process, as proposed, can be reliably operated to comply with the performance standard.

(5) Transition. Except in the case of a landfill in Nassau and Suffolk Counties any landfill located elsewhere in the State, that was under construction or operating on December 30, 1988, combined ash, or bottom ash, or fly ash treated in accordance with paragraph (4) of this subdivision may be disposed of in same, even if the landfill does not satisfy the requirements of paragraph (3) of this subdivision if the landfill has adequate leachate management and surface water run-off control, as determined by the department.

(h) *Landfill applications.* This subdivision applies to the use of ash on solid waste landfills for applications including, but not limited to landfill cover, temporary or permanent roads, part of the final cover or cap, final site grading, or for use as a building or construction material within the boundaries of the landfill.

(1) Bottom ash may be used as described in this subdivision on existing solid waste landfills which meet the requirements of paragraph 360-3.5(g)(5) of this Part, provided that:

(i) The ash to be used in any such application must, at a minimum, comply with the ash residue requirements outlined in subdivision 360-3.5(a) of this Part.

(ii) The ash, or blend of ash with other aggregate materials or reagents (ash product), can be shown to meet the specifications of the specific landfill application or be shown to exhibit performance characteristics required for its intended application.

(iii) The ash or ash product has been tested pursuant to a sampling and analysis protocol acceptable to the department. Samples shall be subjected to the procedures of the Toxicity Characteristic Leaching Procedure and Technical Resource Document SW-924 (see section 360-1.3 of this Part) leaching procedure (using distilled, deionized water as the leaching fluid). The TCLP and each extraction of the SW-924 are required to yield an extract containing less than 100 times the New York State Ground Water Quality Standard for arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver.

(iv) The permittee must submit the results of TCLP and SW-924 leaching tests for at least six representative samples to the department prior to the initiation of the utilization activity; and at least each calendar quarter thereafter to demonstrate that the material meets the leaching requirements as presented in subparagraph 360-3.5(h)(1)(iii) of this Subpart. The permittee shall be required to statistically exhibit 90 percent confidence that the referenced leaching requirements are not exceeded. (Test results generated pursuant to the semiannual testing requirements of subparagraph 360-3.5[c][2][ii] of this Subpart can be considered to meet the requirements of this subparagraph.)

(v) The permittee submits an operation plan to ensure that potential fugitive dust emissions and run-off during on-site loading, transport, unloading and processing of the ash will be adequately controlled.

(vi) Any part of the ash stream not utilized shall be managed in accordance with subdivision 360-3.5(g) of this Subpart.

(2) Combined ash may be beneficially used on existing solid waste landfills that are in compliance with all the provisions of Subpart 360-2 of this Part, provided that the permittee complies with the requirements of subparagraphs 360-3.5(h)(1)(i)-(vi) of this Subpart for the combined ash or combined ash product.

(i) *Ash residue beneficial use.* This subdivision applies to ash residue in the form of bottom ash only, fly ash only, or combined ash that is proposed to be beneficially used as an ingredient or as a substitute for a raw material.

(1) The permittee must demonstrate to the department's satisfaction that the resulting material: is not a waste; has a known market or disposition; is not accumulated on speculation; and that contractual arrangements have been made with a second person for use as an ingredient in a production process and that this person has the necessary equipment to do so.

(2) In addition to the requirements in section 360-1.15 of this Part, the permittee also must:

(i) chemically and physically characterize the ash residue and each finished product or products, and identify the quantity and quality to be marketed;

(ii) describe the proposed method of application or use, potential markets and potential marketing agreements;

(iii) demonstrate that the intended use will not adversely affect the public health, safety, welfare or the environment; and

(iv) if the use of the ash residue includes mixing with different types of materials, a description of each mixture must be provided.

(3) The beneficial use of ash residue does not relieve the permittee from compliance with section 360-3.3(d) of this Subpart dealing with the identification of the ash residue and bypass waste landfill or landfills.

Historical Note

Sec. filed Oct. 28, 1988; amds. filed: Nov. 26, 1991; Aug. 5, 1993 eff. Oct. 9, 1993.

SUBPART 360-4

LAND APPLICATION AND ASSOCIATED STORAGE FACILITIES

Sec.

Historical Note

Subpart (§§ 360-4.1—360-4.10) filed Oct. 28, 1988; repealed, new (§§ 360-4.1—360-4.11) filed Jan. 7, 2003 eff. 60 days after filing.

§ 360-4.1 Applicability and definitions.

(a) *Applicability.* This Subpart regulates the design and operation of land application facilities for agricultural use of septage, biosolids, food processing waste and other solid waste. Facilities used for the storage of these wastes prior to land application are also regulated by this Subpart. The applicable criteria for use of these wastes in a beneficial manner for land reclamation, forest application, and other nonagricultural uses will be determined by the department on a case specific basis depending on the specifics of the project. For the purposes of this Subpart, food processing waste does not include food waste in cans or other similar containers.

(b) *Definitions.* The following terms have the following meanings when used in this Subpart:

(1) *Aerobic digestion* means the biochemical decomposition of organic matter into carbon dioxide and water by microorganisms in the presence of air.

(2) *Agronomic rate* means the rate of nitrogen addition designed to provide the amount of nitrogen needed by the crop or vegetation grown on the land, and to minimize the amount of nitrogen that passes below the root zone of the crop or vegetation grown on the land to ground water.

(3) *Anaerobic digestion* means the biochemical decomposition of organic matter into methane and carbon dioxide by microorganisms in the absence of air.

(4) *Biosolids* means sewage sludge that can be beneficially used.

(5) *Cumulative loading limit* means the maximum amount of metal, in pounds, that can be applied from biosolids to an acre of land.

(6) *Displacement* means the relative movement of any two sides of a fault measured in any direction.

(7) *Dry weight basis* means calculated on the basis of having been dried at 105°C until reaching a constant mass (*i.e.*, essentially 100 percent solids content).

(8) *Fault* means a fracture or zone of fractures in any materials along which strata on one side are displaced with respect to strata on the other side.

(9) *Feed crops* means crops produced primarily for consumption by animals.

(10) *Fiber crops* means crops such as flax and cotton.

(11) *Final cover* means the last layer of soil or other material placed on a sewage sludge unit at closure.

(12) *Fish hatchery waste* means undigested food and fecal material emanating from a New York State owned or licensed fish hatchery.

(13) *Food crops* means crops consumed by humans, including, but not limited to, fruits, vegetables, and tobacco.

(14) *Holocene time* means the most recent epoch of the Quaternary period, extending from the end of the Pleistocene epoch to the present.

(15) *Land reclamation* means the application of biosolids or other suitable material for the purposes of revegetation onto lands disturbed by strip mining, construction or other similar activities, or onto lands that marginally support vegetation.

(16) *Land with a high potential for public exposure* means land that the public uses frequently. This includes, but is not limited to, a public contact area and a land reclamation site located in a populated area (*e.g.,* a construction site located in a city).

(17) *Land with a low potential for public exposure* means land that the public uses infrequently. This includes, but is not limited to, agricultural land, forest land, and a reclamation site located in an unpopulated area (*e.g.,* a strip mine located in a rural area).

(18) *Leachate collection system* means a system or device installed immediately above a liner that is designed, constructed, maintained, and operated to collect and remove leachate from a sewage sludge unit.

(19) *Liner* means soil or synthetic material that has a hydraulic conductivity of 1×10^{-7} centimeters per second or less.

(20) *Lower explosive limit for methane gas* means the lowest percentage of methane gas in air, by volume, that propagates a flame at 25°C and atmospheric pressure.

(21) *Pathogenic organisms* means disease-causing organisms, including, but not limited to, certain bacteria, viruses, protozoa and viable helminth ova.

(22) *pH* means the logarithm of the reciprocal of the hydrogen ion concentration measured at 25°C or measured at another temperature and then converted to an equivalent value at 25°C.

(23) *Public contact area* means land with a high potential for contact by the public including, but not limited to, public parks, ball fields, cemeteries, plant nurseries, turf farms, golf courses and school yards.

(24) *Qualified ground water scientist* means an individual with a baccalaureate or post-graduate degree in the natural sciences or engineering who has sufficient training and experience in ground water hydrology and related fields, as may be demonstrated by State registration, professional certification, or completion of accredited university programs, to make sound professional judgments regarding ground water monitoring, pollutant fate and transport, and corrective action.

(25) *Seismic impact zone* means an area that has a 10 percent or greater probability that the horizontal ground level acceleration of the rock in the area exceeds 0.10 gravity once in 250 years.

(26) *Site* means the land area where solid waste is applied to the soil surface or injected into the upper layer of the soil for the purposes of land application.

(27) *Site life* means the maximum number of years that biosolids can be applied to a site without exceeding the cumulative loading limit.

(28) *Specific oxygen uptake rate (SOUR)* means the mass of oxygen consumed per unit time per unit mass of total solids on a dry weight basis.

(29) *Unstable area* means land subject to natural or human-induced forces that may damage the structural components of an active sewage sludge unit. This includes, but is not limited to, land on which the soils are subject to mass movement.

(30) *Untreated solids* means the organic materials in biosolids that have not been treated in either an aerobic or anaerobic treatment process.

(31) *Vector attraction* means the characteristic of certain solid waste that attracts rodents, flies, mosquitoes, or other organisms capable of transporting infectious agents.

(32) *Volatile solids* means the amount of the total solids lost when a solid waste is combusted at 550°C in the presence of excess air.

(c) *General definitions.* In addition to the definitions contained in subdivision (b) of this section, the definitions in section 360-1.2 of this Part also apply.

Historical Note

Sec. filed Oct. 28, 1988; amd. filed Aug. 5, 1993; repealed, new filed Jan. 7, 2003 eff. 60 days after filing.

§ 360-4.2 Exemptions and registration.

(a) *Exemptions.* The following facilities are exempt from this Part. Facilities that are exempt under this subdivision which were previously registered will no longer be registered as of the effective date of this Subpart, provided all required annual reports for the facility have been submitted to the department.

(1) A land application facility for animal manure and associated bedding material. For purposes of this exemption bedding material includes hay, straw, sawdust, wood shavings, newsprint, sand, and materials approved pursuant to a beneficial use determination under section 360-1.15 of this Part.

(2) A land application and an associated storage facility for food processing wastes that are visually recognizable as a part of the plant or vegetable, aquatic plants or a combination of such wastes if the waste is applied at or below agronomic rates, and nuisance conditions such as odors are minimized and the facility is operated in a manner to minimize the potential for negative surface and ground water impacts.

(3) Land application and associated storage facilities for leaves and/or grass, provided the following conditions are satisfied:

(i) all physical contaminants (plastic bags, branches, etc.) are removed prior to application of the waste, and the contaminants are properly disposed or recycled according to this Part;

(ii) grass is applied at an agronomic rate, which does not exceed 20 tons per acre or a depth of one inch annually, and does not exceed 40 tons per acre during any three-year period;

(iii) grass is not shredded;

(iv) all leaves and grass are incorporated into the soil and minimal leaf or grass material is apparent on the soil surface after incorporation;

(v) grass is incorporated into the soil on the same day as it is land applied;

(vi) leaves are incorporated into the soil within seven days after application to the soil;

(vii) the quantity of grass stored does not exceed 100 cubic yards; and

(viii) grass and leaves are stored at the application site for no more than seven days prior to incorporation into the soil and measures are taken to minimize material blowing off the site and odor generation. Leaves or grass being stored must be removed from the site or otherwise managed in a manner approved by the department if unacceptable nuisance conditions exist, as determined by the department.

(4) (4) A land application facility for undigested food and fecal material emanating from a New York State owned or licensed fish hatchery. The waste must be applied at or below agronomic rates.

(5) (5) A land application facility or manure storage facility located on a concentrated animal feeding operation (CAFO), permitted pursuant to Part 750 of this Title, that involves food processing waste or other waste. The land application or manure storage facility must be addressed in a comprehensive nutrient management plan (CNMP) to properly manage liquid and solid waste, including runoff from production areas. *CNMP* means a plan prepared by an Agricultural Environmental Management (AEM) planner certified by the American Society of Agronomy as a Certified Crop Advisor who has completed all necessary training and has been deemed qualified by the Commissioner of the New York State Department of Agriculture and Markets, in consultation with the State Soil and Water Conservation Committee and the Natural Resources Conservation Service (NRCS) State Conservationist to develop and review CNMPs for CAFOs in New York State. This provision does not apply to any waste that contains human fecal matter (sewage sludge, septage, etc). Also, the amount of non-manure waste that is placed in the storage facility must not exceed 50 percent of the total volume of waste placed in the storage facility on an annual basis.

(b) *Registration.* The following solid waste management facilities, that are not otherwise exempt from this Part, are eligible for the registration provisions of section 360-1.8(h) of this Part if the facility is operated in compliance with the applicable requirements of section 360-1.8(h) of this Part and this subdivision. Sufficient information must be submitted with the registration request to demonstrate that the facility will comply with the applicable criteria. Any eligible or registered facility which is not operated in compliance with these conditions requires a permit pursuant to this Part and will be subject to the applicable enforcement provisions.

(1) A land application and a manure storage facility involving nonrecognizable food processing wastes, provided the following conditions are satisfied:

(i) the facility complies with the operational requirements of section 360-4.6(a) and (b) of this Subpart, excluding section 360-4.6(b)(10) and (12) of this Subpart. A minimum of one representative analysis of the waste for the parameters found in Group A and Group B of section 360-4.4(a) of this Subpart must be submitted;

(ii) the volume of waste land applied is limited to prevent ponding, except for temporary conditions following rainfall events. If ponding occurs, land application ceases immediately;

(iii) land application on frozen or snow-covered ground is limited to land with a slope of less than four percent, unless the separation distance to a surface water and State regulated wetland is increased to 500 feet and berms are used;

(iv) dikes, berms, or other runoff control devices are used, if deemed necessary by the department;

(v) the application rate of whey does not exceed the nitrogen needs of the crop and a chloride loading of 170 lbs. per acre per year;

(vi) the waste is beneficial to the crop grown and the waste does not contain any human sanitary waste (*e.g.,* domestic sewage, biosolids, septage) or it is demonstrated that the sanitary waste is a minor component of the waste stream and pathogenic organism content are below detectable levels in the waste;

(vii) the manure storage facility can accept food processing wastes. No more than 10 percent of the total volume of waste entering the facility on an annual basis may consist of food processing waste unless liner certification is provided. The facility may accept more than 10 percent, but not more than 40 percent of the total volume of waste entering the facility on an annual basis, if the storage facility was designed and built in accordance with section 360-4.10 of this Subpart or National Resource Conservation Service (NRCS) Code NY313. If the facility accepts non-manure waste that is more than 10 percent but less than 40 percent of the total volume entering the facility on an annual basis, the land application of this mixture must comply with the operating requirements outlined in subdivision (b) of this section; and

(viii) for land application sites located in the New York City watershed, application rates are based on the phosphorus needs of the crop grown, a comprehensive nutrient management plan has been developed for the farms involved, and the application sites have been clearly mapped and marked.

(2) A land application facility for septage from one hauler using not more than two vehicles for collection related to land application, provided the following conditions are satisfied:

(i) The facility complies with the operational requirements of section 360-4.6(b) of this Subpart, excluding section 360-4.6(b)(4), (6) and (14) of this Subpart.

(ii) Soil testing - one representative analysis for each 15 acres or fraction thereof is required once every three years of use, beginning in the first year septage is applied to a site. Soil analyses will occur prior to the first application for that year. The analysis must include nutrients (nitrogen, potassium, and phosphorus). This requirement applies to acreage used for septage application.

(iii) A minimum of 15 acres must be available for each vehicle. Vegetation must be grown at the application facility that is sufficient to utilize all the available nitrogen provided from septage application.

(iv) The application rate does not exceed 25,000 gallons per acre per year, or the rate determined by the following calculation, whichever is less:

Application Rate = Crop nitrogen needs × 385
(gallons/acre/year) (lbs.nitrogen/acre)

The application rate may be changed if the septage is altered (*e.g.*, dewatered) prior to application.

(v) For pathogen reduction, the pH of the septage is raised to 12 or higher by alkali addition and, without the addition of more alkali, the septage remains at 12 or higher for 30 minutes, and the following site restrictions must be followed:

(*a*) food crops with harvested parts that touch the septage/soil mixture and are totally above the land surface must not be harvested for 14 months after land application. Food crops with harvested parts below the surface of the land must not be harvested for 38 months after land application; and

(*b*) food crops grown above the soil with harvested parts that do not touch the septage/soil mixture, feed crops and fiber crops must not be harvested for at least 30 days after land application.

(vi) Annual ground water monitoring may be required as determined by the department.

(vii) The following records must be kept for at least five years after any application of septage to a site, must be available to the department on request, and shall be provided to the department in the annual report pursuant to section 360-1.8(h)(8) of this Part:

(*a*) the location of the site of land application including either the street address or the longitude and latitude of the site (available from a USGS map);

(*b*) the total number of acres to which septage was applied and the total gallons of septage applied;

(*c*) the date of each application, the gallons of septage applied, and the acres used;

(*d*) pH data and related information to show compliance with pathogen and vector attraction reduction criteria;

(*e*) the crop grown; and

(*f*) the following certification statement, signed by the person responsible for land application of the septage:

"I certify, under penalty of law, that the information that will be used to determine compliance with Subpart 360-4 of 6 NYCRR Part 360 has been prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

(viii) A copy of the validated registration must be kept in the appropriate vehicle.

(ix) Transition. The transition provision outlined in section 360-1.7(a)(3)(v)(*b*) of this Part applies to these facilities.

(3) A storage or transfer facility for septage from one hauler using no more than two vehicles for collection.

(i) The minimum horizontal separation distances from the perimeter of the storage facility must meet the requirements found in section 360-4.6(b)(1) of this Subpart, except that

the minimum horizontal separation distance to a nearby residence, place of business, or public contact area must be at least 1,500 feet for surface impoundments.

(ii) Surface water must be directed away from the storage facility.

(iii) Vector and odor control measures must be implemented when necessary, as determined by the department.

(iv) Surface impoundments and open tanks must be properly fenced and posted or otherwise constructed to prevent unauthorized access, as determined by the department.

(v) All storage facilities must be completely emptied, cleaned, and inspected at least once every 12 months. The department must be notified at least one week before the cleaning operation is complete to afford the department the opportunity to inspect the facility before additional material is placed in the facility. Tanks must be tested for tightness biennially, with results sent to the appropriate regional office of the department. Any damage or deterioration revealed by the inspections must be repaired before that facility again receives waste.

(vi) Surface impoundments must be constructed above the 100-year flood elevation, and must be constructed with a liner system. The liner system must consist of either a minimum of two feet of compacted soil having a maximum remolded coefficient of permeability of 1×10^{-7} centimeters per second, or a synthetic material approved by the department. The soil material particles must be able to pass through a one inch screen.

(vii) Ground and/or surface water monitoring programs must be implemented, if required by the department.

(viii) Surface impoundments must maintain a minimum of two feet of freeboard and may be no deeper than six feet. The bottom of the impoundment liner must be a minimum of five feet above both seasonal high ground water and bedrock.

(ix) Storage facilities other than surface impoundments may be constructed of concrete, steel, or other material approved by the department. The storage facility must be designed with a minimum of two feet of freeboard.

(x) The transfer facility involves the movement of septage from one truck to another vehicle. The septage must not remain on either truck for more than seven days. The facility must be operated in nuisance-free manner with all spills cleaned up immediately.

(xi) Transition. The transition provision outlined in section 360-1.7(a)(3)(v)(*b*) applies to these facilities, except the time frame for registering is 365 calendar days.

(4) Disposal facilities for septage, provided the following conditions are satisfied:

(i) A written closure and post closure plan is submitted to the department 180 days prior to the date that the disposal facility closes. The plan must describe how the facility will be closed and, at a minimum, must include the following: a discussion of how the leachate collection system will be operated and maintained for three years after the disposal facility closes if the facility has a liner and leachate collection system; a description of the system used to monitor for methane gas in the air in any structure within the boundaries of the disposal site and in the air at the property line of the disposal site; and a discussion of how public access to the disposal site will be restricted for three years after the facility closes.

(ii) If the site is sold, the owner of a disposal site must provide written notification to the subsequent owner of the site that septage was placed on the land.

(iii) Septage may not be placed in a disposal facility if it is likely to adversely affect a threatened or endangered species or its designated critical habitat.

(iv) The disposal facility must not restrict the flow of a base flood.

(v) If the disposal site is located in a seismic impact zone, the disposal facility must be designed to withstand the maximum recorded horizontal ground level acceleration.

(vi) The disposal facility must be located 60 meters or more from a fault that has displacement in Holocene time, unless otherwise approved by the department.

(vii) The disposal facility may not be located in an unstable area.

(viii) The minimum horizontal separation distances from the perimeter of the disposal facility must meet the requirements found in section 360-4.6(b)(1) of this Subpart, except that the minimum horizontal separation distance to a nearby residence, place of business, or public contact area must be at least 1,500 feet.

(ix) Run-off must be directed away from the disposal facility.

(x) The leachate collection system for a disposal facility that has a liner and leachate collection system must be operated and maintained during the active life of the facility and for three years after closure.

(xi) Leachate from an active disposal facility that has a liner and leachate collection system must be collected and disposed in a manner approved by the department during the period the facility is open and for three years after the facility closes.

(xii) The concentration of methane gas in air in any structure located within the site may not exceed 25 percent of the lower explosive limit for methane gas during the period that the facility is open and the concentration of methane gas in air at the property line of the site may not exceed the lower explosive limit for methane gas during the period the facility is open.

(xiii) When a final cover is placed on the disposal facility at closure, the concentration of methane gas in air in any structure located within the site does not exceed 25 percent of the lower explosive limit for methane gas for three years after the facility closes and the concentration of methane gas in air at the property line of the site does not exceed the lower explosive limit for methane gas for three years after the facility closes, unless otherwise specified by the department.

(xiv) A food crop, a feed crop, or a fiber crop must not be grown on an active disposal facility.

(xv) Animals must not be grazed on an active disposal facility.

(xvi) Public access to a disposal site must be restricted for the period the facility is active and for three years after the facility is closed.

(xvii) Septage placed in a disposal facility must not contaminate ground water. Results of a ground water monitoring program developed by a qualified ground water scientist or a certification by a qualified ground water scientist shall be used to demonstrate that the facility does not contaminate ground water.

(xviii) Septage placed on a disposal facility must be covered with soil or other acceptable material at the end of each operating day.

(xix) Air in structures within a disposal site and at the property line of the site must be monitored continuously for methane gas during the period that the disposal facility is in operation and for three years after the facility closes when a final cover is placed on the facility.

(xx) The following information must be developed and retained for five years:

(*a*) The following certification statement:

"I certify, under penalty of law, that the management practices and the vector attraction reduction requirements in Subpart 360-4 have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the vector attraction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

(*b*) A description of how the requirements have been satisfied.

(xxi) Transition. The transition provision outlined in section 360-1.7(a)(3)(v)(*b*) of this Part applies to these facilities, except the time frame for registering is 365 calendar days.

Historical Note

Sec. filed Oct. 28, 1988; amd. filed Aug. 5, 1993; repealed, new filed Jan. 7, 2003; amd. filed April 18, 2013 eff. 60 days after filing. Amended (a)-(b).

§ 360-4.3 General permit application requirements for land application facilities.

In addition to the requirements set forth in section 360-1.9 of this Part pertaining to engineering report contents, the engineering report submitted as part of an initial application for a permit to operate a land application facility must contain the following information:

(a) A vicinity map that delineates zoning and land use, residences, surface waters, access roads, and other existing and proposed features within the proposed facility and within one-half mile of the proposed facility boundaries.

(b) A map having a minimum scale of 1:2,400 with 20 feet minimum contour intervals. This map must indicate:

(1) the location of the proposed land application site(s);

(2) the location of all residences, public contact areas, and buildings, including the identification of any buildings which are owned by the applicant or operator, on-site and within 800 feet of the site boundaries;

(3) the location of access roads and roads on-site;

(4) the location of property boundaries;

(5) the location of all potable water wells and surface water bodies on-site and within 500 feet of the site boundaries;

(6) the location of all drainage swales on-site and within 100 feet of the site boundaries;

(7) the location of all test pits; and

(8) the direction of prevailing winds.

(c) A map(s) indicating the location and classification of any State regulated wetlands, and the location of any floodplain, including 100-year flood elevations and location of any floodways pursuant to Part 502 of this Title, on-site and within 500 feet of the site boundaries.

(d) A soil survey map from the U.S. Department of Agriculture's Soil Conservation Service, with a key to the soil survey, indicating the location of the proposed facility. Site specific soil investigation results must be provided, if deemed necessary by the department, based on soil and hydrogeologic conditions at the site.

(e) Information concerning the depth to bedrock and ground water under the site and the source of this data.

(f) A description of surface drainage patterns at the site.

(g) The name of the owner of the property proposed for land application.

(h) A facility operation plan that must include:

(1) the amount of land that will be used and the crops to be grown;

(2) timing of planting and harvesting;

(3) timing and amount of waste application and any supplemental waste or fertilizer that will be used;

(4) provisions for waste storage or disposal when land application is restricted, *i.e.* due to weather or other site conditions;

(5) methods of application and incorporation including the type, size and quantity of equipment that will be used and the time between application and incorporation;

(6) a description of all recordkeeping that will be performed including copies of any recordkeeping forms developed for the facility; and

(7) a description of how the design and operational requirements set forth in this Subpart will be satisfied.

(i) Calculations showing the proposed daily and annual hydraulic loading, in gallons per acre, at the site.

(j) Written permission from all landowners other than the applicant to use the land for land application.

(k) A written agreement between the generator, land applier, and land owner and/or lease holder concerning who is responsible for each of the applicable operational requirements outlined in sections 360-4.6 through 360-4.8 of this Subpart.

Historical Note

Sec. filed Oct. 28, 1988; amds. filed: Aug. 5, 1993; Nov. 4, 1999; repealed, new filed Jan. 7, 2003 eff. 60 days after filing.

§ 360-4.4 Additional permit application requirements for biosolids land application facilities.

In addition to the requirements set forth in section 360-4.3 of this Subpart pertaining to engineering report contents, the engineering report submitted as part of an initial application for a permit to operate a land application facility involving biosolids must contain the following information:

(a) A detailed description of the biosolids including:

(1) a description of each source including its name, annual biosolids production, the amount of biosolids to be land applied, and any seasonal variations in quantity or quality of the biosolids during the year. Also, a description of the Federal or State pretreatment program, if required;

(2) a description of the quality of the biosolids, including analytical results, as outlined below:

(i) the parameters for analysis are found in Table 1 in section 360-5.10 of this Part;

(ii) the minimum number of analyses, for each waste source, that must be submitted with the application is dependent upon the amount of biosolids that will be land applied annually, according to Table 3 in section 360-5.10 of this Part;

(iii) wastewater and partially treated biosolids that are generated at one facility and are treated at another wastewater treatment facility prior to beneficial use are not considered waste sources subject to the criteria in this paragraph. The resultant biosolids or sludge generated for beneficial use are subject to this paragraph;

(iv) for each analysis, the sampling date, location, and protocol used to obtain representative samples must be outlined;

(v) a minimum of six months of waste production must be represented by the analytical results submitted. With the exception of pH and total solids, all results must be reported on a dry-weight basis;

(vi) analyses for other pollutants may be required, on a case specific basis, based on information from the pretreatment program and other sources;

(vii) all analyses must be performed by a laboratory certified by the New York State Department of Health for that type of analysis, using methods acceptable to the department as outlined in Table 12 of section 360-5.10 of this Part, unless use of an alternate laboratory or method is authorized by the department. Copies of the original laboratory results must be included with the permit application;

(viii) the analysis requirement may be satisfied in part or in whole by recent samples analyzed for and reported to the department, if approved by the department;

(ix) analyses performed more than one year prior to the date the permit application is submitted are not acceptable;

(x) all samples must be representative of the waste to be land applied. Guidance on obtaining representative samples can be found in "POTW Sludge Sampling and Analysis Guidance Document", USEPA, August 1989; and

(xi) a table summarizing the analytical results must be provided, including the mean, median, and range of results found.

(b) A detailed description of the proposed processes to reduce pathogenic organism content and to reduce vector attraction including:

(1) the methods that will be used for pathogen reduction and vector attraction reduction. Acceptable methods are listed in section 360-4.7(b) of this Subpart;

(2) the monitoring and data gathering procedures that will be undertaken to demonstrate compliance including type, location, and frequency; and

(3) for existing systems, recent operating data and/or analytical data must be submitted to demonstrate that the system can meet the pathogen and vector attraction reduction criteria.

(c) Calculations showing the proposed nutrient loading rates, including nitrogen, phosphorus, and potassium. The loading rate calculations must be based on the biosolids analyses, impacts of previous waste applications, addition of supplemental nutrients, and the nutrient requirements of the crops grown.

(1) The following formulas must be used to calculate plant available nitrogen from biosolids, unless the applicant justifies the use of an alternative formula to the department's satisfaction.

%NI = percent inorganic nitrogen
= percent ammonia + percent nitrate
%NO = percent organic nitrogen
= percent total Kjeldahl nitrogen - percent ammonia
%NH3 = percent ammonia
%NO3 = percent nitrate
N = nitrogen
A = value based on treatment method employed

A values: A = 2 for composted biosolids
A = 4 for anaerobically digested biosolids
A = 6 for aerobically digested, lime stabilized and air dried biosolids

For biosolids incorporated into the soil:

Lbs. available N per dry ton biosolids =(%NI × 20)+(%NO × A)

For biosolids surface applied:

Lbs. available N per dry ton biosolids =(%NH3 × 10)+(%NO3 × 20)+(%NO × A)

(2) If the soil has received biosolids in the past two years, the residual nitrogen in the soil must be accounted for in the nutrient loading calculation. The residual nitrogen must be added to the available nitrogen from the proposed biosolids application to determine the total nitrogen available from biosolids. The following table should be used to determine the release rate of residual nitrogen.

Release of Residual Nitrogen During Biosolids Decomposition in Soil

Years since last biosolids application	*AR Values*		
	A=2	A=4	A=6
1	0.90	1.60	2.10
2	0.51	0.72	0.95

Residual Available N (dry tons per acre) = Original Application Rate × Original %NO (percent) × AR (pounds per acre)

(3) The value(s) used for the nutrient needs of the crop(s) grown must be based on the results of a soil test and resulting nutrient recommendation, or equivalent justification for the value chosen. Copies of the nutrient recommendations must be submitted.

(4) For phosphorus, 50 percent of the phosphorus applied with the biosolids should be assumed to be available for plant use. For potassium, 100 percent of the potassium applied with the biosolids should be assumed to be available for plant use.

(d) Calculations showing the annual metal loading and the site life.

(e) Information concerning the soil pH of the plow layer including the source of this information, and method for adjusting soil pH, if required.

(f) Soil quality data including analyses for pH, arsenic, cadmium, chromium (total), copper, lead, mercury, molybdenum, nickel, selenium, and zinc.

(1) A minimum of one analysis is required for every 50 acres, or fraction thereof.

(2) Each soil sample must be a composite of a minimum of 10 randomly selected sample locations.

(3) The sampling depth must be consistent with the depth of waste incorporation.

(4) The criteria in subparagraphs (a)(2)(iv), (vii), and (ix) of this section must be followed.

(g) A biosolids monitoring, sampling, and analysis plan that outlines:

(1) the location, purpose, frequency and method for biosolids sampling; and

(2) the protocol used to obtain representative samples, the preparation and preservation of samples, and the laboratory that will be used for each analysis.

(h) Information concerning whether the proposed land application site(s) is located over a principal or primary aquifer. If deemed necessary by the department, a description of a ground water monitoring program for enteric viruses or indicator organisms.

(i) Information concerning whether any threatened or endangered species or designated critical habitats are present at the proposed land application site.

Historical Note

Sec. filed Oct. 28, 1988; amd. filed Aug. 5, 1993; repealed, new filed Jan. 7, 2003 eff. 60 days after filing.

§ 360-4.5 Additional permit application requirements for other solid waste land application facilities.

In addition to the requirements set forth in section 360-4.3 of this Subpart pertaining to engineering report contents, the engineering report submitted as part of an initial application for a permit for a land application facility for solid waste other than biosolids must contain the following information:

(a) A detailed description of each solid waste to be land applied which must include, at a minimum, the following information:

(1) the source, process, or treatment systems from which the waste originated, including a list and the quantity of all chemicals added during these processes. Material safety data sheets or other data sources providing information specific to these chemicals must be included; and

(2) treatment or processing techniques utilized before land application.

(b) Analyses of the waste in accordance with the frequency, parameters, and protocol outlined in section 360-4.4(a) of this Subpart.

(c) In addition to the analyses required in section 360-4.4(a) of this Subpart, the following analyses, in whole or part, may be required as determined by the department:

(1) fecal coliform, Salmonella sp., enteric viruses, and viable helminth ova; and

(2) any or all of the pollutants identified in the water quality analysis tables in section 360-2.11 of this Part.

(d) An outline of the proposed application rates and justification for the values chosen.

(e) For treatment systems receiving any domestic sewage or septage, a detailed description of the processes to reduce pathogens and vector attraction, as outlined in section 360-4.4(b) of this Subpart or sufficient data to demonstrate that human pathogenic organisms are not present in the waste.

(f) A waste monitoring, sampling, and analysis plan that outlines:

(1) the location, purpose, frequency and method for waste sampling; and

(2) the protocol used to obtain representative samples, the preparation and preservation of samples, and the laboratory that will be used for analyses.

Historical Note

Sec. filed Oct. 28, 1988; amd. filed Aug. 5, 1993; repealed, new filed Jan. 7, 2003 eff. 60 days after filing.

§ 360-4.6 General design criteria and operational requirements for all land application facilities.

In addition to the operational requirements identified in section 360-1.14 of this Part, the following requirements apply to all land application facilities:

(a) *Pollutant limits.* (1) Each waste source destined for land application must not exceed the pollutant concentrations found in Table 4 in section 360-5.10 of this Part, on a dry weight basis.

(2) If the waste contains pollutants at concentrations greater than those set forth in this subdivision, a permit for a land application facility will not be issued or an operating facility can not continue to operate until the generator has implemented an identification and abatement program and remains in compliance with the requirements of this paragraph for a period of at least six continuous months. At least six monthly analyses for total solids and the parameter(s) of concern must be provided to demonstrate compliance.

(3) Wastewater and partially treated biosolids that are generated at one location and treated at another wastewater treatment facility prior to beneficial use are not considered waste sources subject to the criteria in this paragraph. The resultant biosolids generated for beneficial use are subject to this paragraph.

(b) *Design criteria and management practices.* (1) The minimum horizontal distance from the perimeter of the land application area must meet or exceed the values found in the following table. For storage facilities, the minimum horizontal separation distance is the distance from the storage unit to the nearest item as indicated below. The department may require greater horizontal separation between the land application area and a surface water body that is actively used as a municipal water supply source.

Item	*Minimum horizontal separation distance (in feet)*
Property line	50
Residence, place of business or public contact area*	500
Potable water well	200
Surface water and State regulated wetland (waste not directly injected)	200
Surface water and State regulated wetland (waste directly injected)	100
Drainage swale	25

* The landowner's or operator's residence, plant nurseries and turf farms are excluded from this requirement. In addition, this requirement does not apply to waste that is directly injected below the land surface or to lands of adjacent owners who consent to the activity within the separation distance.

(2) Land application is prohibited in areas where ground water is within 24 inches of the ground surface at the time of application.

(3) Land application is prohibited in areas where bedrock lies less than 24 inches below the ground surface.

(4) The hydraulic loading must not exceed 16,000 gallons per acre in any 24-hour period.

(5) Land application is prohibited on land with a slope exceeding 15 percent. Land application of waste with a total solids content of less than 15 percent is prohibited on land with a slope greater than eight percent, unless applied by subsurface injection along paths parallel to contour lines for the land.

(6) Land application is allowed only on soils within one or more of the following soil texture classes: sandy loam, sandy clay loam, loam, silt loam, silt, sandy clay and clay loam.

(7) Land application in a 100-year floodplain must not result in washout of the solid waste applied. Land application is prohibited in floodplain areas designated as a floodway pursuant to Part 502 of this Title.

(8) The land application rate must not exceed the agronomic rate or the rate of lime addition designed to achieve a soil pH value in an acceptable range for the crop grown, whichever results in a lower rate. On a case specific basis, the department may restrict the application rate based on a nutrient other than nitrogen, such as phosphorus. The application rate must be sufficiently reduced to insure appropriate application rates are not exceeded if supplemental fertilizer or manure are going to be added to the site, based on information provided by the farm owner or operator.

(9) Land application rates and practices must not cause contravention of ground water and surface water standards provided in Parts 700-705 of this Title.

(10) In all cases, the solid waste that is land applied must be incorporated into the soil within 24 hours after application, unless concerns regarding odor and surface runoff can be mitigated by other means, and such means are approved by the department. If the vector attraction reduction option found in section 360-4.7(b)(2)(x) of this Subpart is used, the period prior to incorporation is limited to six hours or less.

(11) The department may require the use of dikes, berms, or other pollution protection devices or techniques on a case-specific basis.

(12) Land application is prohibited on water saturated ground or during heavy rainfall. Land application is prohibited on snow-covered or frozen ground, except by direct injection below the land surface. Storage and/or disposal facilities must be available for periods during the year when waste can not be applied.

(13) Proper soil conservation practices and agricultural management practices must be used to minimize runoff and soil loss through erosion.

(14) Written permission from the landowners must be obtained for all lands where land application will occur. A multi-party certificate indicating who will be responsible for each applicable operational requirement must be completed and followed.

(c) *Monitoring, recordkeeping, and reporting.* (1) Sufficient monitoring data must be obtained to demonstrate compliance with the pathogen and vector attraction reduction requirements of this Subpart. The frequency and type of monitoring necessary will depend on the methods employed to achieve pathogen and vector attraction reduction and will be determined by the department on a case specific basis.

(2) The following information must be retained in accordance with section 360-1.14(i) of this Part :

(i) a copy of the complete and final permit application;

(ii) if pollutant analyses are required, records of pollutant concentration including:

(*a*) date of sample collection, sampling location, sample type, and name of sampler;

(*b*) name of laboratory, analytical methods used, and quality assurance/quality control procedures; and

(*c*) analytical results; and

(iii) if required, records of the pathogen and vector attraction reduction method employed, including a description of how compliance was achieved, certification that the requirements were achieved, and applicable monitoring and analytical data.

(3) The permittee must submit an annual report to the department's central office and appropriate regional office no later than March 1st of each year covering the previous calendar year, on forms prescribed by or acceptable to the department. The report must include:

(i) the location of each field used for land application and the acreage used for land application;

(ii) the crop(s) grown on each field and the timing of planting and harvesting;

(iii) the total quantity of waste applied, including land application dates and quantity applied during each application on each field;

(iv) calculations showing the hydraulic loading, nutrient loading, the cumulative load and site life (if required), for the fields used;

(v) all analytical results required by this Subpart, including copies of all laboratory reports;

(vi) monitoring data and information to demonstrate compliance with the pathogen and vector attraction reduction requirements of this Subpart, if required;

(vii) for biosolids land application, the following certification statement:

"I certify, under penalty of law, that the information that will be used to determine compliance with Subpart 360-4 of 6 NYCRR Part 360 has been prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

This statement must be signed by the permit holder or an authorized agent and indicate the name and title of the individual signing;

(viii) a description of any difficulties encountered during land application, any complaints arising as a result of the land application operation and the corrective actions taken; and

(ix) a revised management plan for land application for the next year based on previous application rates and crop planting patterns for the next year. The plan must include crops to be grown, fields to be used, schedules and methods of application and harvesting, and revised nutrient and hydraulic loading rates. All calculations must be included.

Historical Note

Sec. filed Oct. 28, 1988; amd. filed Aug. 5, 1993; repealed, new filed Jan. 7, 2003 eff. 60 days after filing.

§ 360-4.7 Additional design criteria and operational requirements for biosolids land application facilities.

In addition to the operational requirements identified in section 360-4.6 of this Subpart, the following operational requirements apply for a biosolids or septage land application facility:

(a) *Design criteria and management practices.* (1) Soil pH must be adjusted to 6.5 standard units or higher prior to land application unless lime stabilized biosolids are used. If lime stabilized biosolids are used, the soil pH must be 6.5 standard units or higher after biosolids application.

(2) Land application must not adversely affect a threatened or endangered species or its designated critical habitat.

(3) The annual cadmium application rate must not exceed 0.45 pound per acre.

(4) The cumulative loading limits are found in Table 5 of section 360-5.10 of this Part based on soil groups defined by the Department of Agriculture and Markets. The metal loading must not exceed 20 percent of the cumulative loading limit in any one year.

(b) *Pathogen and vector attraction reduction.* (1) One of the following alternatives, designated as class B pathogen reduction, must be used to significantly reduce pathogens in the biosolids prior to land application:

(i) Class B - alternative 1. The biosolids must be treated by one of the following processes:

(*a*) Aerobic digestion. Biosolids are agitated with air or oxygen to maintain aerobic conditions for a mean cell residence time of at least 40 days at 20°C or greater or at least 60 days if the temperature is less than 20°C but greater than or equal to 15°C.

(*b*) Air drying. Biosolids are dried on sand beds or on paved or unpaved basins, at a maximum depth of nine inches. The biosolids must dry for a minimum of three months. During at least two of the three months, the ambient average daily temperature must be above 0°C.

(*c*) Anaerobic digestion. Biosolids are treated in the absence of air for a mean cell residence time of at least 15 days at 35°C or greater or at least 60 days at less than 35°C but greater than or equal to 20°C.

(*d*) Composting. Using the within-vessel, aerated static pile or windrow composting methods, the temperature of the biosolids is raised to 40°C or higher and remains at 40°C or higher for five consecutive days. For at least four consecutive hours during the five days, the temperature in the compost pile must exceed 55°C.

(*e*) Lime stabilization. Sufficient lime must be added to the biosolids to raise the pH of the biosolids to 12 standard units and maintain this pH for a period of at least two hours.

(*f*) Other methods. Other methods or operating conditions may be acceptable if pathogens are reduced to an extent equivalent to the reduction achieved by any of the above methods and must be approved by the department.

(ii) Class B - alternative 2. The geometric mean of the density of fecal coliform of seven analyses representative of the waste to be land applied must be less than either 2,000,000 most probable number per gram of total solids (dry weight basis) or 2,000,000 colony forming units per gram of total solids (dry weight basis). The seven samples must be taken over a 14-day period.

(2) One of the following vector attraction reduction requirements must be achieved:

(i) The mass of volatile solids in the biosolids is reduced by a minimum of 38 percent.

(ii) If the volatile solids reduction requirement cannot be met for anaerobically digested biosolids, vector attraction reduction can be demonstrated by anaerobically digesting a portion of the previously digested biosolids in a laboratory bench-scale unit for 40 additional days at a temperature between 30°C and 37°C. Vector attraction reduction is achieved if the bench-scale digestion produces less than a 17 percent reduction in volatile solids content.

(iii) If the volatile solids reduction requirement cannot be met for aerobically digested biosolids, vector attraction reduction can be demonstrated by aerobically digesting a portion of the previously digested biosolids that has a percent solids of two percent or less in a laboratory bench-scale unit for an additional 30 days at 20°C. Vector attraction reduction is achieved if the bench scale digestion produces less than a 15 percent reduction in volatile solids content.

(iv) The specific oxygen uptake rate (SOUR) for biosolids treated in an aerobic process must be equal to or less than 1.5 milligrams of oxygen per hour per gram of total solids (dry weight basis) at a temperature of 20°C.

(v) Biosolids are treated by an aerobic process for a minimum of 14 consecutive days. Throughout that treatment time, the temperature of the biosolids must remain higher than 40°C and the average temperature of the biosolids must be higher than 45°C.

(vi) The pH of the biosolids must be raised to 12 standard units or higher by alkali addition and, without the addition of more alkali, must remain at 12 standard units or higher for two hours and then remain at 11.5 standard units or higher for an additional 22 hours.

(vii) For biosolids that do not contain untreated solids generated in a primary wastewater treatment process, the percent solids of the biosolids must be equal to or greater than 75 percent, prior to mixing with other materials, until land application.

(viii) For biosolids that contain untreated solids generated in a primary wastewater treatment process, the percent solids of the biosolids must be equal to or greater than 90 percent, prior to mixing with other materials, until land application.

(ix) Biosolids must be injected below the surface of the land. No significant amount of biosolids may be present on the land surface within one hour after the biosolids are injected.

(x) Biosolids must be incorporated into the soil within six hours after application on the land.

(3) The following site restrictions must be followed:

(i) Public access to land with a high potential for public exposure must be restricted during land application and for at least one year after land application. Public access to land with a low potential for public exposure must be restricted during land application and for at least 30 days after application. Access must be controlled during that period by the use of posted signs. In sensitive areas, the department may require the use of fences and gates or other appropriate means.

(ii) Food crops with harvested parts that are totally above the land surface must not be harvested for 14 months after land application. Food crops with harvested parts below the surface of the land must not be harvested for 38 months after land application.

(iii) Food crops grown above the soil with harvested parts that do not touch the biosolids/soil mixture, feed crops and fiber crops must not be harvested for at least 30 days after land application.

(iv) Animals must not be grazed on the land for at least 30 days after land application.

(v) Turf grown on land where biosolids are applied must not be harvested for one year after land application when the harvested turf will be placed on either land with a high potential for public exposure or a lawn.

(c) *Monitoring, recordkeeping and reporting.* (1) Each biosolids source must be analyzed annually in accordance with the following.

(i) The parameters for analysis are found in Table 1, in section 360-5.10 of this Part.

(ii) The minimum number of analyses, for each waste source, that must be submitted with the application is dependent upon the amount of biosolids that will be land applied annually, according to Table 6, found in section 360-5.10 of this Part.

(iii) With the exception of pH and total solids, all results must be reported on a dry-weight basis. The analyses must comply with the criteria found in section 360-4.4(a)(2)(iii), (vi), (vii), (viii), (x) and (xi) of this Subpart. After the biosolids have been monitored for two years at the frequency outlined in this paragraph, the department may reduce the annual number of analyses required for Group C parameters if the biosolids quality is consistently below the quality standards.

(iv) Wastewater and partially treated biosolids or sludge that are generated at one facility and treated at another wastewater treatment facility prior to beneficial use are not considered waste sources subject to the criteria in this paragraph. The resultant biosolids generated for beneficial use are subject to this paragraph.

(2) Sufficient monitoring data must be obtained to demonstrate compliance with the pathogen and vector attraction reduction requirements of this Subpart. The frequency and type of monitoring necessary will depend on the methods employed to achieve pathogen and vector attraction reduction, and will be determined by the department.

(3) Annual soil sampling is required. The criteria are found in section 360-4.4(f) of this Subpart.

(4) Annual ground water monitoring may be required, as determined by the department. If a land application site is located over an aquifer, ground water monitoring for viruses or indicator organisms may be required.

Historical Note

Sec. filed Oct. 28, 1988; repealed, new filed Jan. 7, 2003 eff. 60 days after filing.

§ 360-4.8 Additional design criteria and operational requirements for other solid waste land application facilities.

In addition to the operational requirements identified in section 360-4.6 of this Part, the following operational criteria apply for a land application facility for solid waste other than biosolids or septage.

(a) *Domestic sewage or septage content.* If there is any domestic sewage or septage contribution to the treatment facility generating the waste, the waste treatment process must satisfy the

pathogen and vector attraction reduction requirements outlined in section 360-4.7(b) of this Subpart unless it can be demonstrated that the sanitary waste is a minor portion of the waste stream and that Salmonella sp. bacteria, enteric viruses, and viable helminth ova are below detectable levels.

(b) *Nutrient or lime content.* The solid waste must contain at least one percent total Kjeldahl nitrogen or at least 50 percent calcium carbonate equivalence, or provide sufficient documentation to demonstrate that the material is a benefit to the soil or plant grown.

(c) *Monitoring, recordkeeping, and reporting.* Annual waste monitoring may be required, depending on the characteristics of the waste involved. The parameters for analysis and the frequency will be determined by the department depending on the quantity and quality of the waste involved.

Historical Note

Sec. filed Oct. 28, 1988; repealed, new filed Jan. 7, 2003 eff. 60 days after filing.

§ 360-4.9 Permit application requirements for storage facilities for solid waste prior to land application.

In addition to the requirements set forth in section 360-1.9 of this Part pertaining to engineering report contents, the engineering report to be submitted as part of an application for a permit for a storage facility for biosolids or other solid waste prior to land application must contain the following information:

(a) The location of the proposed storage facility on a U.S. Geological Survey topographic map with a scale of 1:24,000 or an equivalent map.

(b) A map having a minimum scale of 1:2,400 with 20 feet minimum contour intervals, which shows:

(1) the location of the storage facility and the location of existing and proposed soil borings, test pits, monitoring wells, residences, public contact areas, buildings and appurtenances, fences, gates, roads, parking areas, and drainage culverts on-site and within 2,000 feet of the facility for surface impoundments and within 800 feet for other storage facilities;

(2) the direction of prevailing winds;

(3) the location of access roads and roads on-site; and

(4) all surface water bodies, regulated wetlands, potable water wells and flood plains on-site and within 500 feet of the facility.

(c) Details of the construction of the storage facility, including existing and proposed elevation contours, plan views and cross sectional views, spill containment structures, leak detection systems, and loading and unloading apparatus.

(d) For surface impoundments, a construction plan for the facility including a construction quality assurance/construction quality control plan as outlined in section 360-2.8 of this Part if a soil liner is used or as outlined in Subpart 360-2 of this Part if a geomembrane is used.

(e) For surface impoundments, a hydrogeologic report that is consistent with section 360-2.11 of this Part and that identifies or characterizes the depth to ground water and bedrock, the critical stratigraphic section and the direction of ground water flow. The report must also discuss the monitorability of the site and the location of any recharge areas for primary or principal aquifers, and the location of any unstable areas.

(f) A description of the operation of the facility which includes:

(1) a schedule of operation including the days and hours the facility will be open;

(2) anticipated daily traffic flow to and from the facility;

(3) procedure for unloading and loading trucks; and

(4) sampling methods to be used to obtain representative samples of the material in the storage facility.

(g) The name of the owner of the property.

(h) A list of personnel and their responsibilities.

(i) A contingency plan to address the course of action to be taken in the event contamination is detected in the down gradient wells or leak detection system and other possible problems, including odors.

(j) A closure plan for the storage facility outlining how the facility will be properly closed, as provided in section 360-1.14(w) of this Part.

Historical Note

Sec. filed Oct. 28, 1988; amd. filed Aug. 5, 1993; repealed, new filed Jan. 7, 2003 eff. 60 days after filing.

§ 360-4.10 Design and operational requirements for storage facilities for solid waste prior to land application.

(a) For a surface impoundment, a permittee may not operate the storage facility until certification of construction in accordance with the approved engineering report and plans and specifications have been submitted to and approved in writing by the department. The certification must be signed by an individual licensed to practice engineering in the State of New York.

(b) The minimum horizontal separation distances set forth in section 360-4.6(b)(1) of this Subpart apply, except that the separation to a nearby residence, place of business, or public contact area is increased to 1,500 feet for surface impoundments.

(c) Vector control must be practiced when necessary, as determined by the department.

(d) Access to surface impoundments and open tanks must be strictly and continuously controlled by fencing, gates, and signs.

(e) All samples obtained from the storage facility must be representative of the material stored. The number of samples necessary will be determined by the department based on the waste type and quantity of waste stored.

(f) All storage facilities must be completely emptied, cleaned, and inspected at least once every 12 months. The department must be notified at least one week before the cleaning operation is complete to afford the department the opportunity to inspect the facility before additional material is placed in the facility. Any damage or deterioration revealed by the inspections must be repaired before the facility again receives waste.

(g) Surface impoundments must be constructed above the 100-year flood elevation and must be constructed with a liner system to minimize percolation. The liner system must consist of either a minimum of two feet of compacted soil having a maximum remolded coefficient of permeability of 1×10^{-7} centimeters per second or a synthetic material approved by the department. The soil material particles must be able to pass through a one inch screen.

(h) For surface impoundments, the facility must be monitorable and must not be located within the recharge area of a primary or principal aquifer or in an unstable area as defined in section 360-2.12(c)(3)(v) of this Part.

(i) If soil is used for a liner, the applicable criteria in section 360-2.13(j) of this Part must be followed. Any geomembrane liner used must be in accordance with section 360-2.13(k) of this Part.

(j) Surface impoundments must have a minimum of two feet of freeboard. The bottom of the impoundment liner system must be a minimum of five feet above both seasonal high ground water and bedrock.

(k) A minimum of one upgradient and two downgradient monitoring wells, or more as determined by the department, must be installed at a surface impoundment site. Ground water wells must be placed in accordance with section 360-2.11(c)(1) of this Part and be constructed in accordance with section 360-2.11(a)(8) of this Part. If multiple surface impoundments are used and are not in close proximity to each other, then each impoundment must have separate monitoring well arrays. A secondary liner system with leachate collection and monitoring may substitute for ground water monitoring, if approved by the department.

(l) Water quality must be established in accordance with section 360-2.11(c)(5)(i) of this Part before placement of any biosolids, septage, or other solid waste in a surface impoundment.

(m) Storage facilities other than surface impoundments may be constructed of concrete, steel, or other material approved by the department. The storage facility must be designed with a minimum of two feet of freeboard.

(n) Quarterly sampling of the wells at a surface impoundment site must be conducted for the following parameters: chloride, nitrate, ammonia, sulfate, specific conductivity, total hardness, alkalinity, total organic carbon and chemical oxygen demand. In addition, for facilities that store biosolids, annual sampling is required for the following parameters: arsenic, cadmium, copper, lead, mercury, molybdenum, nickel, selenium, zinc, boron, barium, beryllium, cyanide, turbidity and volatile organic compounds. All analyses must be performed by a laboratory certified by the New York State Department of Health, using methods acceptable to the department, unless use of an alternate laboratory or method is authorized by the department. Copies of the original laboratory results must be included.

(1) The department may require sampling for additional parameters based on the type of waste stored and/or past monitoring results.

(2) Sample collection must comply with the criteria found in section 360-2.11(d)(3)(i)-(viii) of this Part.

(3) Samples must be handled, preserved, and shipped in accordance with applicable protocols, as determined by the department. Chain of custody procedures for the sample must be documented.

(4) Sampling results reported to the department must include the laboratory results, sampling methods, sampling personnel, dates and times samples were taken, purge volumes, field parameters and other relevant information.

(5) The department must be notified at least five days before each sampling event.

(o) All monitoring well results must be submitted to the department within 60 days after each sampling event.

(p) The permittee must submit an annual report to the department's central office and appropriate regional office no later than March 1st of each year covering the previous calendar year, on forms prescribed by or acceptable to the department. The report must include: all required analyses, source and quantities of waste and delivery dates, quantities of waste removed and dates removed, results of annual inspections, and descriptions of any operating problems and corrective actions taken. The submittal of the annual report may be combined with an associated land application annual report.

(q) *Closure.* Closure activities must be completed in accordance with the closure plan submitted with the permit application and must be completed within 180 days. At closure, all solid waste must be removed from the storage facility and any connecting lines.

Historical Note

Sec. filed Oct. 28, 1988; amd. filed Aug. 5, 1993; repealed, new filed Jan. 7, 2003 eff. 60 days after filing.

§ 360-4.11 Research projects.

The requirements for engineering plans, reports, and specifications found in section 360-1.9 of this Part and in this Subpart may be modified for facilities used solely for research purposes under the direction of a professional engineer licensed in the State of New York or a research scientist affiliated with an accredited university or research institution located within the State of New York.

(a) *Permit application.* The permit application must contain a copy of the research proposal. The research proposal must:

(1) describe the proposed activity in detail;

(2) contain a detailed discussion that includes the project objectives, schedule, site location and characteristics, crop management plan, monitoring proposals, methods for evaluating project performance, and proper site closure;

(3) contain any of the information in section 360-4.3 of this Subpart as required by the department;

(4) contain an outline of all personnel involved and their responsibilities; and

(5) contain written permission of all landowners, if the landowner(s) are not also the applicant, to use the land for the research project.

(b) *Design and operational requirements.* (1) The land application site must not exceed 25 acres.

(2) The facility must be developed, operated, monitored, and maintained in a nuisance-free manner that will be protective of the environment.

(3) Project summary report. Unless otherwise approved by the department, within 90 days after the expiration date of the research, development and demonstration permit, a project summary report must be submitted to the department that includes the following information:

(i) a summary of the project objectives, information gathered, analyses conducted, and project results; and

(ii) any operating problems and other limitations encountered and areas requiring further study.

(c) *Permit restrictions.* A research, development and demonstration permit issued under this section is subject to the restriction and renewal criteria found in section 360-1.13(a), (c) and (d) of this Part.

Historical Note

Sec. filed Jan. 7, 2003 eff. 60 days after filing.

SUBPART 360-5

COMPOSTING AND OTHER CLASS A ORGANIC WASTE PROCESSING FACILITIES

Sec.

Historical Note

Subpart (§§ 360-5.1—360-5.5) filed Oct. 28, 1988; repealed, new (§§ 360-5.1—360-5.10) filed Jan. 7, 2003 eff. 60 days after filing.

§ 360-5.1 Applicability.

This Subpart regulates the construction and operation of composting and other organic waste processing (OWP) facilities for mixed solid waste, source separated organic waste, biosolids, septage, yard waste and other solid waste.

Historical Note

Sec. filed Oct. 28, 1988; repealed, new filed Jan. 7, 2003 eff. 60 days after filing.

§ 360-5.2 Definitions.

(a) *Definitions.* The following terms have the following meanings when used in this Subpart:

(1) *Agronomic rate* means the rate of nitrogen addition designed to provide the amount of nitrogen needed by the crop or vegetation grown on the land, and to minimize the amount of nitrogen that passes below the root zone of the crop or vegetation grown on the land to the ground water.

(2) *Amendment* means an organic material added to waste prior to composting to reduce bulk weight and increase air voids, and to increase the quantity of degradable organics.

(3) *Biosolids* means sewage sludge that can be beneficially used.

(4) *Bulking agent* means a material added to waste to increase porosity and facilitate aeration during composting.

(5) *Curing area* means an area where organic material that has undergone the rapid initial stage of decomposition is further stabilized into a humus-like material.

(6) *Dry weight basis* means calculated on the basis of having been dried at 105°C until reaching a constant mass (*i.e.*, essentially 100 percent solids content).

(7) *Feed crops* means crops produced primarily for consumption by animals.

(8) *Fiber crops* means crops such as flax and cotton.

(9) *Food crops* means crops consumed by humans including, but not limited to, fruits, vegetables, and tobacco.

(10) *Gross contaminants* means constituents of the solid waste stream that are not readily decomposed and may be present in a product including, but not limited to, pieces of metal, glass, plastic, rubber, bones, and leather. *Gross contaminants* does not include sand, rocks, wood pieces, and other similar materials.

(11) *Mature* means the characteristics of a soil conditioning material that render it harmless to the plant grown when used as a topsoil or soil supplement and make it sufficiently stable that it will not generate offensive odors during storage, handling, or ultimate use.

(12) *Organic waste processing (OWP) facility* means a facility involved in the processing of readily biodegradable organic components in solid waste to produce a mature product for beneficial use as a source of nutrients, organic matter, liming value, or other essential constituent for a soil or plant. The processes include, but are not limited to, composting, heat drying, and chemical stabilization.

(13) *Pathogenic organisms* means disease-causing organisms including, but not limited to, certain bacteria, viruses, protozoa and viable helminth ova.

(14) *pH* means the logarithm of the reciprocal of the hydrogen ion concentration measured at 25°C or measured at another temperature and then converted to an equivalent value at 25°C.

(15) *Public contact area* means land with a high potential for contact by the public including, but not limited to, public parks, ball fields, cemeteries, plant nurseries, turf farms, golf courses and school yards.

(16) *Seed material* means a source of microorganisms and/or nutrients added to waste to accelerate or activate the composting process.

(17) *Source-separated organic waste (SSOW)* means readily degradable organic material that has been separated from non-compostable material at the point of generation including, but not limited to, food waste, soiled or unrecyclable paper, and yard waste in combination with any of the former materials. It does not include biosolids, sludge, or septage.

(18) *Vector attraction* means the characteristic of certain solid wastes that attracts rodents, flies, mosquitos, or other organisms capable of transporting infectious agents.

(19) *Volatile solids* means that portion of the total solids that is lost when the material is combusted at 550°C in the presence of excess air.

(20) *Untreated solids* means the organic materials in waste that have not been treated in either an aerobic or anaerobic treatment process.

(21) *Waste derived soil conditioning product* means a mature material that meets the criteria of this Subpart that can be beneficially used as a source of nutrients, organic matter, liming value, or other essential constituent for a soil or plant.

(b) *General definitions.* In addition to the definitions contained in subdivision (a) of this section, the definitions in section 360-1.2 of this Part also apply.

Historical Note

Sec. filed Oct. 28, 1988; amd. filed Aug. 5, 1993; repealed, new filed Jan. 7, 2003 eff. 60 days after filing.

§ 360-5.3 Exemptions and registration.

(a) *Exemptions.* The following facilities are exempt from this Part provided the facility is operated in a manner that does not produce dust or odors that unreasonably impact on neighbors of the facility, as determined by the department, and no material accepted at the facility remains on-site unprocessed for more than 36 months.

(1) A composting facility that accepts crop residues, animal manure and associated bedding material. For purposes of this exemption bedding material includes hay, straw, sawdust, wood shavings, newsprint and materials approved for use pursuant to a department beneficial use determination issued in accordance with Subpart 360-15 of this Title.

(2) A composting facility that accepts no more than 3,000 cubic yards of yard waste, either processed or unprocessed, per year. This quantity does not include tree debris materials that are not intended for composting. For the purposes of Part 360 and this Subpart, precipitation, surface water, and groundwater that has come in contact with yard waste or the resultant compost is not considered leachate, however, it must be managed within the site and must not enter a surface waterbody, a conveyance to a surface waterbody, or cause a contravention of water quality standards.

(3) A composting facility that accepts a combination of wastes that would be exempt if operating individually for each type of waste, such as a composting facility that accepts no more than 3000 cubic yards of yard waste and accepts animal manure.

(4) A composting facility for animal mortalities if the facility is located on a farm and accepts no more than 10 animals per years, or is located on a CAFO, provided the CAFO is permitted pursuant to Part 750 of this Title and has a CNMP. For facilities that are not permitted pursuant to Part 750 of this Title, the mortality must be placed within a compost pile on the day received.

(5) The following anaerobic digestion (AD) facilities:

(i) AD facilities that accept only one or more of the following wastes: animal manure and bedding, crop residues and similar farm wastes. The farm wastes do not need to be generated on the location where the digester is located. The following activities associated with the AD facility are also exempt facilities regardless of location:

(*a*) land application of the solids and/or liquid emanating from the AD facility;

(*b*) use of the dewatered solids from the AD facility for animal bedding;

(*c*) use of the blended dewatered solids from the AD facility as a topsoil provided the topsoil blend does not cause odors when stored or used; and

(*d*) a composting facility for the dewatered solids from the AD facility.

(ii) AD facilities located on a CAFO, permitted pursuant to Part 750 of this Title, that has a CNMP, for manure, food processing waste, fats, oils, and grease, and other wastes without human fecal matter (sewage sludge, septage, etc.). The non-manure waste received must not exceed 50 percent, by volume, of waste placed in the AD unit on an annual basis. The following activities associated with the AD facility are also exempt facilities regardless of location:

(*a*) land application of the solids and/or liquid emanating from the AD facility provided the nutrient loading is addressed in a CNMP;

(*b*) use of the dewatered solids from the AD facility for animal bedding;

(*c*) use of the blended dewatered solids from the AD facility as a topsoil provided the topsoil blend does not cause odors when stores or used; and

(*d*) a composting facility for the dewatered solids from the AD facility.

(b) *Registration.* (1) Eligible facilities. The following solid waste management facilities are eligible for the registration provisions of section 360-1.8(h) of this Part, provided the facility complies with section 360-1.8(h) of this Part and paragraph (2) of this subdivision. Any eligible or registered facility which is not operated in compliance with these conditions requires a permit pursuant to this Part and will be subject to applicable enforcement provisions in this Part and the Environmental Conservation Law, article 70.

(i) A composting facility that accepts more than 3,000 cubic yards but not more than 10,000 cubic yards of yard waste per year. This quantity limit does not include tree debris materials that are not intended for composting.

(ii) A composting facility that accepts no more than 1,000 cubic yards of source-separated organic waste per year.

(iii) A composting facility for food processing waste.

(iv) An organics processing facility for animal mortalities or parts generated from a farm, slaughterhouse, butcher, or other generator.

(v) A composting facility for the dewatered solids from an AD subject to registration under paragraph (3) of this subdivision.

(2) Operational criteria. A registered facility must be constructed and operated in compliance with the following conditions:

(i) material accepted does not remain on-site for more than 36 months;

(ii) the process uses acceptable amendments or bulking agents and follows an acceptable method of composting that minimizes odor generation and results in a mature product;

(iii) the facility is constructed to minimize any ponding on the composting area; and

(iv) the facility is at least 200 feet from the nearest surface water body, potable water well, and residence or place of business, excluding the generating business and any residence or place of business built after the facility began operation. This separation distance requirements may be increased to 500 feet in densely populated or otherwise sensitive areas, as determined by the department.

(3) The following AD facilities, that are not otherwise exempt facilities, are subject to the registration provisions of section 360-1.8 of this Part:

(i) AD facilities that accept less than 50 tons of waste per day, provided the operating conditions in subparagraph (ii) of this paragraph are met. The waste must not contain human fecal matter (sewage sludge, septage, etc). AD facilities that accept any waste containing any sanitary content (*e.g.*, septage, biosolids) or more than the amounts of waste outlined in this section must obtain a permit under this Subpart. Incoming waste must not be placed on the ground or in a manner that leads to groundwater or surface water impacts, and odors must controlled. The following activities associated with the AD facility are handled as follows:

(*a*) land application of the solids and/or liquid emanating from the AD facility requires registration under section 360-4.2(b)(1) of this Part unless land application occurs on a CAFO, permitted pursuant to Part 750 of this Title, and is addressed in a CNMP. Application on a CAFO, permitted pursuant to Part 750 of this Title is exempt;

(*b*) use of the dewatered solids from the AD facility for animal bedding is exempt;

(*c*) use of the blended dewatered solids from the AD facility as a topsoil provided the topsoil blend does not cause odors when stored or used; and

(*d*) a composting facility for the dewatered solids from the AD facility requires registration under this Subpart.

(ii) The following operating conditions are satisfied:

(*a*) all waste received must be size reduced, if necessary, to effectively digest;

(*b*) all waste received must be source separated, with minimal (less than one percent by volume) non-organic material present;

(*c*) for low solids AD, the operating level in the AD vessel must be maintained so that spillage or discharge into the gas collection system does not occur; and

(*d*) the AD must achieve a minimum of 38 percent volatile solids reduction.

Historical Note

Sec. filed Oct. 28, 1988; amd. filed Nov. 4, 1999; repealed, new filed Jan. 7, 2003; amd. filed April 18, 2013 eff. 60 days after filing. Amended (a)-(b).

§ 360-5.4 General permit application requirements for organic waste processing facilities.

In addition to the requirements set forth in section 360-1.9 of this Part pertaining to engineering report contents, the engineering report required to be submitted as part of an initial application to construct and operate an organic waste processing facility must contain the following information:

(a) A regional map that delineates the location of the proposed facility, the location of the closest population centers, and transportation systems including highways located within the service area of the proposed facility and within one mile of the proposed facility.

(b) A vicinity map that delineates zoning and land use, residences, surface waters, access roads, and other existing and proposed features within the proposed facility and within one-half mile of the proposed facility.

(c) A site plan map (minimum scale of 1:2,400 with 20 feet contour intervals) that shows:

(1) the location of the proposed facility;

(2) the facility drainage characteristics, identifying the direction of both site run-on and run-off, ditches, and swales together with any run-off controls that exist or will be implemented with facility construction;

(3) the location of all processing areas and storage areas;

(4) the location of all residences, public contact areas and buildings, including the identification of any buildings which are owned by the applicant or operator, on-site and within 800 feet of the site;

(5) the location of access roads and roads on-site;

(6) the location of property boundaries;

(7) the location of all potable water wells and surface water bodies on-site and within 500 feet of the site;

(8) the location of all drainage swales on-site and within 100 feet of the site; and

(9) existing and proposed elevation contours and the direction of prevailing winds.

(d) A map depicting the location and classification of any regulated wetlands and the location of any floodplain within 500 feet of the site.

(e) A detailed description of the source, quality, and quantity of all solid waste to be processed, including the source, quality, and expected quantity of any bulking agent, amendment, admixture, or seed material. The description must include the annual input and any seasonal variations in the solid waste type and quantity, and the appropriate quality data, as determined by the department.

(f) Engineering plans and specifications for the facility that include a description of the facility and:

(1) the type, purpose, size, and associated detention times for the handling, processing, and storage equipment or structures and calculations that demonstrate that all equipment and structures have sufficient capacity for the material that will be accepted;

(2) the method of measuring, shredding, mixing, and proportioning input materials;

(3) a description and the capacity of the storage facilities used for amendment, bulking agent, admixture, solid waste, and product;

(4) a description of all pre-processing and post-processing methods and equipment used to identify and remove all nonprocessible materials and a copy of all agreements or educational activities that will be used to outline acceptable materials for the facility;

(5) the separation, processing, storage, and ultimate disposal location for nonprocessible materials;

(6) a process flow diagram of the entire process, including all major equipment and flow streams. The flow streams must indicate the quantity of material on a wet weight, dry weight, and volumetric basis;

(7) an outline of the processing time duration, including the time period from acceptance of waste to completion of composting and curing (or treatment) to the distribution of the product;

(8) if windrows are used, pile dimensions including width, length, and height;

(9) the air emission collection and control equipment, if used;

(10) the method to control surface water run-off and to manage leachate, including the method for treatment or disposal of leachate generated. For uncovered sites, calculations of the leachate that must be handled at the site, based on a rainfall intensity of one-hour duration and a 10-year return period; and

(11) for facilities that will use a low permeability soil to minimize leachate release: a construction quality assurance/construction quality control plan as outlined in section 360-2.8 of this Part. If a geomembrane will be used, the applicable information required in Subpart 360-2 of this Part must be submitted.

(g) A description of the operation of the facility, including:

(1) the schedule of operation including the days and hours that the facility will be open;

(2) the daily traffic flow to and from the facility; and

(3) the procedure that will be used for unloading trucks.

(h) A monitoring, sampling, and analysis plan that outlines:

(1) the location, purpose, frequency and method for all monitoring points in the process;

(2) the location, purpose, frequency and method for waste and product sampling; and

(3) the protocol used to obtain representative samples, the preparation and preservation of samples, and the laboratory that will be used for analyses.

(i) A product maturity and distribution plan that includes:

(1) an outline of the method that will be used to determine product maturity, including proposed standards for maturity and the monitoring methods or other means that will be used to measure maturity;

(2) a description of the ultimate use for the finished product, including the quantity of product each user is expected to take, the frequency of distribution, the expected use of the product, and the source of this information (contract, phone survey, etc.);

(3) the method for removing product from the facility;

(4) a description of the proposed use or disposal of product that cannot be used in the expected manner due to poor quality or change in market conditions; and

(5) a copy of the label or other information source for the product.

(j) The name of the owner of the facility and the property.

(k) A list of the facility personnel and their respective responsibilities.

(l) A contingency plan that describes the corrective actions to be taken in the event of equipment breakdowns, delivery of unacceptable waste to the facility, spills, fires, noise and vectors.

(m) An operation and maintenance manual that contains general design information and detailed operational information and instructions. In addition, the manual must list the procedures used for sampling and analyzing the solid waste and product, process monitoring, and recordkeeping.

(n) An odor management plan that outlines how the production and migration of odorous compounds will be minimized, including design and operational practices. The plan must also include specific steps that will be taken during the operation of the facility to address complaints and actions that will be taken if unacceptable odors occur in areas beyond the property line of the facility.

(o) A closure plan for the facility, as outlined in section 360-1.14(w) of this Part.

Historical Note

Sec. filed Oct. 28, 1988; amd. filed Aug. 5, 1993; repealed, new filed Jan. 7, 2003 eff. 60 days after filing.

§ 360-5.5 Organic waste processing facilities for biosolids, mixed solid waste, septage and other sludges.

(a) *Additional permit application requirements.* This section describes the permit application requirements for organic waste processing facilities for mixed solid waste, biosolids, septage, and other sludges such as paper mill sludge. In addition to the requirements set forth in section 360-5.4 of this Subpart pertaining to engineering report contents, the engineering report that

must be submitted as part of an initial application to construct and operate an OWP facility for biosolids, mixed solid waste, septage and other sludges must contain the following information:

(1) If biosolids, septage, or other sludges are to be processed, the following information must be included:

(i) A description of each proposed source of waste including the name of the generator, the annual quantity of waste produced, the amount of waste to be processed, and any seasonal variations in the quantity or quality during the year. Also, a description of the Federal or State pretreatment program, if required.

(ii) Except for mixed solid waste, a description of the quality of the waste, including analytical results, as outlined below:

(*a*) The parameters for analysis are found in Table 1, found in section 360-5.10 of this Subpart.

(*b*) The minimum number of analyses for each waste source that must be submitted with the application is dependent upon the amount of waste that will be processed annually, and is outlined in Table 3 in section 360-5.10 of this Subpart.

(*c*) For each analysis, the sampling date, location, and protocol used to obtain representative samples must be indicated.

(*d*) A minimum of six months of waste production must be represented by the analytical results submitted. With the exception of pH and total solids, all results must be reported on a dry-weight basis.

(*e*) Analyses for other pollutants may be required, on a case specific basis, based on the characteristics of the waste and information from the pretreatment program and other sources.

(*f*) Each analysis must be performed by a laboratory certified by the New York State Department of Health for that type of analysis, using methods acceptable to the department, as outlined in Table 12 in section 360-5.10 of this Subpart, unless use of an alternative laboratory is authorized by the department. Copies of the original laboratory results must be included with the permit application.

(*g*) The analysis requirement may be satisfied in part or in whole by recent samples analyzed for and reported to the department, if approved by the department.

(*h*) Analyses performed more than one year prior to the date the permit application is submitted are not acceptable.

(*i*) All samples must be representative of the waste to be processed. Guidance on obtaining representative samples can be found in "POTW Sludge Sampling and Analysis Guidance Document", USEPA, August 1989.

(*j*) Wastewater and partially treated biosolids or septage that are generated at one facility and treated at another wastewater treatment facility prior to beneficial use are not considered waste sources subject to the criteria in this subparagraph. The resultant biosolids or sludge generated for beneficial use are subject to this subparagraph.

(*k*) A table summarizing the analytical results must be provided, including the mean, median, and range of results found.

(2) Analyses of the bulking agent, amendment, or admixture for the parameters found in paragraph (a)(1) of this section if deemed necessary by the department based on the type of material used.

(3) If mixed solid waste is to be processed, a description of the recyclables separation program and household hazardous waste (HHW) collection program for the proposed service area including:

(i) the methods used for removing recyclables prior to treatment, both at the facility and at the site of generation;

(ii) the processing methods used to handle recyclables and HHW;

(iii) the method and length of storage for both recyclables and HHW;

(iv) the markets for recyclables;

(v) the method used to remove HHW from the solid waste stream, both at the facility and at the site of generation; and

the ultimate disposal location for HHW collected.

(4) For mixed solid waste and solid waste that contains human waste, a detailed description of the proposed processes to reduce pathogenic organism content and to reduce vector attraction including:

(i) the methods that will be used for pathogen reduction and vector attraction reduction. Acceptable methods are listed in subdivision (b) of this section. The use of alternative 4 or 5 must also include a detailed description of how the process will produce a product that is sufficiently stable that it can be used without being a public nuisance;

(ii) the monitoring and data gathering procedures that will be used to demonstrate compliance with the pathogen and vector attraction reduction requirements, including type, location, and frequency; and

(iii) for existing systems, recent operating data and analytical data to demonstrate that the system can satisfy the pathogen and vector attraction reduction requirements.

(b) *Pathogen and vector attraction reduction.* The following requirements apply to mixed solid waste and solid waste that contains any amount of human waste.

(1) One of the following alternatives (designated as class A pathogen reduction) must be used to reduce pathogen content before the material leaves the facility, except for the use of AD digestate on a farm. Alternative 2 is not applicable for composting. Alternative 4 or 5 can only be used if the process cannot produce operational data that could be used to meet another PR alternative.

(i) Class A - alternative 1. Either the density of fecal coliform in the product is less than 1,000 most probable number per gram of total solids (dry weight basis), or the density of Salmonella sp. bacteria in the product is less than three Most Probable Number per four grams of total solids (dry weight basis) at the time of product use or disposal and the waste must be treated by one of the following processes:

(*a*) Composting. Using the windrow composting method, the solid waste is maintained under aerobic conditions during the compost process. A minimum of five turnings is required during a period of 15 consecutive days when the temperature of the mixture is not less than 55°C. Using the aerated static pile composting method or the within-vessel composting method, the temperature of the solid waste is maintained at 55°C or higher for at least three consecutive days.

(*b*) Heat drying. Waste is dried by direct or indirect contact with hot gases to reduce the moisture content of the waste to 10 percent or lower. One of the following must be achieved:

(*1*) either the temperature of the waste particles must exceed 80°C; or

(*2*) the wet bulb temperature of the gas in contact with the waste as it leaves the dryer must exceed 80°C.

(*c*) Heat treatment. Liquid waste is heated to a temperature of 180°C or higher for at least 30 minutes.

(*d*) Thermophilic aerobic digestion. Liquid waste is agitated with air or oxygen to maintain aerobic conditions and the mean cell residence time of the waste is at least 10 days at 55°C or greater.

(*e*) Beta ray irradiation. Waste is irradiated with beta rays from an accelerator at dosages of at least 1.0 megarad at room temperature (approximately 20°C).

(*f*) Gamma ray irradiation. Waste is irradiated with gamma rays from certain isotopes, such as Cobalt 60 and Cesium 137, at dosages of at least 1.0 megarad at room temperature (approximately 20°C).

(g) Pasteurization. The temperature of the waste is maintained at 70°C or higher for 30 minutes or longer.

(h) Other methods. Other methods or operating conditions may be approved by the department if the department determines that pathogens are reduced to an extent equivalent to the reduction achieved by the above methods.

(ii) Class A - alternative 2. Treatment by thermophilic aerobic or anaerobic digestion. Either the density of fecal coliform in the product must be less than 1,000 most probable number per gram of total solids (dry weight basis), or the density of Salmonella sp. bacteria in the product must be less than three most probable number per four grams of total solids (dry weight basis) at the time of product use or disposal, and the temperature of the solid waste must be maintained at a specific value for a period of time, as follows:

(a) When the percent solids of the waste is seven percent or higher, the temperature of the waste must be 50°C or higher, the time period must be 20 minutes or longer, and the temperature and time period must be determined using the following equation, except when small particles of waste are heated by either warmed gases or an immiscible liquid.

$$D = \frac{131{,}700{,}000}{10^{0.1400\,t}}$$

Where,

D = time in days.

t = temperature in degrees Celsius.

(b) When the percent solids of the solid waste is seven percent or higher and small particles of waste are heated by either warmed gases or an immiscible liquid, the temperature and time period must be determined using the equation in clause (a) of this subparagraph. The temperature of the waste must be 50°C or greater and the time period must be 15 seconds or longer.

(c) When the percent solids of the waste is less than seven percent and the time period is at least 15 seconds, but less than 30 minutes, the temperature and time period must be determined using the equation in clause (a) of this subparagraph.

(d) When the percent solids of the waste is less than seven percent, the temperature of the waste is 50°C or higher, and the time period is 30 minutes or longer, the temperature and time period must be determined using the following equation:

$$D = \frac{50{,}070{,}000}{10^{0.1400\,t}}$$

Where,

D = time in days.

t = temperature in degrees Celsius.

(iii) Class A - alternative 3. Either the density of fecal coliform in the product must be less than 1,000 most probable number per gram of total solids (dry weight basis), or the density of Salmonella sp. bacteria in the product must be less than three Most Probable Number per four grams of total solids (dry weight basis) at the time of product use or disposal and the following conditions must be satisfied:

(a) The pH of the waste must be raised to above 12 and remain above 12 for at least 72 hours.

(b) The temperature of the waste must remain above 52°C for 12 hours or longer during the period that the pH of the waste is above 12.

(c) At the end of the 72-hour period during which the pH of the waste is above 12, the waste must be air dried to achieve a percent solids in the waste greater than 50 percent.

(iv) Class A - alternative 4. Either the density of fecal coliform in the product must be less than 1,000 most probable number per gram of total solids (dry weight basis), or the density of Salmonella sp. bacteria in the product must be less than three most probable number per four grams of total solids (dry weight basis) at the time of product use or disposal, and the following conditions must be satisfied:

(*a*) The density of enteric viruses in the product must be less than one plaque-forming unit per four grams of total solids (dry weight basis).

(*b*) The density of viable helminth ova in the product must be less than one per four grams of total solids (dry weight basis).

(v) Class A - alternative 5. Either the density of fecal coliform in the waste must be less than 1,000 most probable number per gram of total solids (dry weight basis), or the density of Salmonella sp. bacteria in the product must be less than three most probable number per four grams of total solids (dry weight basis) at the time of product use or disposal, and the following conditions must be satisfied:

(*a*) The waste must be analyzed prior to pathogen treatment to determine whether the waste contains enteric viruses.

(*b*) When the density of enteric viruses in the waste prior to pathogen treatment is less than one plaque-forming unit per four grams of total solids (dry weight basis), the waste is class A with respect to enteric viruses until the next monitoring episode for the waste.

(*c*) If the density of enteric viruses in the waste prior to pathogen treatment is equal to or greater than one Plaque-forming unit per four grams of total solids (dry weight basis), the waste is not considered class A with respect to enteric viruses until the density of enteric viruses in the waste, after pathogen treatment is less than one plaque-forming unit per four grams of total solids (dry weight basis) and the values or ranges of values for the operating parameters of the pathogen treatment process (that produces the waste that meets the enteric virus density requirement) are documented.

(*d*) After the enteric virus reduction in clause (*c*) of this subparagraph is demonstrated for the pathogen treatment process, the waste continues to be class A with respect to enteric viruses when the values for the pathogen treatment process operating parameters are consistent with the values or ranges of values documented in clause (*c*) of this subparagraph.

(*e*) The waste must be analyzed prior to pathogen treatment to determine whether the waste contains viable helminth ova.

(*f*) When the density of viable helminth ova in the waste prior to pathogen treatment is less than one per four grams of total solids (dry weight basis), the waste is class A with respect to viable helminth ova until the next monitoring episode for the waste.

(*g*) If the density of viable helminth ova in the waste prior to pathogen treatment is equal to or greater than one per four grams of total solids (dry weight basis), the waste is not considered class A with respect to viable helminth ova until the density of viable helminth ova in the waste, after pathogen treatment, is less than one per four grams of total solids (dry weight basis), and the values or ranges of values for the operating parameters for the pathogen treatment process (that produces the waste that meets the viable helminth ova density requirement) are documented.

(*h*) After the viable helminth ova reduction in clause (*g*) of this subparagraph is demonstrated for the pathogen treatment process, the waste continues to be class A with respect to viable helminth ova when the values for the pathogen treatment process operating parameters are consistent with the values or ranges of values documented in clause (*g*) of this subparagraph.

(2) One of the following vector attraction reduction methods must be achieved before the material leaves the facility. Vector attraction reduction methods, except the methods found in subparagraphs (vi)-(viii) of this subdivision, must be met either after meeting or at the same time the pathogen reduction requirements are met.

(i) The mass of volatile solids in the waste must be reduced by a minimum of 38 percent.

(ii) If the volatile solids reduction requirement cannot be met for an anaerobically digested waste, vector attraction reduction can be demonstrated by anaerobically digesting a portion of the previously digested waste in a laboratory bench-scale unit for 40 additional days at a temperature between 30°C and 37°C. Vector attraction reduction is achieved if the bench-scale digestion produces less than a 17 percent reduction in volatile solids content.

(iii) If the volatile solids reduction requirement cannot be met for an aerobically digested waste, vector attraction reduction can be demonstrated by aerobically digesting a portion of the previously digested waste that has a percent solids of two percent or less in a laboratory bench-scale unit for an additional 30 days at 20°C. Vector attraction reduction is achieved if the bench-scale digestion produces less than a 15 percent reduction in volatile solids content.

(iv) The specific oxygen uptake rate (SOUR) for waste treated in an aerobic process must be equal to or less than 1.5 milligrams of oxygen per hour per gram of total solids (dry weight basis) at a temperature of 20°C.

(v) Waste must be treated by an aerobic process for a minimum of 14 days. Throughout that treatment time, the temperature of the waste must remain higher than 40°C and the average temperature of the waste must be higher than 45°C.

(vi) The pH of the waste must be raised to 12 standard units or higher by alkali addition and, without the addition of more alkali, must remain at 12 or higher for two hours, and then must remain at 11.5 or higher for an additional 22 hours.

(vii) For waste that does not contain untreated solids generated in a primary wastewater treatment process, the percent solids of the waste must be equal to or greater than 75 percent, prior to mixing with other materials, until use.

(viii) For waste that contains untreated solids generated in a primary wastewater treatment process, the percent solids of the waste must be equal to or greater than 90 percent, prior to mixing with other materials, until use.

(c) *Pollutant limits and product use.* (1) A product that does not meet the criteria in this section must be disposed in accordance with this Part.

(2) For facilities that accept biosolids, septage, or other sludges, each waste source must not exceed the pollutant concentrations found in Table 4 of section 360-5.10 of this Subpart, unless the waste source is a minor (less than 10 percent of the total dry weight of sludges accepted) component of the input to the facility and a program is developed to identify and reduce the pollutant(s) that exceed the limits found in Table 4 of section 360-5.10 of this Subpart for that waste source. This requirement does not apply if the product is used outside New York State.

(i) If a waste input, other then a minor source, contains metals at concentrations greater than those set forth in Table 4 of section 360-5.10 of this Subpart, the waste can not be accepted at the facility until the generator has implemented a pollutant identification and abatement program and compliance with the requirements of this paragraph has been demonstrated for a period of at least six continuous months. At least six analyses for total solids and the parameter of concern must be provided to demonstrate compliance. This requirement does not apply if the product is used outside New York State.

(ii) Wastewater and partially treated biosolids that are generated at one wastewater treatment facility and are further treated at another wastewater treatment facility prior to beneficial use are not considered waste sources subject to the criteria in this paragraph. The resultant biosolids or sludge generated for beneficial use are subject to this paragraph.

(3) The product must not contain pollutant levels greater than the values found in Table 7 of section 360-5.10 of this Subpart.

(i) The addition of sawdust, soil, or other materials to the process or product for dilution purposes is not allowed.

(4) Any material added to the process must not contain pollutants in concentrations that exceed the levels found in Table 4 of section 360-5.10 of this Subpart. If kiln dust is used, the kiln dust must not emanate from a kiln that accepts hazardous waste.

(5) The product must not contain more than two percent total gross contaminants by weight (dry weight basis).

(6) The particle size of the product must not exceed 10 millimeters (0.39 inch) particle size, except for wood particles derived from the use of wood chips as a bulking agent or amendment in composting.

(7) A compost product must be produced from a composting process with a minimum detention time (including active composting and curing) of 50 days, unless an alternate means for achieving sufficient maturity is approved by the department.

(8) The product must be mature and must be used in a legitimate manner as a soil amendment. The department may require process operating conditions including, but not limited to, longer aeration time and/or product use restrictions.

(9) An information label must be affixed to the product bag or, for bulk distribution, an information sheet or brochure must be provided to the user. The label or information sheet must contain, at a minimum, the following information:

(i) the name and address of the generator of the product;

(ii) the type of waste the product was derived from;

(iii) the average metal content of the product and the allowable metal levels (or a mailing address, e-mail address, or phone number where this information can be obtained); and

(iv) recommended safe uses, restrictions on use, application rates and storage practices intended to minimize the potential for nuisance conditions and negative surface and ground water impacts emanating from the storage or use of the product.

(10) The product may be distributed for use on all crops except food crops. This restriction no longer applies 38 months or later after the pathogen reduction criteria have been met. If the product is stored for 38 months or longer, it can be distributed for use on food crops. If the product has been applied to the soil, food crops could be grown on the soil 38 months or more after product application.

(11) If the product will be marketed as a fertilizer or agricultural liming material in New York State, a license must be obtained from the New York State Department of Agriculture and Markets, if required.

(d) *Design criteria and operational requirements.* A permittee may not operate a facility under this Subpart until a certification that construction was completed in accordance with the approved engineering report, plans and specifications has been submitted to and approved in writing by the department. The certification must be signed by an individual licensed to practice engineering in the State of New York. In addition to the operational requirements identified in section 360-1.14 of this Part, the following requirements apply:

(1) On-site storage of a product is limited to 24 months, unless approved by the department on a case-specific basis. For heat drying facilities, the maximum storage time may be restricted to a shorter period due to combustion concerns, as determined by the department.

(2) Surface water drainage must be diverted away from the operating area of the facility.

(3) The waste storage area, processing area, leachate storage and product storage area at the facility must be located on surfaces that minimize leachate release into the ground water under the site and the surrounding land surface, such as asphalt (except for leachate storage), concrete, or drying beds that have under drains for leachate collection. The following criteria apply:

(i) If low permeability soils are used, the liner must be a minimum of two feet of compacted soil having a maximum remolded coefficient of permeability of 1×10^{-7} centimeters per second. The soil material particles must be able to pass through a one inch screen. The applicable criteria in section 360-2.13(j) of this Part must be complied with.

(ii) If a geomembrane is used, the liner system must be designed and built in accordance with the applicable criteria in section 360-2.13 of this Part.

(iii) If a surface impoundment is used for leachate storage, a minimum of two feet of freeboard must be maintained. In addition, the bottom of the liner system must be a minimum of five feet above both seasonal high ground water elevation; and bedrock.

(iv) For composting facilities, product storage beyond the 50 day detention time requirement does not have to occur on a low permeability surface. For products other than compost, the department shall determine when the product no longer must be stored on a pad.

(4) All leachate must be collected and disposed in a manner approved by the department. All leachate storage facilities must be completely emptied, cleaned, and inspected every 12 months.

(5) The facility must be operated to control the generation and migration of odors and dust to a level that is to be expected from a well operated facility, as determined by the department.

(6) The facility must not be operated or constructed on flood plains unless provisions have been made to prevent the encroachment of flood waters upon the facility, and such provisions are approved by the department.

(7) For composting facilities, the operation of the facility must follow acceptable methods of composting which result in the aerobic biochemical decomposition of the organic material received.

(8) The minimum horizontal separation distance as measured from the facility to the nearest residence, place of business or public contact area must be 500 feet, except as provided below:

(i) this requirement does not apply to biosolids facilities located at existing sewage treatment plants;

(ii) the separation distance requirement from a public contact area may be reduced for totally enclosed facilities, if approved by the department; and

(iii) the landowner's or operator's residence, plant nurseries and turf farms are excluded from the separation requirement for a residence for the purposes of this paragraph.

(9) For uncovered processing facilities, the leachate collection and treatment system must be adequate to manage the quantity of leachate generated at the site based on a rainfall intensity of one-hour duration and a 10-year return period.

(10) Noncompostable or nonprocessible solid waste and unacceptable product must be disposed at least weekly in a manner approved by the department.

(11) For facilities accepting mixed solid waste:

(i) a recyclables separation program and a household hazardous waste collection program must be in place and approved by the department before operation of the facility;

(ii) recyclables must be removed from the waste stream prior to active composting or treatment; and

(iii) all waste storage and processing areas must be enclosed.

(12) All waste unloading, waste storage, and processing areas must be enclosed for facilities that accept an average of 100 wet tons of waste per day or greater, unless other measures are taken to minimize nuisance conditions and are approved by the department.

(13) The facility is prohibited from accepting wastes that do not positively contribute to the treatment process or the quality of the product, as determined by the department.

(14) AD criteria.

(i) All waste received must be size reduced, if necessary, to effectively digest.

(ii) All waste entering a low solids AD must be source separated, with minimal (less than one percent by volume) non-organic material present.

(iii) For low solids AD, the operating level in the AD vessel must be maintained so that spillage or discharge into the gas collection system does not occur.

(iv) The AD must achieve a minimum of 38 percent volatile solids reduction.

(v) Management of digestate:

(*a*) land application of the solids and/or liquid emanating from the AD facility requires a permit under Subpart 360-4 of this Part, unless the class A pathogen reduction and vector attraction reduction criteria of this Subpart can be demonstrated;

(*b*) use of the dewatered solids from the AD facility for animal bedding is prohibited unless the class A pathogen reduction and vector attraction reduction criteria of this Subpart can be demonstrated;

(*c*) use of the blended dewatered solids from the AD facility as a topsoil is prohibited unless the class A pathogen reduction and vector attraction reduction criteria of this Subpart can be demonstrated; and

(*d*) a composting facility for the dewatered solids from the AD facility requires a permit under this Subpart.

(e) *Monitoring, recordkeeping, and reporting.* (1) Each biosolids source or septage must be analyzed annually in accordance with the following:

(i) The parameters for analysis are found in Table 1 of section 360-5.10 of this Subpart.

(ii) The minimum number of analyses required depends on the quantity of waste, as outlined in Table 6 of section 360-5.10 of this Subpart.

(iii) With the exception of pH and total solids, all results must be reported on a dry-weight basis. The analyses must comply with the criteria found in clauses (a)(1)(ii)(*c*), (*e*)-(*g*) and (*i*) of this section. After the waste has been monitored for two years at the frequency outlined in this paragraph, the department may reduce the annual number of analyses for Group A, B, and C parameters required if the waste quality consistently meets the quality standards.

(iv) Wastewater and partially treated biosolids or septage that are generated at one facility and treated at another wastewater treatment facility prior to beneficial use are not considered waste sources subject to the criteria in this subparagraph. The resultant biosolids or sludge generated for beneficial use are subject to this subparagraph.

(2) For other sludges and solid wastes, annual analyses of the input waste may be required, as determined by the department, based on the characteristics of the waste. The extent and frequency of sampling will be determined by the department on a case specific basis.

(3) Annual product quality monitoring is required in accordance with the following:

(i) The parameters for analysis are found in Table 8 of section 360-5.10 of this Subpart.

(ii) The minimum number of analyses required annually is found in Table 9 of section 360-5.10 of this Subpart, based on the annual production divided by 365.

(iii) With the exception of pH and total solids, all results must be reported on a dry weight basis. The analyses must comply with the criteria found in clauses (a)(1)(ii)(*c*), (*e*)-(*g*) and (*i*) of this section.

(iv) For mixed solid waste facilities the department may require that the sampling frequency be increased during the first year of operation.

(4) Analysis of the product for any or all of the pollutants identified in the water quality analysis Tables in section 360-2.11 of this Part may be required upon a determination by the department, based on the characteristics and source of the waste.

(5) Sufficient monitoring data must be obtained to demonstrate compliance with the pathogen and vector attraction reduction requirements in subdivision (b) of this section. The frequency and type of monitoring necessary will depend on the methods employed to achieve pathogen and vector attraction reduction, and must be approved by the department. For composting, temperature monitoring must occur, at a minimum, on a daily basis. The number of organism analyses required is equal to the frequency outlined in paragraph (3) of this subdivision unless the scheduling of product distribution warrants a greater or lower frequency, as determined by the department.

(6) The department may require, on a case specific basis if it appears that product maturity is critical for the end use, testing of the product for maturity prior to distribution, including, but not limited to, potential for reheating, organic matter reduction, plant growth impact, or oxygen consumption. The degree of maturity needed will depend on the end use of the product.

(7) Daily operational records must be maintained for the facility. These must include, in addition to the information required under section 360-1.14(i) of this Part, all monitoring data, quantity and character of material processed, quantity of product removed, and intended product use.

(8) The following information must be retained in accordance with section 360-1.14(i) of this Part:

(i) A copy of the complete and final permit application.

(ii) Records of pollutant concentration including:

(*a*) date of sample collection, sampling location, sample type, and name of sampler;

(*b*) name of laboratory, analytical methods used, and quality assurance/quality control procedures; and

(*c*) analytical results.

(iii) If required, records of pathogen and vector attraction reduction method used, including a description of how compliance was achieved, certification that the requirements were achieved, and applicable monitoring and analytical data.

(9) The permittee must submit an annual report to the department's central office and the appropriate regional office no later than March 1st of each year covering the previous calendar year, on forms prescribed by or acceptable to the department. The report must include:

(i) all information and analyses required by this section;

(ii) the type and quantity of the waste, and other materials such as bulking agents, being processed, including the source of the material;

(iii) process operational information including monitoring data and significant facility operational problems and any actions taken to correct such problems;

(iv) for facilities that accept biosolids, the following certification statement, which must be signed by an authorized representative of the facility and indicate the name and title of the individual signing:

"I certify, under penalty of law, that the information that will be used to determine compliance with the requirements in Subpart 360-5 of 6 NYCRR Part 360 has been prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

(v) the quantity, by weight and volume, of product generated at the facility and the quantity of product and other solid waste, including unacceptable product, removed from the facility; and

(vi) a description of the end-product distribution and disposal methods.

Historical Note

Sec. filed Oct. 28, 1988; repealed, new filed Jan. 7, 2003; amd. filed April 18, 2013 eff. 60 days after filing. Amended (a), (b)(1); added (d)(14).

§ 360-5.6 Source-Separated organic waste processing facilities.

(a) *Additional permit application requirements.* This section describes the permit application requirements for processing facilities for source-separated organic waste, such as composting and AD facilities. If any waste containing human fecal matter is accepted, the criteria in section 360-5.5 of this Subpart must be followed. The following information, in addition to that set forth in section 360-5.4 of this Subpart, must be included in the contents of an engineering report submitted as part of an initial permit application to construct and operate:

(1) A detailed description of the specific source, quality, and quantity of all SSOW, and sources, quality, and expected quantity of any bulking agent or amendment. The description must include the annual solid waste input, and any seasonal variations in the solid waste type and quantity. For residential SSOW, the description must include the service area population.

For commercial SSOW, the description must include a list of all types of generating facilities and the type and quantity of wastes that will be collected from each type of generator.

(2) A detailed description of the source separation program at the point of generation, including how non-compostables are kept out of the SSOW stream.

(i) For residential SSOW, this must include a copy of all educational literature or other information provided to residents, and a description of the container that will be used.

(ii) For commercial SSOW, this must include a copy of any agreements or information concerning what can be accepted from the generator.

(3) If applicable, a detailed description of the proposed processes to reduce pathogenic organism content and to reduce vector attraction including:

(i) the methods that will be used for pathogen reduction and vector attraction reduction; and

(ii) the monitoring and data gathering that will be used to demonstrate compliance including type, location, and frequency.

(4) For facilities that will operate on a soil base without a low permeability pad, the permit application must include a description and an identification of the surface soil characteristics at the facility and the depths to seasonal high ground water and bedrock, including appropriate documentation.

(b) *Pathogen and vector attraction reduction for composting facilities.* For pathogen reduction, the criteria outlined in paragraphs (1) and (2) of this subdivision must be achieved. For vector attraction reduction, the criteria in paragraph (3) of this subdivision must be achieved.

(1) One of the following microorganism concentrations must be achieved:

(i) the density of fecal coliform in the product is less than 1,000 most probable number per gram of total solids (dry weight basis); or

(ii) the density of Salmonella sp. bacteria in the product is less than three most probable number per four grams of total solids (dry weight basis).

(2) The waste must be treated by one of the following processes to further reduce pathogens:

(i) Using the windrow composting method, the solid waste must be maintained under aerobic conditions during the compost process. A minimum of five turnings is required during a period of 15 consecutive days, and the temperature of the mixture must be maintained at 55°C or greater during this period.

(ii) Using the aerated static pile composting method or the within-vessel composting method, the temperature of the solid waste must be maintained at 55°C or higher for at least three consecutive days.

(iii) Other methods or operating conditions, if pathogens are reduced to an extent equivalent to the reduction achieved by the methods in subparagraphs (i) and (ii) of this paragraph, if approved by the department.

(3) One of the following vector attraction reduction methods must be achieved:

(i) The mass of volatile solids in the waste must be reduced by a minimum of 38 percent.

(ii) The specific oxygen uptake rate (SOUR) for waste treated in an aerobic process must be equal to or less than 1.5 milligrams of oxygen per hour per gram of total solids (dry weight basis) at a temperature of 20°C.

(iii) Waste must be treated by an aerobic process for a minimum of 14 consecutive days. During that time, the temperature of the waste is maintained above 40°C and the average temperature of the waste is maintained above 45°C.

(c) *Pollutant limits and product use criteria for material distributed to the public.* (1) A product that does not meet the criteria in this section must be disposed or otherwise managed in a manner pursuant to this Part.

(2) The product must not contain pollutant levels greater than those found in Table 7 of section 360-5.10 of this Subpart.

(3) The product must not contain more than two percent total gross contaminants by weight (dry weight basis).

(4) The particle size of the product must not exceed 10 millimeters (0.39 inch) particle size, except for wood particles derived from the use of wood chips as a bulking agent or amendment.

(5) The product must be mature and must be used in a legitimate manner as a soil amendment. The product must be produced from a composting process with a minimum detention time (including active composting and curing) of 50 days, unless an alternate means for achieving sufficient maturity is approved by the department.

(6) An information label must be affixed to the product bag or, for bulk, an information sheet or brochure must be provided to the user. The label or information sheet must contain, at a minimum, the following information:

(i) the name and address of the generator of the product;

(ii) the type of waste the product was derived from; and

(iii) recommended safe uses, application rates and storage practices.

(7) The product may be distributed for use for food crops, feed crops, and fiber crops.

(d) *Design criteria and operational requirements.* If construction is involved, a permittee may not operate a facility under this Subpart until certification that construction is in accordance with the approved engineering report, plans and specifications has been submitted to, and approved in writing by, the department. The certification must be signed by an individual licensed to practice engineering in the State of New York. In addition to the operational requirements identified in section 360-1.14 of this Part, the following requirements apply:

(1) Storage of product on-site must be limited to 24 months.

(2) Surface water drainage must be diverted away from the operating area.

(3) If the facility accepts, on average, five wet tons of SSOW per day or more, the waste storage area, processing area, leachate storage and product storage area at the facility must be located on surfaces, such as asphalt (except leachate storage) or concrete, to minimize leachate release into the ground water under the site and the surrounding land surface. The following requirements apply to the use of soils or geomembranes in the processing area or the use of surface impoundments for leachate storage:

(i) If soils are used, the liner must be a minimum of two feet of compacted soil having a maximum remolded coefficient of permeability of 1×10^{-7} centimeters per second. The soil material particles must be able to pass through a one inch screen. The applicable criteria in section 360-2.13(j) of this Part must be followed.

(ii) If a geomembrane is used, the liner system must be designed and built in accordance with the applicable criteria in Subpart 360-2 of this Part.

(iii) If a surface impoundment is used for leachate storage, a minimum of two feet of freeboard must be maintained. In addition, the bottom of the liner system must be a minimum of five feet above both the seasonal high ground water elevation and bedrock.

(4) If the facility accepts, on average, less than five wet tons of SSOW per day, the following requirements apply:

(i) if the facility is located on soils with a coefficient of permeability greater than six inches per hour the installation of ground water monitoring wells or other monitoring devices and ground water monitoring may be required, as determined by the department;

(ii) the facility must be constructed to minimize any ponding;

(iii) composting must not occur in areas where the seasonal high ground water elevation is less than 24 inches from the ground surface or where bedrock lies less than 24 inches below the ground surface; and

(iv) the bottom of any surface impoundment used for leachate must be a minimum of five feet above both the seasonal high ground water table and the top of bedrock.

(5) All leachate must be managed in a manner approved by the department. All leachate storage facilities must be completely emptied, cleaned, and inspected every 12 months.

(6) The facility must be operated to control vectors and odors to a level that is to be expected from a well operated facility, as determined by the department.

(7) The facility must not be operated or constructed on flood plains unless provisions have been made to prevent the encroachment of flood waters upon the facility and the department approves such provisions.

(8) If composting, the operation of the facility must follow acceptable methods of composting which result in the aerobic biochemical decomposition of the organic material received.

(9) The minimum horizontal separation distance as measured from the facility to the nearest residence, place of business or public contact area (except plant nurseries and turf farms) must be 500 feet and the following criteria apply:

(i) A facility without a pad and leachate collection system must maintain a minimum separation of 200 feet to a potable water well or surface water body and 25 feet to a drainage swale.

(ii) The separation distance requirement from a public contact area may be reduced for totally enclosed facilities upon a determination by the department.

(iii) The landowner's or operator's residence is excluded from the separation requirement for a residence for the purposes of this paragraph.

(10) For uncovered processing facilities, the facility must be able to manage the quantity of leachate generated at the site based on a rainfall intensity of one-hour duration and a 10-year return period.

(11) Nonprocessible solid waste must be disposed at least weekly in a manner approved by the department.

(12) The facility can only accept SSOW from a generator that has an active collection program designed to collect organic waste separate from other waste materials and to remove inorganic materials from the SSOW generated. The facility must also have provisions for inspection and removal of inorganics received.

(13) All SSOW unloading, storage and processing areas must be enclosed for facilities that have an average capacity of 100 wet tons per day or greater, unless other measures are taken to minimize nuisance conditions, as determined by the department.

(14) The facility is prohibited from accepting wastes that do not positively contribute to the treatment process or the quality of the product, as determined by the department. Prohibited waste includes, but is not limited to, construction and demolition debris (other than land clearing debris) and waste combustion ash (other than wood ash that results from the burning of uncontaminated wood).

(e) *Monitoring, recordkeeping and reporting.* (1) For composting facilities, annual product quality monitoring is required in accordance with the following:

(i) The parameters for analysis are found in Table 8 of section 360-5.10 of this Subpart.

(ii) The minimum number of analyses required annually is outlined in Table 10 of section 360-5.10, of this Subpart based on the annual production divided by 365.

(iii) Each sample must be a composite of at least five grab samples. With the exception of pH and total solids, all results must be reported on a dry weight basis. The analyses must comply with the criteria found in section 360-5.5(a)(1)(ii)(*c*), (*e*)-(*g*) and (*i*) of this Subpart.

(iv) After the product has been monitored for two years at the frequency outlined in this paragraph, the department may reduce the annual number of analyses required if the product quality consistently meets the product quality standards in paragraph (c)(2) of this section.

(2) Sufficient monitoring data must be obtained to demonstrate compliance with the pathogen and vector attraction reduction requirements. The frequency and type of monitoring necessary, based on the methods employed to achieve pathogen and vector attraction reduction, must be approved by the department. At a minimum, temperature monitoring must occur on a daily basis in the coldest part of the waste mass.

(3) The department may require, on a case specific basis, testing of the product for maturity prior to distribution. This may include, but is not limited to, potential for reheating, organic matter reduction, plant growth impact, or oxygen consumption.

(4) Daily operational records must be maintained for the facility. These must include, in addition to the information required under section 360-1.14(i) of this Part, all monitoring data, quantity and character of material processed, quantity of product removed, and product use.

(5) A copy of the complete and final permit application and all monitoring data obtained to demonstrate compliance with this Subpart must be retained in accordance with section 360-1.14(i) of this Part.

(6) The permittee must submit an annual report to the department's central office and the appropriate regional office no later than March 1st of each year covering the previous calendar year, on forms prescribed by or acceptable to the department. The report must include:

(i) all information and analyses required by this Subpart;

(ii) the type and quantity of the waste and other materials, such as bulking agents being processed, including the source of the material;

(iii) facility operational information including monitoring data and significant facility operational problems and actions taken to correct the problems;

(iv) the quantity, by weight and volume, of product generated and the quantity of product and other solid waste including unacceptable product removed from the facility; and

(v) a description of the end-product distribution and disposal methods.

(f) *AD criteria.* (1) All waste received must be sized reduced, if necessary, to effectively digest.

(2) All waste entering a low solids AD must be source separated, with minimal (less than one percent by volume) non-organic material present.

(3) For low solids AD, the operating level in the AD vessel must be maintained so that spillage or discharge into the gas collection system does not occur.

(4) The AD must achieve a minimum of 38 percent volatile solids reduction.

(5) Management of digestate:

(i) land application of the solids and/or liquid emanating from the AD facility requires a registration under Subpart 360-4 of this Part;

(ii) use of the dewatered solids from the AD facility for animal bedding is exempt from this part;

(iii) use of the blended dewatered solids from the AD facility as a topsoil is exempt provided the topsoil blend does not cause odors when stored or used; and

(iv) a composting facility for the dewatered solids from the AD facility requires a registration under this Subpart.

Historical Note

Sec. filed Jan. 7, 2003; amd. filed April 18, 2013 eff. 60 days after filing. Amended (a)-(e); added (f).

§ 360-5.7 Yard waste composting facilities.

(a) *Additional permit application requirements.* In addition to the requirements set forth in section 360-5.4 of this Subpart pertaining to engineering report contents, the engineering report submitted as part of an application for an initial permit to construct and operate a composting facility for yard waste must include the following information:

(1) A description and an identification of the surface soil characteristics for the proposed site area and depths to the seasonal high ground water and bedrock, including appropriate documentation.

(2) A description of the source and composition of the yard wastes involved, including the anticipated quantity of each type of material and how each will be handled at the site.

(3) A description of all composting activities at the site including those facilities that may qualify for exemption or registration under section 360-5.3 of this Subpart.

(b) *Design criteria and operational requirements.* If construction is involved, a permittee may not operate a facility under this Subpart until certification that construction in accordance with the approved engineering report, plans and specifications has been submitted to and approved in writing by the department. The certification must be signed by an individual licensed to practice engineering in the State of New York. In addition to the operational requirements identified in section 360-1.14 of this Part, the following requirements apply:

(1) Only yard waste and wastes that qualify for exemption or registration under section 360-5.3 of this Subpart may be accepted at this type of composting facility.

(2) Compost areas located on soils with a coefficient of permeability greater than six inches per hour may require installation of ground water monitoring wells or other monitoring devices and ground water monitoring, as determined by the department.

(3) Drainage must be controlled to prevent leachate run-off from the site. For uncovered facilities, the design of the facility must be adequate to handle the quantity of leachate generated at the site based on a rainfall intensity of one-hour duration and a 10-year return period. In addition, surface water drainage must be diverted away from the compost site.

(4) The operation of the facility must follow acceptable methods of composting which result in the aerobic biochemical degradation of the organic material received. The product distributed must be mature.

(5) The facility must be constructed to minimize any ponding.

(6) The windrow construction and turning frequency must be sufficient to maintain aerobic conditions and to produce a compost product in the time frame outlined in the approved permit application.

(7) The minimum horizontal separation distance as measured from the facility to the nearest residence, place of business or public contact area (except turf farms and plant nurseries) must be 200 feet or greater if deemed necessary by the department based on the characteristics of the neighboring areas. The following criteria apply:

(i) a facility without a pad and leachate collection system must maintain a minimum separation of 200 feet to a potable water well or surface water body and 25 feet to a drainage swale;

(ii) the separation distance requirement from a public contact area may be reduced for totally enclosed facilities if approved by the department; and

(iii) the landowner's or operator's residence is excluded from the separation requirement for a residence.

(8) The facility must not be operated or constructed on a floodplain unless provisions have been made to prevent the encroachment of flood waters upon the facility.

(9) Composting must not occur in areas where the seasonal high ground water elevation is less than 24 inches from the ground surface or where bedrock lies less than 24 inches below the ground surface, unless composting occurs on a low permeability pad.

(10) The bottom of any surface impoundment used for leachate with a capacity of 10,000 gallons or more must be a minimum of five feet above both the seasonal high ground water table and the top of bedrock. Impoundments with a capacity less than 10,000 gallons must be a minimum of two feet above both seasonal high ground water and the top of bedrock.

(11) The composting facility must be operated in a manner to control the generation and migration of odors to a level that is to be expected from a well operated facility, as determined by the department.

(12) Yard waste compost may be distributed for use on food crops, feed crops, and fiber crops. The compost must be used in a legitimate manner as a soil amendment. Yard waste compost quality must not exceed the annual average concentration found in section 360-5.5(c)(3) of this Subpart.

(13) On-site product storage is limited to 24 months.

(c) *Monitoring, recordkeeping and reporting.* (1) Daily operational records must be maintained for the facility and must include, in addition to the information required under section 360-1.14(i) of this Part, all monitoring data, the quantity and character of material processed, the quantity of product removed from the facility, and product use.

(2) A copy of the complete and final permit application and all monitoring and operational data obtained to demonstrate compliance with this Subpart must be retained by the applicant in accordance with section 360-1.14(i) of this Part.

(3) Annual analysis of the compost is required for the parameters outlined in Table 11 of section 360-5.10 of this Subpart.

(i) All samples must be representative of the product that will be distributed. With the exception of pH and total solids, all results must be reported on a dry weight basis.

(ii) All analyses must be performed by a laboratory certified by the New York State Department of Health, using methods acceptable to the department, unless an alternate laboratory is approved by the department. Acceptable methods are listed in section 360-5.5(a)(1) of this Subpart. Copies of the original laboratory results must be included.

(4) Analysis of the leachate may be required, as determined by the department.

(5) The permittee must submit an annual report to the department's central office and appropriate regional office no later than March 1st of each year covering the previous calendar year, on forms prescribed by or acceptable to the department. The report must include, at a minimum:

(i) the type and quantity, by weight and volume, of waste received at the facility;

(ii) the turning frequency (if applicable) and the timing and amount of any water addition;

(iii) the quantity, by weight and volume, of total compost produced;

(iv) any monitoring that occurred during the operation;

(v) the quantity, by weight or volume, of compost removed from the facility; and

(vi) a description of the end-product distribution.

Historical Note

Sec. filed Jan. 7, 2003 eff. 60 days after filing.

§ 360-5.8 Products generated outside New York State.

An organic waste derived product, other than one generated solely from yard waste, food waste, food processing waste, or animal manure, which is generated outside the jurisdiction of New York State, and which is offered for sale or given away within New York State will no longer be considered solid waste as outlined in section 360-1.15(b)(2) of this Part, provided the following criteria are satisfied.

(a) *Request for product distribution.* Prior to distribution of the product in New York State, a written request to distribute an organic waste derived product must be submitted to the department and corresponding written confirmation must be obtained from the department. The request must be submitted to the department's central office and contain, at a minimum, the following:

(1) a description of the processing facility and all solid waste sources;

(2) a copy of the permits or other approvals for the processing facility and the appropriate excerpts from applicable rules and regulations from the applicable authority where the product is generated;

(3) a minimum of three analyses of the product for the parameters listed in Groups A and B of section 360-5.5(a)(1) of this Subpart;

(4) a description of the methods to reduce pathogens and vector attraction, with appropriate monitoring data, as determined by the department;

(5) a description of how and where the product will be distributed and used in New York State and the quantity of product that will be distributed or used in New York State;

(6) for products used in bulk on a farm, a description of any storage facilities for product that are located in New York State, including location, quantity stored, storage facility construction and duration of storage; and

(7) a copy of the label or printed literature for the product.

(b) *Pathogen and vector attraction reduction.* The requirements outlined in section 360-5.5(b) of this Subpart apply.

(c) *Contaminant limits and product use.* The product quality and product use must comply with the criteria found in section 360-5.5(c) of this Subpart.

(d) *Monitoring, recordkeeping and reporting.* (1) A minimum of one analysis of the product is required for each 1,000 cubic yards of product distributed in New York State. The parameters and associated requirements are found in section 360-5.5(e)(3) of this Subpart.

(2) An annual report must be submitted to the department's central office by March 1st of each year. The report must include:

(i) all information and analytical results required by this section;

(ii) the quantity of product distributed in New York State;

(iii) a description of the product storage and product use; and

(iv) an outline of all problems encountered, complaints received, actions taken to mitigate such problems, and the outcomes.

Historical Note

Sec. filed Jan. 7, 2003 eff. 60 days after filing.

§ 360-5.9 Research projects

The requirements for engineering plans, reports, and specifications found in sections 360-1.9 of this Part, 360-5.4, 360-5.6 and 360-5.7 of this Subpart may be modified for facilities used solely for research purposes under the direction of a professional engineer licensed in the State of New York or a research scientist affiliated with an accredited university or research institution located within the State of New York.

(a) *Permit application.* In addition to the permit application requirements set forth in section 360-1.13(b) of this Part, the permit application for a research project for an organic waste processing facility must contain a copy of the research proposal. The research proposal must:

(1) describe the proposed activity in detail;

(2) contain a detailed discussion that includes the project objectives, schedule, site location and characteristics, equipment used, waste involved, monitoring proposals, and methods for evaluating project performance;

(3) contain any of the information required in this Subpart, as determined by the department;

(4) contain an outline of all personnel involved and their responsibilities; and

(5) contain written permission of all landowners, if not the applicant, to use the land for the research project.

(b) *Design and operational requirements.* (1) The quantity of waste handled is limited to the amount necessary to address the research objectives.

(2) Project summary report. Unless otherwise approved by the department, within 90 days of the expiration date of the research, development and demonstration permit, a project summary report must be submitted to the department that includes the following information:

(i) a summary of the project objectives, information gathered, analyses conducted, and project results; and

(ii) any operating problems, any other limitations encountered and areas of further study.

(c) *Permit restrictions.* A research, development and demonstration permit issued under this section is subject to the restriction and renewal criteria found in section 360-1.13(a), (c) and (d) of this Part.

Historical Note

Sec. filed Jan. 7, 2003 eff. 60 days after filing.

§ 360-5.10 Tables.

Table 1
Parameters for Analysis – Biosolids/Sludge

Group A	*Group B*	*Group C*
Total Kjeldahl Nitrogen	Arsenic	Extended
Ammonia	Cadmium	Parameters
Nitrate	Chromium (total)	(see Table 2)
Total Phosphorous	Copper	
Total Potassium	Lead	
PH	Mercury	
Total Solids	Molybdenum	
Total Volatile Solids	Nickel	
	Selenium	
	Zinc	

Table 2
Extended Parameters List

VOLATILE ORGANIC COMPOUNDS

	POLLUTANT	*CAS*
1	Acrolein	107-02-8
2	Acrylonitrile	107-13-1
3	Benzene	71-43-2
4	Bromoform	75-25-2
5	Carbon tetrachloride	56-23-5
6	Chlorobenzene	108-90-7
7	Chlorodibromomethane	124-48-1
8	Chloroethane	75-00-3
9	2-chloroethylvinyl ether	110-75-8
10	Chloroform	67-66-3
11	Dichlorobromomethane	75-27-4
12	1,1-dichloroethane	75-34-3
13	1,2-dichloroethane	107-06-2
14	Trans-1,2-dichloroethylene	156-60-5
15	1,1-dichloroethylene	75-35-4
16	1,2-dichloropropane	78-87-5

Table 2
Extended Parameters List

17	1,3-dichloropropene	542-75-6
18	Ethylbenzene	100-41-4
19	Methyl bromide	74-83-9
20	Methyl chloride	74-87-3
21	Methylene chloride	75-09-2
22	1,1,2,2-tetrachloroethane	79-34-5
23	Tetrachloroethylene	127-18-4
24	Toluene	108-88-3
25	1,1,1-trichloroethane	71-55-6
26	1,1,2-trichloroethane	79-00-5
27	Trichloroethylene	79-01-6
28	Vinyl chloride	75-01-4

ACID-BASE-NEUTRAL COMPOUNDS

	POLLUTANT	*CAS*
	* Acid-extractable compounds	
1	4-chloro-3-methylphenol	59-50-7
2	2-chlorophenol	95-57-8
3	2,4-dichlorophenol	120-83-2
4	2,4-dimethylphenol	105-67-9
5	4,6-dinitro-2-methylphenol	534-52-1
6	2,4-dinitrophenol	51-28-5
7	2-nitrophenol	88-75-5
8	4-nitrophenol	100-02-7
9	Pentachlorophenol	87-86-5
10	Phenol	108-95-2
11	2,4,6-trichlorophenol	88-06-2
	*Base-Neutral compounds	
12	Acenapthene	83-32-9
13	Acenaphthylene	208-96-8
14	Anthracene	120-12-7
15	Benzidine	92-87-5
16	Benzo(a)anthracene	56-55-3
17	Benzo(a)pyrene	50-32-8
18	Benzo(b)fluoranthene	205-99-2
19	Benzo(g,h,i)perylene	191-24-2
20	Benzo(k)fluoranthene	207-08-9
21	Bis(2-chlorethoxy)methane	111-91-1
22	Bis(2-chloroethyl) ether	111-44-4
23	Bis(2-chloroisopropyl) ether	108-60-1
24	Bis(2-ethylhexyl) phthalate	117-81-7
25	4-bromophenyl phenyl ether	101-55-3
26	Butyl benzyl phthalate	85-68-7
27	2-chloronapthalene	91-58-7
28	4-chlorophenyl phenyl ether	7005-72-3
29	Chrysene	218-01-9
30	Di-n-butyl phthalate	84-74-2
31	Di-n-Octyl phthalate	117-84-0
32	Dibenzo(a,h)anthracene	53-70-3
33	1,2-dichlorobenzene	95-50-1
34	1,3-dichlorobenzene	541-73-1
35	1,4-dichlorobenzene	106-46-7
36	3,3'-dichlorobenzidine	91-94-1
37	Diethyl phthalate	84-66-2

Table 2
Extended Parameters List

38	Dimethyl phthalate	131-11-3
39	2,4-dinitrotoluene	121-14-2
40	2,6-dinitrotoluene	606-20-2
41	1,2-diphenylhydrazine	122-66-7
42	Fluoranthene	206-44-0
43	Fluorene	86-73-7
44	Hexachlorobenzene	118-74-1
45	Hexachlorobutadiene	87-68-3
46	Hexachlorocyclopentadiene	77-47-4
47	Hexachloroethane	67-72-1
48	Indeno(1,2,3-cd)pyrene	193-39-5
49	Isophorone	78-59-1
50	Naphthalene	91-20-3
51	Nitrobenzene	98-95-3
52	N-nitrosodipropylamine	621-64-7
53	N-nitrosodimethylamine	62-75-9
54	N-nitrosodiphenylamine	86-30-6
55	Phenanthrene	85-01-8
56	Pyrene	129-00-0
57	1,2,4-trichlorobenzene	120-82-1

PESTICIDES/PCBs

	POLLUTANT	*CAS*
1	Aldrin	309-00-2
2	Alpha-BHC	319-84-6
3	Beta-BHC	319-85-7
4	Delta-BHC	319-86-8
5	Gamma-BHC [Lindane]	58-89-9
6	Alpha-chlordane	5103-71-9
7	Gamma-chlordane	5103-74-2
8	4,4'-DDD [p,p'-TDE]	72-54-8
9	4,4'-DDE [p,p'-DDX]	72-55-9
10	4,4'-DDT	50-29-3
11	Dieldrin	60-57-1
12	Alpha-endosulfan	959-98-8
13	Beta-endosulfan	33213-65-9
14	Endosulfan sulfate	1031-07-8
15	Endrin	72-20-8
16	Endrin aldehyde	7421-93-4
17	Heptachlor	76-44-8
18	Heptachlor epoxide	1024-57-3
19	PCB-1016 (Arochlor 1016)	12674-11-2
20	PCB-1221 (Arochlor 1221)	11104-28-2
21	PCB-1232 (Arochlor 1232)	11141-16-5
22	PCB-1242 (Arochlor 1242)	53469-21-9
23	PCB-1248 (Arochlor 1248)	12672-29-6
24	PCB-1254 (Arochlor 1254)	11097-69-1
25	PCB-1260 (Arochlor 1260)	11096-82-5
26	Toxaphene	8001-35-2

METALS (Total Recoverable) and CYANIDE

	POLLUTANT	*CAS*
1	Antimony	7440-36-0
2	Beryllium	7440-41-7

Table 2
Extended Parameters List

3	Silver	7440-22-4
4	Thallium	7440-28-0
5	Cyanide	57-12-5

Table 3
Analyses Required with Permit Application

Biosolids/Sludge Used	*Minimum Number of Analyses*	
(dry tons/year)	*Groups A & B*	*Group C*
>1000	6	1
200 to 1000	3	1
25 to 199	2	1
<25	1	0

Table 4
Pollutant Limits – Class B Materials and Input to Class A Facilities

Parameter	*Monthly Average Concentration mg/kg, dry weight*	*Maximum Concentration mg/kg, dry weight*
Arsenic (As)	41	75
Cadmium (Cd)*	21	85
Chromium (Cr-total)	1000	1000
Copper (Cu)	1500	4300
Lead (Pb)	300	840
Mercury (Hg)	10	57
Molybdenum (Mo)	40	75
Nickel (Ni)	200	420
Selenium (Se)	100	100
Zinc (Zn)	2500	7500

* if the monthly average cadmium concentration exceeds 5 ppm,dry weight basis, the cadmium/zinc ratio must not exceed 0.015

Table 5
Cumulative Metal Loading Limits

Metal	*Cumulative Loading Limit (lbs./acre)*	
	Ag. Soil Groups 1-3	*Ag. Soil Groups 4-10*
Cadmium	3	4
Chromium	300	446
Copper	75	112
Lead	267	267
Nickel	30	45
Zinc	150	223

Table 6

Analyses Required During Operation – Biosolids

Biosolids Used	*Minimum Number of Analyses*	
(Dry tons/year)	*Groups A & B*	*Group C*
>1000	12	1
200 to 1000	6	1
25 to 199	4	1
<25	2	0

Table 7
Pollutant Limits – Products

Parameter	*Monthly Average Concentration mg/kg, dry weight*	*Maximum Concentration mg/kg, dry weight*
Arsenic (As)	41	75
Cadmium (Cd)*	10	85
Chromium (Cr-total)	1000	1000
Copper (Cu)	1500	4300
Lead (Pb)	300	840
Mercury (Hg)	10	57
Molybdenum (Mo)	40	75
Nickel (Ni)	200	420
Selenium (Se)	100	100
Zinc (Zn)	2500	7500

* if the monthly average cadmium concentration exceeds 5 ppm,dry weight basis, the cadmium/zinc ratio must not exceed 0.015

Table 8
Parameters for Analysis – Biosolids/MSW/Sludge Products

Total Kjeldahl Nitrogen	Arsenic	Fecal coliform or
Ammonia	Cadmium	*Salmonella* sp. bacteria
Nitrate	Chromium	
Total Phosphorus	Copper	
Total Potassium	Lead	
PH	Mercury	
Total Solids	Molybdenum	
Total Volatile Solids	Nickel	
	Selenium	
Fecal coliform or *Salmonella* sp. bacteria	Zinc	

Table 9
Annual Product Testing Frequency – Biosolids/Sludge/MSW

Average Product Generated (cubic yards per day)	*Number of Analysis*
>50	52
5-50	12
<5	6

Table 10
Annual Product Testing Frequency – SSOW

Average Product Generated (cubic yards per day)	*Number of Analysis*
>50	12
5-50	4
<5	2

Table 11
Annual Product Analyses - Yard Waste Compost

Total Kjeldahl Nitrogen
Ammonia
Nitrate
Total Phosphorus
Total Potassium
pH
Total Solids
Total Volatile Solids

Table 12
ANALYTICAL METHODS and SAMPLE MANAGEMENT

Parameter	*Analytical Methods*	*Maximum Holding Temperature/ Time*
FECAL COLIFORM	SM-9221 C or SM-9222 D	4°C (39.2°F) / 24 hours
SALMONELLA SP.	SM-9260 D.1 or Kenner	4°C (39.2°F) / 24 hours
VIABLE HELMINTH OVA	Yanko	4°C (39.2°F) / 1 month
ENTEROVIRUSES	ASTM-D4994-89	-18°C (00°F) / 2 weeks
TOTAL/VOLATILE SOLIDS	SM-2540 G	4°C (39.2°F) / 7 days
pH	SW-9045	
TKN	SM-4500-Norg	4°C(39.2°F) / 28 days
NO3-N (Nitrate)	SM-4500-NO3	4°C(39.2°F) / 28 days
TOTAL PHOSPHOROUS	SM-4500-P	4°C(39.2°F) / 28 days
POTASSIUM	SW-6010 or 7610	4°C(39.2°F) / 6 months
AMMONIA	SM-4500-NH3	4°C(39.2°F) / 28 days
ARSENIC	SW-6010 or 7060 or 7061	4°C(39.2°F) / 6 months
CADMIUM	SW-6010 or 7130 or 7131	4°C(39.2°F) / 6 months
CHROMIUM	SW-6010 or 7190 or 7191	4°C(39.2°F) / 6 months
COPPER	SW-6061 or 7210	4°C(39.2°F) / 6 months
LEAD	SW-6010 or 7420 or 7421	4°C(39.2°F) / 6 months
MERCURY	SW-7470 or 7471	4°C(39.2°F) / 28 days
MOLYBDENUM	SW-6010 or 7480 or 7481	4°C(39.2°F) / 6 months
NICKEL	SW-6010 or 7520	4°C(39.2°F) / 6 months
SELENIUM	SW-6010 or 7740 or 7741	4°C(39.2°F) / 6 months
ZINC	SW-6010 or 7950	4°C(39.2°F) / 6 months

VOLATILE ORGANICS	SW-8260B	4°C(39.2°F) / 14 days
SEMIVOLATILE ORGANICS	SW-8270°C	4°C(39.2°F) / 14 days
PESTICIDES/PCBs	SW-8081/8082	4°C(39.2°F) / 14 days

All samples can be placed in a plastic or glass container except:
Pesticides/PCBs: amber glass jar
Semivolatile Organics: amber glass jar with Teflon liner
Volatile Organics: glass jar with Teflon liner

Analytical Methods:

SM- Standard Methods for the Examination of Water and Wastewater, 18th Ed., American Public Health Association, Washington, D.C., 1992.

SW- Test Methods for Evaluating Solid Waste, SW-846, EPA, November 1986, as revised December 1987.

ASTM- Standard Practice for Recovery of Viruses from Wastewater Sludge, Annual Book of ASTM Standards: Section 11, Water and Environmental Technology, 1992.

Kenner- Kenner, B.A. and H.P.Clark, Detection and Enumeration of Salmonella and Pseudomonas aeruginosa. J. Water Pollution Control Federation, 46(9):2163-2171, 1974.

Yanko- Yanko, W.A., Occurrence of Pathogens in Distribution and Marketing of Municipal Sludges, EPA 600/1-87-014, 1987, NTIS PB 88-154273/AS.

(Published revisions to the referenced methods are acceptable and preferable.)

Historical Note

Sec. filed Jan. 7, 2003 eff. 60 days after filing.

SUBPART 360-6
LIQUID STORAGE

Sec.

Historical Note

Subpart (§§360-6.1—360-6.6) filed Oct. 28, 1988 eff. Dec. 31, 1988.

§ 360-6.1 Applicability.

All new liquid waste storage tanks and surface impoundments located at solid waste management facilities are subject to regulation under this Part unless the department determines that a facility is exempted by section 360-1.7 of this Part, regulated under Parts 750-757 of this Title, or is subject to regulation under ECL, article 17. Liquid storage facilities for solid waste management facilities regulated under Subparts 360-4, 360-5 and 360-14 of this Part are not subject to regulation under this Subpart.

Historical Note

Sec. filed Oct. 28, 1988 eff. Dec. 31, 1988.

§ 360-6.2 General requirements.

In addition to the requirements set forth in section 360-1.9 of this Part, an application for permits to construct and operate a solid waste management facility which includes a tank or surface impoundment must contain the following:

(a) a description of the liquid to be stored;

(b) the estimated volume of liquid generated and a proposed recordkeeping system to record actual quantities stored;

(c) a schedule of liquid removal;

(d) a description of the final treatment and disposal of the liquid stored;

(e) a description of the liquid storage facility design; and

(f) a closure plan prepared in accordance with section 360-6.6 of this Part.

Historical Note

Sec. filed Oct. 28, 1988; amd. filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-6.3 Aboveground and on-ground tank requirements.

(a) Tanks may be constructed of concrete, steel or other material approved by the department. Tanks must be supported on a well drained stable foundation which prevents movement, rolling, or settling of the tank.

(1) Bottoms of steel tanks that rest on earthen material must be cathodically protected with either sacrificial anodes or an impressed current system which is designed, fabricated, and installed in accordance with the approved engineering report.

(2) Exterior surfaces of all aboveground and on-ground steel storage tanks must be protected by a primer coat, a bond coat, and two or more final coats of paint or have at least an equivalent surface coating system designed to prevent corrosion and deterioration.

(3) The interior of all aboveground and on-ground tanks must consist of a material or must be lined with a material, resistant to the liquid being stored.

(b) All aboveground and on-ground tanks must have a secondary containment system which may consist of dikes, liners, pads, ponds, impoundments, curbs, ditches, sumps or other systems capable of containing the liquid stored.

(1) The design volume for the secondary containment system must be 110 percent of the volume of either the largest tank within the containment system or the total volume of all interconnected tanks, whichever is greater.

(2) The secondary containment system must be constructed of a material compatible with the liquid stored. The containment system must be constructed of either:

(i) a minimum one-foot layer of compacted soil with a maximum coefficient of permeability of 1×10^{-7} centimeters per second;

(ii) a concrete pad of a sufficient thickness to maintain integrity for the lifetime of the tank with a corrosion resistant coating; or

(iii) a geosynthetic liner of a minimum thickness equal to 60 mils.

(3) A system must be designed to contain and remove storm water from the secondary containment area. Provisions must be included for removal of any accumulated precipitation (rain, snow or ice) and be initiated within 24 hours or when 10 percent of the storage capacity is reached; whichever occurs first. Disposal must be in compliance with all applicable Federal and State regulations.

(c) All aboveground and on-ground tanks must be equipped with an overfill prevention system which may include, but not be limited to: level sensors and gauges, high-level alarms or automatic shutoff controls. Overfill control equipment must be inspected weekly by the facility operator to ensure it is in good working order.

(d) The exposed exterior of all aboveground and on-ground tanks must be inspected weekly by the facility operator for adequacy of the cathodic protection system, leaks, corrosion, and maintenance deficiencies. Interior inspection of tanks must be performed whenever the tank is drained. If the inspection reveals a tank or equipment deficiency, leak, or any other deficiency which could result in failure of the tank to contain the liquid, remedial measures must be taken immediately to eliminate the leak or correct the deficiency. Inspection reports must be maintained and made available to the department upon request for the lifetime of the liquid storage system.

(e) All uncovered tanks must have a minimum two feet of freeboard. Odor and vector control must be practiced when necessary.

Historical Note

Sec. filed Oct. 28, 1988; amd. filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-6.4 Underground tank requirements.

(a) Underground tanks must be placed a minimum of two feet above the seasonally high groundwater table and a minimum of two feet of vertical separation must be maintained between bedrock and the lowest point of the tank.

(b) Tanks may be constructed of fiberglass reinforced plastic, steel that is cathodically protected, steel that is clad with fiberglass, or any other materials approved by the department.

(c) The secondary containment and a continuous leak detection system must be installed in the form of a double-walled tank, designed as an integral structure so that any release from the inner tank is completely contained by the outer shell.

(1) The interstitial space must be monitored for tightness at least once per week by the facility operator using pressure monitoring, vacuum monitoring, electronic monitoring or an approved equivalent method.

(2) Any tank system vulnerable to corrosion must be protected from both corrosion of the primary tank interior and the external surface of the outer shell.

(i) All resistant coatings applied to the primary tank interior must be chemically compatible with the liquid to be stored.

(ii) Cathodic protection systems, where installed, must be inspected at least weekly by the facility operator. Any deficiency in the cathodic protection system must be corrected when discovered.

(d) All underground tanks must be equipped with an overfill prevention system which may include, but not be limited to: level sensors and gauges, high-level alarms or automatic shutoff controls. Overfill control equipment must be inspected weekly by the facility operator to ensure it is in good working order.

(e) Inspection and leak detection monitoring reports must be maintained and made available upon request for the lifetime of the liquid storage system.

Historical Note

Sec. filed Oct. 28, 1988; amd. filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-6.5 Surface impoundment requirements.

(a) Any surface impoundment must be constructed a minimum of five feet above the seasonally high groundwater table, and a minimum of five feet of vertical separation must be maintained between the base of the constructed liner and bedrock.

(b) Surface impoundments subject to this Part must be constructed with a liner system consisting of a minimum of two liners and a leak-detection system as follows:

(1) The top liner must be a geosynthetic liner with a minimum thickness equal to 60 mils. Ballast material, such as rounded gravel or sand, that will not cause damage to the geosynthetic liner must be placed on top of the liner to preserve liner integrity.

(2) A leak detection and removal system must be installed between the two synthetic liners.

(3) The lower composite liner must consist of a minimum of two feet of compacted soil with a maximum coefficient of permeability of 1×10^{-7} centimeters per second overlain by a geosynthetic liner at least 60 mils thick.

(4) Quality assurance and quality control testing must be performed by the project engineer in conformance with the requirements identified in section 360-2.13 of this Part.

(c) A minimum of two feet of freeboard must be maintained in all surface impoundments. Odor and vector control must be practiced when necessary.

(d) A minimum of three groundwater monitoring wells, one upgradient and two downgradient of the surface impoundment must be installed and sampled in accordance with the requirements of section 360-2.11 of this Part.

Historical Note

Sec. filed Oct. 28, 1988; amd. filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-6.6 Closure of liquid storage facilities.

(a) The owner or operator of the liquid storage facility must prepare a written closure plan for the liquid storage facility and submit the plan with the permit application for the solid waste management facility.

(b) The owner or operator must complete closure activities in accordance with the approved closure plan and within 180 days after liquid collection has ceased.

(c) At closure, all solid waste must be removed from the tank or surface impoundment, connecting lines, and any associated secondary containment systems. All solid waste removed must be properly handled and disposed of according to Federal and State requirements. All connecting lines must be disconnected and securely capped or plugged.

(1) Underground tanks must be removed or thoroughly cleaned to remove traces of waste and all accumulated sediments and then filled to capacity with a solid inert material, such as clean sand or concrete slurry. If groundwater surrounding the tank is found to be contaminated, the tank and surrounding contaminated soil must be removed and appropriately disposed. Other corrective actions to remediate the contaminant plume may be required by the department.

(2) Accessways to aboveground and on-ground tanks must be securely fastened in place to prevent unauthorized access. Tanks must either be stenciled with the date of permanent closure or removed. The secondary containment system must be perforated to provide for drainage.

(3) For surface impoundments, all waste residues, contaminated system components (liners, etc.), contaminated subsoils, structures and equipment contaminated with waste must be removed and appropriately disposed. If the groundwater surrounding the impoundment is contaminated, other corrective actions to remediate a contaminant plume may be required by the department. If the groundwater surrounding the impoundment is found not to be contaminated, the liner system may remain in place if drained, cleaned to remove all traces of waste, and both liners punctured so that drainage is allowed. The impoundment is to be backfilled and regraded to the surrounding topography.

Historical Note

Sec. filed Oct. 28, 1988 eff. Dec. 31, 1988.

SUBPART 360-7

CONSTRUCTION AND DEMOLITION DEBRIS LANDFILLS

Sec.

Historical Note

Subpart (§§ 360-7.1—360-7.11) filed Oct. 28, 1988; repealed new (§§ 360-7.1—360-7.7) filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-7.1 Applicability, exemptions and definitions.

(a) *Applicability.* This Subpart regulates landfills (except those located in Nassau or Suffolk County) into which only construction and demolition (C&D) debris is placed. As used in this Subpart, *landfill* refers only to such a landfill. C&D debris landfills in Nassau and Suffolk Counties are regulated under Subpart 360-8 of this Part.

(b) *Exemptions.* (1) The following facilities are exempt from the permit requirements of this Part provided the facilities operate only between the hours of sunrise and sunset, and (if the allowable waste comes from an off-site source) no fee or other form of consideration is required for the privilege of using the facility for disposal purposes:

(i) A site at which only the following C&D debris is placed: recognizable uncontaminated concrete and concrete products (including steel or fiberglass reinforcing rods that are embedded in the concrete), asphalt pavement, brick, glass, soil and rock.

(ii) A landfill for the disposal of trees, stumps, yard waste and wood chips generated from these materials is exempt when origin and disposal of such waste occur on properties under the same ownership or control.

(iii) A C&D debris landfill is exempt if it meets the requirements of section 809 of the Adirondack Park Agency Act and is under the jurisdiction of, and constructed and operated pursuant to, a permit issued by the Adirondack Park Agency. However, C&D debris landfills under the jurisdiction of the Adirondack Park Agency operating without written authorization from the Adirondack Park Agency are subject to regulation under this Part.

(2) A landfill that falls under the jurisdiction and is located on the property of either the New York State Thruway Authority (TA) or the New York State Department of Transportation (DOT) is exempt from regulation under this Part if it meets the specifications contained in a memorandum of understanding executed by the TA and the department or the DOT and the department. Until such memoranda are executed, the TA and DOT must comply with the requirements of this Part.

(c) *Definitions.* The following terms have the following meanings when used in this Subpart:

(1) *Local need* means that no other facility is available to the project sponsor for the disposal of C&D debris within a five-mile radius of the location of the proposed facility.

(2) *Pulverized* means processed by mechanical means such as, but not limited to crushing, grinding, chipping or shredding that breaks and intermixes the components of C&D debris into small fragments so that the basic constituents of these fragments cannot be readily identified by the department through visual observation.

(3) *Recognizable* means solid waste that can be readily identified as C&D debris by visual observation.

(4) *Uncontaminated* means C&D debris that is not mixed or commingled with other solid waste at the point of generation, processing or disposal, and that is not contaminated with spills of a petroleum product, hazardous waste or industrial waste. Contamination from spills of a petroleum product does not include asphalt or concrete pavement that has come into contact with petroleum products through normal vehicle use of the roadway.

(d) *Landfill expansions.* Landfills to be laterally expanded or developed in stages must comply with the requirements of section 360-1.8(d)(1) of this Part. In addition, when a landfill is proposed to be developed in stages or is proposed to be constructed on a parcel of property which already contains a landfill, such proposed expansion or landfill must comply with the requirements for a landfill whose size is the sum of the area of the existing landfill and the proposed expansion or new landfill. For purposes of this subdivision, a parcel of property includes all parcels of property which have been subdivided from a single parcel of property within five years prior to the date the application for a permit to construct and operate such expansion or landfill is submitted to the department. An application to construct and operate such a lateral expansion or landfill with a total area greater than three acres may not be deemed complete by the department until final closure of the existing landfill.

Historical Note

Sec. filed Oct. 28, 1988; repealed, new filed Aug. 5, 1993; amd. filed Sept. 27, 1996 eff. 60 days after filing. Amended (d).

§ 360-7.2 Registration.

(a) *Land clearing debris landfills.* Landfills three acres or less in area used for the disposal of only land clearing debris are eligible for the registration provisions of section 360-1.8(h) of this Part, rather than the permit requirements of this Part, provided the landfill is operated in compliance with ECL 27-0707.2-a and all the applicable requirements of section 360-1.8(h) and this section are met.

(b) *Location restrictions.* In addition to the requirements of section 360-1.8(h) of this Part the facility must not be located within a floodplain or within 100 feet of a Federal or State regulated wetland.

(c) *Additional operational requirements.* In addition to the operational requirements listed under section 360-1.8(h) of this Part, the following operational requirements must be satisfied:

(1) A minimum separation distance of 50 feet must be maintained between the fill boundaries and the site property line or a public right-of-way.

(2) The materials listed in section 360-7.1(b)(1)(i) of this Subpart may also be accepted at this facility provided the placement of these materials is segregated from the land clearing debris disposal area.

(3) The entire disturbed area used for disposal purposes must be covered with at least two feet of compacted cover material within 180 calendar days of ceasing the acceptance of land clearing debris. The top six inches of this cover material must be capable of sustaining vegetative growth.

(4) The final slopes of the landfill must not exceed 25 percent and must not be less than two percent.

(5) The owner must comply with the transfer of ownership provisions contained in section 360-7.6(f) of this Subpart.

Historical Note

Sec. filed Oct. 28, 1988; repealed, new filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-7.3 C&D debris landfills three acres or less.

The following requirements apply to landfills three acres or less in area at which C&D debris, other than pulverized C&D debris, will be disposed of provided no more than 200 tons of C&D debris is received per week. All other C&D debris landfills not specifically exempt or registered under this Part must comply with the requirements of section 360-7.4 of this Subpart.

(a) *Permit application requirements.* In addition to the applicable requirements set forth in section 360-1.9 of this Part, complete applications for initial permits to construct and operate a landfill subject to this section must contain the following:

(1) Engineering drawings. The engineering drawings must include the following:

(i) A regional plan or map that delineates the entire existing and proposed service area of the landfill and indicate directions and distances to airports within five miles of the landfill.

(ii) A vicinity plan or map that shows the area within one mile of the property boundaries of the landfill, including the existing and proposed zoning and land uses within that area; all residences; public water supply wells, known principal and primary water supply aquifers, surface waters (with quality classifications) and access roads.

(iii) A site plan that shows the landfill's property boundaries (as certified by an individual licensed to practice land surveying in the State of New York); off-site and on-site utilities (such as electric, gas, water, storm, and sanitary sewer systems) and right-of-way easements; the names and addresses of contiguous property owners; the location of soil borings, excavations, test pits, gas venting structures, wells, piezometers, environmental and facility monitoring points and devices, benchmarks and permanent survey markers, and on-site buildings and appurtenances, fences, gates, roads, parking areas, drainage culverts and signs; the delineation of the total landfill area including planned staged development of the landfill's construction and operation, and the lateral and vertical limits of previously filled areas; the location and identification of the sources of cover materials; the location and identification of any special waste handling areas; a wind rose; and site topography with five-feet minimum contour intervals.

(iv) Detailed engineering drawings of the landfill that clearly show, in plan and cross-sectional views, the original, undeveloped site topography before excavation or placement of sold waste; the existing site topography (if different from the original, undeveloped site topography) including the location, approximate thickness and nature of any existing solid waste; using a 100-foot square grid, the relationship between the seasonal high groundwater table, generalized geologic units, known and interpolated bedrock elevations, the proposed limits of excavation and waste placement and the base of the liner system; all base system components including berms, dikes, ditches, swales and any other devices required to divert or collect surface water run-on and run-off from the facility; the final elevations and grades of the landfill cover system (including the low permeability barrier, protection layer and topsoil layer); groundwater monitoring wells; roadway sections, slopes and profiles; the building floor plans, elevations, appurtenances; and plans detailing the landfill entrance area, including gates, fences and signs.

(2) Engineering report. An engineering report containing a description of the existing site conditions and an analysis of the proposed landfill that:

(i) demonstrates that the project either is consistent with the applicable goals and objectives of the local solid waste management plan of the planning unit in which the landfill is proposed or meets a local need;

(ii) describes the existing conditions in the proposed service area including characterization of the C&D debris waste stream by quantity, composition, source, and the basis for this determination; and describes the existing collection and disposal practices, and other C&D debris disposal facilities in the service area;

(iii) specifies the proposed design capacity of the landfill, in cubic yards and tons per day, for which approval is being sought, including the design life of the landfill;

(iv) contains a discussion of how the project will conform to the requirements of subdivision (b) of this section and section 360-7.5 of this Subpart;

(v) includes a closure and post-closure plan that incorporates and presents the information required by section 360-7.6 of this Subpart; and

(vi) contains a discussion of the future use of the property on which the facility is located after closure of the facility.

(3) Construction quality assurance/construction quality control (CQA/CQC) inspection plan. The landfill's inspection plan for the construction phase must describe how the applicant proposes to meet the requirements of subdivision (b) of this section. For each phase of construction, this plan must include:

(i) a delineation of the inspection management hierarchy and organizational structure stating the chain of command of the inspectors and contractors;

(ii) a description of the required level of experience and training for the contractor, crew, and inspectors for every major phase of construction of sufficient detail to ensure that the installation methods and procedures required in subdivision (b) of this section are properly implemented; and

(iii) a description of the required testing protocol and inspections for every major phase of construction, which must include the frequency of inspections, field testing, sampling for laboratory testing, the sampling and field testing procedures and equipment to be used, the calibration of field testing equipment, the frequency of system performance audits, the sampling size, the laboratory procedures to be used, the calibration of laboratory equipment and quality assurance and quality control of laboratory procedures, the limits for test failure, and a description of the corrective procedures to use upon test failure.

(4) Hydrogeologic report. The scope of the hydrogeologic investigation and report must include determination of groundwater flow direction, depth to groundwater, and location of bedrock, and demonstrate compliance with paragraphs 360-7.3(b)(5) and (6) of this section. The department may require water quality monitoring based on the size and expected life of the facility and the distance to potential groundwater users.

(5) Site selection. A discussion of site selection must be presented in the engineering report. In addition to the provisions of paragraph 360-1.7(a)(2) of this Part, all landfills regulated under this section are subject to the siting restrictions contained in subparagraph 360-7.4(a)(5)(i) of this Subpart, with the exception that these landfills may be sited over principal aquifers, but must not be sited over primary water supply aquifers or within public water supply stabilized cone of depression areas.

(6) Operation and maintenance manual. The landfill's operation and maintenance manual must include the requirements set forth in paragraph 360-7.4(a)(6) of this Subpart, with the exception of subparagraph 360-7.4(a)(6)(viii).

(b) *Construction requirements.* All landfills subject to regulation under this section must conform to the following requirements:

(1) Construction certification report. A construction certification report must be submitted to the department within 45 days after the completion of landfill construction. This report must certify that construction was completed in accordance with the approved plans and specifications and include the resulting information prepared in accordance with the requirements of paragraph 360-7.3(a)(3) of this section and the information required in paragraph 360-7.3(b)(8) of this section. The construction certification report must also contain as-built drawings noting any deviation from the approved engineering plans and a comprehensive narrative including, but not limited to daily reports from the project engineer and a series of color photographs of major project aspects.

(2) Horizontal separation requirements. (i) The minimum horizontal separation between a landfill and the property line or a public right-of-way must be 50 feet as measured from the toe of the proposed final cover slope.

(ii) The required horizontal separation between deposited solid waste and any surface waters must be adequate to preclude contravention of State surface water standards in the surface water body or flooding of the landfill from the surface water body. The department may require greater horizontal separation between solid waste and surface waters when those surface waters are actively used as sources of municipal water supply.

(3) One permanent survey benchmark of known elevation must be established and maintained at the site. This benchmark must be the reference point for establishing vertical control.

(4) The New York Transverse Mercator (NYTM) coordinates of the landfill must be established, and a project control baseline must be laid out with at least one of the end-points being a benchmark with known coordinates.

(5) A minimum separation of five feet must be maintained between the base system and the seasonal high groundwater table. The nature of the materials making up this separation, whether natural or backfilled, shall be subject to department approval.

(6) A minimum of 10-feet separation must be maintained between the base system and bedrock. The nature of the materials making up this separation, whether natural or backfilled, shall be subject to department approval.

(7) Base system. The base system must consist of at least two feet of soils having a coefficient of permeability of 1×10^{-5} centimeters per second or less. The project engineer must ensure that the base installation conforms with the following minimum requirements:

(i) If *in situ* soils are to comprise the base, the project engineer must demonstrate the coefficient of permeability of those soils to be 1×10^{-5} centimeters per second or less, with one permeability test performed on every acre of landfill area. The results of these tests must be submitted to the department as part of the engineering report.

(ii) If off-site soils must be used for the base, or if *in situ* soils must be reworked to form the base, compaction must be performed in accordance with the applicable requirements of subparagraphs 360-2.13(j)(2)(i) and (ii) of this Part. The moisture content of the base material must be maintained within the range identified in accordance with paragraph (8) of this subdivision before and during compaction of the soil lift to ensure that the remolded lift attains a maximum *in situ* coefficient of permeability of 1×10^{-5} centimeters per second. The density achieved after compaction must be within the range identified in accordance with paragraph (8) of this subdivision to ensure the remolded lift attains a maximum *in situ* coefficient of permeability of 1×10^{-5} centimeters per second.

(8) Certification requirements. The project engineer must include in the construction certification report a discussion of the approved data resulting from testing required in this paragraph. The testing procedures must be discussed in the engineering report and approved by the department. The results of all testing must be submitted in the construction certification report, including documentation of any failed tests and descriptions of the procedures used to correct the failed material and statements of all retesting performed.

(i) The project engineer must certify the laboratory testing of any base materials to ensure that the specified materials meet the permeability requirements of this subdivision and the approved engineering plans, reports, and specifications. Before construction of the base system, the following information must be approved by the project engineer: an analysis of soil particle size tested at a minimum of every 1,000 cubic yards of base materials to be placed; Atterberg limits analyses to obtain the plastic and liquid limit and plasticity index for every 5,000 cubic yards of base material to be placed; a minimum of one laboratory permeability test using a triaxial cell with back pressure for every 5,000 cubic yards of base material to be placed; a moisture content test for a minimum of every 1,000 cubic yards of base material to be placed; and a series of moisture-density-permeability tests to determine the range of moisture and density that will yield a maximum coefficient of permeability of 1×10^{-5} centimeters per second for a minimum of every 5,000 cubic yards of base material to be placed.

(ii) Field testing required in this subparagraph must be compared to and evaluated against the laboratory testing of subparagraph (i) of this paragraph, where applicable. Field testing must include: a minimum of nine density tests performed per acre per lift of base material placed; a minimum of five moisture content tests performed per acre per lift of base material placed; and one shelby tube sample taken per acre per lift to perform a laboratory permeability test. Any penetration of the base must be repaired using bentonite or other means acceptable to the department.

(9) Final cover system. (i) Final landfill slopes must not be less than four percent, or greater than 25 percent and must be stable when subjected to the peak discharge from a

rainfall intensity of a 24-hour duration, 25-year storm. A surface water drainage system may be necessary to provide such protection.

(ii) The final cover system must consist of the following components:

(*a*) Barrier soil covers. A barrier soil cover is a soil layer of low permeability constructed to minimize precipitation migration into the landfill.

(*1*) Barrier soil covers must consist of materials capable of achieving a remolded coefficient of permeability of 1×10^{-7} centimeters per second on slopes 10 percent or less. On slopes greater than 10 percent the barrier soil cover must consist of materials having a coefficient of permeability of 1×10^{-5} centimeters per second or less. Geomembrane covers meeting the requirements of paragraphs 360-2.13(r)(1)-(3) of this Part may be substituted for the barrier soil cover.

(*2*) Barrier soil covers must be constructed in accordance with the same requirements contained in paragraph 360-2.13(j)(2) of this Part with the following exceptions: the barrier soil cover must have a minimum compacted thickness of 18 inches, the minimum slope must not be less than four percent or greater than 25 percent, and the cover must be graded to eliminate ponding, promote drainage and minimize erosion.

(*b*) Protection layer. A soil layer not less than 24 inches thick must be installed on top of the barrier soil cover. Material specifications, installation methods and compaction specifications must be adequate to protect the barrier soil cover from desiccation cracking, frost action, and root penetration, promote stability and resist erosion at the final design slopes of the landfill.

(*c*) Topsoil layer. A topsoil layer or alternative soil material of not less than six inches thick in-place must be installed on top of the protection layer. The topsoil or alternative soil material must be sufficient to maintain vegetative growth.

(*d*) Gas venting system. A gas venting system below the barrier soil layer may be required by the department.

Historical Note

Sec. filed Oct. 28, 1988; repealed, new filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-7.4 C&D debris landfills greater than three acres.

The following requirements apply to all C&D debris landfills greater than three acres in area and C&D debris landfills that accept any pulverized C&D debris from a C&D debris processing facility permitted by or registered with the department pursuant to Subpart 360-16 of this Part, or C&D debris landfills that do not meet the requirements of section 360-7.3 of this Part.

(a) *Permit application requirements.* In addition to the applicable requirements set forth in section 360-1.9 of this Part, applications for initial permits to construct and operate a landfill must contain the following:

(1) Engineering drawings. The engineering drawings must contain the following:

(i) A regional plan or map that must include the same information required under subparagraph 360-7.3(a)(1)(i) of this Subpart.

(ii) A vicinity plan or map that must include the same information required under subparagraph 360-7.3(a)(1)(ii) of this Subpart.

(iii) A site plan that must include the same information required under subparagraph 360-7.3(a)(1)(iii) of this Subpart.

(iv) Detailed engineering drawings of the landfill that must clearly show, in plan and cross-sectional views, the original, undeveloped site topography before excavation or placement of solid waste; the existing site topography (if different from the original, undeveloped site topography), including the location, approximate thickness, and nature of any existing solid waste; using a 100-foot square grid, the relationship between the seasonal high groundwater table, generalized geologic units, known and interpolated bedrock elevations, the proposed limits of excavation and waste placement and the base of the liner system;

detailed construction drawings depicting the location and placement of the liner system and the leachate collection and removal system, locating and showing all critical grades and elevations of the collection pipe inverts and drainage envelopes, manholes, cleanouts, valves, sumps, leachate flow control and metering devices, and drainage blanket thickness; all berms, dikes, ditches, swales and any other devices required to divert or collect surface water run-on and run-off; the final elevations and grades of the landfill cover system (including the grading and gas venting layer, low permeability soil and/or geomembrane barriers, protection layer and topsoil layer); the system for venting decomposition gases generated within the landfill; groundwater monitoring wells; leachate storage, treatment and disposal system including the leachate collection network; roadway sections, slopes and profiles; the building floor plans, elevations, appurtenances; and plans detailing the landfill entrance area, including gates, fences and signs.

(2) Engineering report. In addition to the requirements set forth in section 360-1.9 of this Part, the engineering report must contain a description of the existing site conditions and an analysis of the proposed landfill that must:

(i) describe the existing conditions in the proposed service area including characterization of the C&D debris waste stream by quantity, composition, source, and the basis for this characterization; and describe the existing collection and disposal practices, and other facilities in the service area;

(ii) specify the design capacity of the landfill in cubic yards and tons per day, for which approval is being sought, including the design life of the landfill;

(iii) contain an erosion and sediment control plan which must be prepared in accordance with section 360-2.7(b)(8) of this Part;

(iv) contain a discussion of how the project will conform to the requirements of subdivision (b) of this section and section 360-7.5 of this Subpart;

(v) include a closure and post-closure care plan that must incorporate and present the information required by section 360-7.6 of this Subpart; and

(vi) contain a discussion of the future use of the property on which the facility is located after closure of the facility.

(3) Construction quality assurance/construction quality control plan. The landfill's construction quality assurance/construction quality control plan must meet the requirements of section 360-2.8 of this Part.

(4) Hydrogeologic report. The hydrogeologic report must be included in the engineering report and must meet the requirements of section 360-2.11 of this Part with the following exceptions:

(i) The regional geology section of the site investigation report may be abbreviated as allowed by the department to only that information necessary to understand the nature of on-site materials, the routes of groundwater migration from the site, and a discussion of major hydrogeologic features near the site.

(ii) Only the first water bearing unit must receive groundwater monitoring. The department may require site specific investigation and groundwater monitoring to extend below this depth at sites with complex groundwater flow patterns or geochemical distributions, or at facilities where groundwater contamination is detected either before or after landfilling has begun.

(iii) The existing water quality analysis may be reduced to one round of baseline parameters in a representative number of wells and one round of routine parameters in the remaining wells. If contamination is detected, the department may require additional analyses, including expanded parameter analyses, to determine the nature and extent of the contamination.

(iv) After the first year of sampling and analysis, the department may reduce the requirements for operational water quality monitoring. In any case, however, these may not be reduced to less than one routine parameter sampling event every six months.

(5) Site selection. A discussion of site selection must be presented in the engineering report. A site selection study will be required only if the applicant proposes a site that fails to meet the requirements of subparagraphs (i) and (ii) of this paragraph.

(i) Landfill siting restrictions. In addition to the provisions of section 360-1.7(a)(2) of this Part, the following landfill siting restrictions apply.

(*a*) Primary water supply and principal aquifers.

(*1*) Except as provided in subclause (*2*) of this clause, no new landfill and no lateral expansion of an existing landfill may be constructed over primary water supply aquifers, principal aquifers, or within a public water supply stabilized cone of depression area.

(*2*) The commissioner may allow lateral expansions of landfills in operation pursuant to a valid Part 360 permit or order on consent as of December 31, 1988 that are on principal aquifers, if there is a demonstrated local need for the capacity provided by the expansion that cannot be reasonably provided elsewhere and that outweighs the potential risk of contamination to the aquifer. Additionally, the landfill expansion must promote the implementation of the State's solid waste management policy set forth in ECL 27-0106 and must be an integral part of any local solid waste management plan that is in effect for the planning unit (as defined in ECL 27-0107) within which the facility is located; and the expansion must comply with all other requirements of this Part. However, the maximum time period allocated by the commissioner for any such expansion must not allow operation beyond December 31, 1995. In granting any expansion pursuant to this subparagraph, the commissioner must impose specific conditions that are reasonably necessary to assure that the expansion will, to the extent practicable, have no significant adverse impact on public health, safety or welfare, the environment or natural resources, and such approval contributes to the proper management of solid waste at the earliest possible time.

(*3*) The required horizontal separation between deposited solid waste and primary water supply aquifers, principal aquifers or public water supply stabilized cone of depression areas must be sufficient (based on the rate and direction of groundwater flow, landfill design, and requirements for corrective action in the event of failure of the landfill's containment system) to preclude contravention of groundwater standards in the aquifer.

(*b*) Floodplains. Owners or operators of new landfill units, existing landfill units and lateral expansions located in 100-year floodplains must demonstrate that the unit will not restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the floodplain, or result in washout of solid waste so as to pose a hazard to human health and the environment.

(*c*) Aircraft safety.

(*1*) A landfill or landfill subcell into which C&D debris is to be disposed must be located no closer than 5,000 feet from any airport runway end used by piston-powered fixed-wing aircraft and no closer than 10,000 feet from any airport runway end used by turbine-powered fixed-wing aircraft.

(*2*) The permittee of an existing landfill or landfill subcell that is authorized to dispose of construction and demolition debris and that is located less than 10,000 feet from any airport runway end used by turbine-powered fixed-wing aircraft or less than 5,000 feet from any airport runway end used only by piston-powered fixed-wing aircraft must provide in its permit renewal application documentation that the Federal Aviation Administration believes the landfill or landfill subcell does not pose a bird hazard to aircraft.

(*3*) The final elevation of a new landfill or expansion of an existing landfill must not extend more than 200 feet above the highest elevation of the land surface that existed prior to landfill development unless the Federal Aviation Administration believes that the proposed fill height in excess of 200 feet will not present a safety hazard to air traffic.

(*d*) Unstable areas. A landfill must not be located in unstable areas where inadequate support for the structural components of the landfill exist or where changes in the substrate below or adjacent to the landfill are capable of impairing the integrity of some or all of the landfill structural components responsible for preventing releases from the landfill. An application for expansion of an existing landfill must demonstrate that adequate support for the structural components of the landfill exist or can be engineered to support any additional loads that may be generated by continued operation of the facility. For purposes of this subparagraph, the terms *unstable area, structural components, poor foundation conditions, areas susceptible to mass movement* and *karst terrains* have the same meanings ascribed to them in section 360-2.12(c)(4) of this Part.

(*e*) Unmonitorable or unremediable areas. New landfills must not be located in areas where environmental monitoring and site remediation cannot be conducted. Identification of these areas must be based upon ability to sufficiently characterize groundwater and surface water flow to locate upgradient and downgradient directions; ability to place environmental monitoring points which will detect releases from the landfill; ability to characterize and define a release from the landfill and determine what corrective actions are necessary and ability to carry out those corrective actions. Landfill expansions adjacent to existing landfills which are already contaminating groundwater may be allowed by the department if the proposed expansion area can be constructed in a way that demonstrates compliance with the requirements of this Part. This may be demonstrated using remedial actions at the existing site resulting in a demonstrated improvement in groundwater quality; and including any additional monitoring requirements that the department requires to ensure the integrity of the expansion area, which may include leakage detection lysimeters installed beneath the new liner, statistical triggers of groundwater monitoring, tracers, additional monitoring wells surrounding the entire site and any other monitoring methods required by the department.

(ii) New landfills and lateral expansions of existing landfills must be located on a site exhibiting the following characteristics:

(*a*) Bedrock subject to rapid or unpredictable groundwater flow must be avoided unless it can be demonstrated that a containment failure of the facility would not result in contamination entering the bedrock system.

(*b*) The site must not be near any mines, caves or other anomalous features that may alter groundwater flow.

(*c*) Unconsolidated deposits on the site exist or are constructed to be 10 feet or greater in thickness as measured from the base of the constructed liner system.

(iii) New landfills and lateral expansions of existing landfills that do not meet the requirements of subparagraphs (i) and (ii) of this paragraph must comply with section 360-2.12(b) of this Part.

(6) Operation and maintenance manual. The landfill's operation and maintenance manual must be prepared as a separate document and must demonstrate how the landfill will meet the requirements set forth in sections 360-7.5 and 360-7.6 of this Subpart. The manual must be presented in a manner that is sufficiently clear and comprehensive for actual use by the landfill's operator during the stated life of the landfill. This manual must contain:

(i) a characterization of the anticipated amount of construction and demolition debris to be received in cubic yards and tons per day for which approval is sought, the fill progression of the landfill and the method of C&D debris placement and compaction;

(ii) a method of evaluation control for the operator including the location and description of a survey benchmark;

(iii) a description of the landfill's personnel requirements including a discussion of their responsibilities and duties at the landfill;

(iv) a description of the machinery and equipment to be used at the landfill, their authorized uses and safety features;

(v) a description of the landfill's operational controls, including, but not limited to signs, hours and days of operation, landfill usage rules and regulations and traffic flow controls;

(vi) a description of the landfill's waste receiving process for all C&D debris, including procedures for identification of wastes to be excluded, wastes to receive special handling and procedures to be implemented if waste other than C&D debris is delivered to, or found at, the landfill;

(vii) a description of the landfill's cover material placement and management plan, stating the type of cover, the frequency that cover will be placed to control odors (specifically odors resulting from hydrogen sulfide gas), fire hazards, vectors, blowing litter and scavenging, the quantities available, and quantities required for each type on a time-phase basis, including the method of cover material placement and compaction;

(viii) a description of the landfill's leachate management plan which includes the information required under section 360-2.9(j) of this Part;

(ix) a contingency plan which includes the information required by section 360-1.9(h) of this Part and a detailed description of actions to be taken in response to contingency events which may occur during the operation and closure/post-closure periods of the landfill. This plan must address the following contingencies: fires, odors (including odors from hydrogen sulfide gas), dust, groundwater and surface water contamination and equipment breakdown;

(x) a description of the landfill's water quality monitoring program consistent with the applicable requirements of section 360-7.3(a)(4) and 360-7.4(a)(4) of this Subpart; and

(xi) a post-closure monitoring and maintenance manual, which must provide personnel with detailed instructions for assuring efficient monitoring (including, as applicable, leachate management, environmental sampling and analysis, and proper maintenance of all facility components, in order to maintain the facility in accordance with the provisions of the manual for a minimum period of 30 years after landfill closure).

(7) Leachate treatment plan. A leachate treatment plan must be prepared and include the information required under section 360-2.3(k) of this Part.

(8) Financial assurance. The most recent closure and post-closure care cost estimate for the facility prepared in accordance with section 360-2.19 of this Part and a copy of the documentation required to demonstrate financial assurance under section 360-2.19 of this Part.

(b) *Construction requirements.* All landfills subject to regulation under this section must conform to the following:

(1) Construction certification report. A construction certification report must be submitted to the department within 45 days after the completion of landfill construction. This report must certify that construction was completed in accordance with the approved plans and specifications and include the resulting information prepared in accordance with the requirements of paragraph (a)(3) of this section and the information required in paragraphs (7) and (8) of this subdivision. The construction certification report must also contain as-built drawings noting any deviation from the approved engineering plans and a comprehensive narrative including, but not limited to, daily reports from the project engineer and a series of color photographs of major project aspects. A permittee may not operate a landfill under this Subpart until the department approves in writing the construction certification report.

(2) Horizontal separation requirements. (i) The minimum horizontal separation between a landfill and the property line or a public right-of-way must be 50 feet as measured from the toe of the proposed final cover slope.

(ii) The required horizontal separation between deposited solid waste and any surface waters must be adequate to preclude contravention of State surface water standards in the surface water body or flooding of the landfill from the surface water body. In no case can solid waste be deposited closer than 100 feet from the mean high water elevation of any surface waters. The department may require greater horizontal separation between solid waste and surface waters when those surface waters are actively used as sources of municipal water supply.

(3) One permanent survey benchmark of known elevation must be established and maintained at the site for each 25 acres, or part thereof, of the developed landfill. This benchmark must be the reference point for establishing vertical control.

(4) The NYTM coordinates of the landfill must be established and a project control baseline must be laid out with at least one of the end-points being a benchmark with known coordinates.

(5) A minimum separation of five feet must be maintained between the base of the constructed liner and the seasonal high groundwater table. The nature of the materials making up this separation, whether natural or backfilled, shall be subject to department approval.

(6) A minimum of 10-feet separation must be maintained between the base of the constructed liner and bedrock. The nature of the materials making up this separation, whether natural or backfilled, shall be subject to department approval.

(7) The provisions of section 360-2.13(i)-(o) of this Part apply to these landfills with the following exceptions:

(i) Liner system. The minimum liner system consists of a single composite liner and a leachate collection system. The composite liner must consist of geomembrane having a minimum thickness of 60 mils that directly overlays a soil layer designed in accordance with the provisions of section 360-2.13(j) and (k) of this Part, with the exception of subparagraph (j)(1)(i).

(ii) Leachate collection and removal system.

(*a*) Leachate collection and removal system above the liner system must be designed, constructed, maintained and operated to collect and remove leachate from the landfill and ensure that the leachate head on the liner system does not exceed one foot at the expected flow, except during storm events. A means of assessing leachate flows must be detailed on plans and discussed in the engineering report. The collection and removal system must be designed and constructed in accordance with the requirements of section 360-2.13(h), (l) and (m) of this Part, with the exception of subparagraph (l)(2)(ii).

(*b*) The leachate collection and removal system must be designed and constructed to operate without clogging throughout the effective facility life and post-closure maintenance period. The leachate collection and removal pipe network must be designed to be accessible for routine cleaning and maintenance.

(8) Final cover system. The final cover system must consist of a layered system (gas venting layer, barrier soil or geomembrane layer, barrier protection layer and top soil layer) which meets the requirements of section 360-2.15(d) of this Part. Final landfill slopes must not be less than four percent, nor greater than 33 percent and must be stable when subjected to the peak discharge from a rainfall intensity of a 24-hour, 25-year storm event. A surface water drainage system may be necessary to provide such protection.

(9) Landfill gas control. Landfill gas control systems must be designed in accordance with section 360-2.15(e) of this Part to prevent the migration of concentrated amounts of landfill gases off-site.

Historical Note

Sec. filed Oct. 28, 1988; repealed, new filed Aug. 5, 1993; amd. filed Sept. 27, 1996 eff. 60 days after filing. Amended (a)(5)(i)(*c*).

§ 360-7.5 Operation requirements.

All landfills subject to regulation under sections 360-7.3 and 360-7.4 of this Subpart must conform to the operation requirements in this section and in section 360-1.14 of this Part, except that landfills three acres or less in size are exempt from the requirements of section 360-1.14(o) and (t) of this Part and paragraphs (b)(4) and (5) of this section unless specifically required by the department.

(a) *Water quality monitoring program.* A water quality monitoring program must be implemented that satisfies the applicable requirements of sections 360-7.3(a)(4) and 360-7.4(a)(4) of this Subpart and special permit conditions pertaining to such a program.

(b) *Annual report.* An annual report must be submitted to the department's central office and the office of the department administering the region in which the facility is located, no later than 60 days after the first day of January following each year of operation on forms prescribed by or acceptable to the department. Such report must contain the following information (about the previous calendar year's operation):

(1) the total quantity of waste received in cubic yards and tons, and the percentage of the remaining approved design volume left;

(2) a tabulation of any water quality analysis results that were generated as required by this Subpart;

(3) any deviations from the approved plans, specifications, operating requirements and permit conditions;

(4) the amount of leachate collected, if any, and how it was handled, treated and disposed; and

(5) annual adjustments to closure and post-closure care cost estimates and financial assurance documents, and applicable corrective measures cost estimates and financial assurance documents, as required in section 360-2.19 of this Part.

(c) *Specific waste placement requirements.* (1) C&D debris must be spread in layers not exceeding five feet in uncompacted thickness.

(2) The first layer of waste placed in contact with any leachate management structures must be at least five feet in compacted thickness, of a select nature and placed in a manner that will not impact or impede the operation of these structures.

(3) No slope may be greater than 33 percent.

(d) *Cover.* Cover material must be applied in accordance with the department-approved operation and maintenance manual to control odors, fire hazards, vectors, blowing litter and scavenging.

(e) *Final cover system.* The final cover system must be applied and maintained under any of the following circumstances:

(1) whenever an additional lift of C&D debris is not applied within a one-year period;

(2) when three acres of the landfill attains final elevation, within 90 days after such elevation is attained;

(3) to an entire landfill for which an application for a permit has been denied or for which a permit has expired or is revoked; and

(4) for sites greater than three acres in size, a progressive final cover installation schedule must be designed and implemented. Generally, closure in two-acre increments will be acceptable.

(f) *Vegetative cover.* A vegetative cover must be established on all exposed final cover material as soon as possible, but not later than four months after placement. If this cannot be achieved due to seasonal constraints, measures must be taken to ensure the integrity of the capping system before the establishment of vegetative cover.

(g) *Leachate.* All landfills must be constructed and operated to minimize the generation of leachate. All leachate collection and removal systems must be operated in a free-flow condition and maintained to prevent no more than a one-foot head on the liner.

(h) *Unauthorized waste.* Disposal in a C&D debris landfill of any material not specifically allowed in the definition of C&D debris or which is further restricted by permit conditions is expressly prohibited. Documented violations regarding disposal of unauthorized waste will result in revocation of the permit issued pursuant to this Part and closure of the landfill. Under these circumstances, the standards that will apply to landfill closure and post-closure activities shall be those contained in section 360-2.15 (in lieu of section 360-7.6) of this Part. Disposal of unauthorized waste without the knowledge of the operator will not constitute a defense against revocation of the permit or implementation of the additional closure and post-closure requirements.

(i) *Public access.* An attendant must be on duty during all operating hours of the landfill. The landfill must only be operated between the hours of sunrise and sunset.

(j) *Recordkeeping.* The landfill operator must have in his possession during all hours of operation, a copy of the permit issued pursuant to this Part, including conditions, a copy of the operation and maintenance manual and the most recent annual report.

Historical Note

Sec. filed Oct. 28, 1988; repealed, new filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-7.6 Closure and post-closure criteria.

In addition to the applicable requirements of Subpart 360-1, sections 360-7.3(b) and 360-7.4(b), and section 360-7.5 of this Subpart, all landfills regulated under sections 360-7.3 and 360-7.4 of this Subpart must conform to the following requirements for closure and post-closure:

(a) *Final closure plan.* The final closure plan must be developed in accordance with the applicable requirements of sections 360-7.3(b)(9) and 360-7.4(b)(8), and section 360-7.5(e) of this Subpart.

(b) *Landfills without an approved closure plan.* For landfills that do not have an approved plan for closure, the final cover plan must meet the requirements of subdivision (a) of this section. To determine if remedial work in addition to final cover is necessary, a closure investigation must be conducted and a closure plan which reflects the results of the investigation must be submitted for department approval. The investigation must define the nature and extent of current, as well as the potential for release and migration of contaminants from the landfill and must include the following:

(1) A hydrogeologic investigation must be performed in accordance with the applicable requirements of section 360-7.3(a)(4) and 360-7.4(a)(4) of this Subpart.

(2) A surface leachate investigation must be performed. The objectives of this investigation are to identify the presence of uncontrolled leachate at or near the landfill; to document any instances where fugitive leachate from the landfill is impacting local surface waters, and to characterize the chemical constituents of surface leachate.

(3) A vector investigation must be performed to identify the presence of any vectors that inhabit the landfill including, but not limited to rodents, insects, and birds.

(4) An explosive gas survey.

(c) *Landfills where maximum slope exceeds 33 percent.* For existing landfills without a department-approved plan for closure where the maximum slope of 33 percent was exceeded before December 31, 1988, the landfill may be closed with slopes exceeding 33 percent if supported by a slope stability analysis, which must be submitted to the department, and providing the following criteria are met:

(1) Final grades must not exceed 50 percent for more than a 20-foot vertical rise.

(2) For longer slopes, run-off diversion terraces must be constructed at vertical intervals not exceeding 20 feet. The terraces must be designed to intercept run-off for diversion to appropriately spaced drainage ways leading off the landfill slopes. All terrace and drainage way slopes must be at least four percent.

(3) Surface water drainage systems must be designed and constructed to protect the final cover system from the peak discharge based on a rainfall intensity of a 24-hour, 25-year storm event.

(d) *Maintenance.* (1) Soil cover integrity, slopes, cover vegetation and drainage structures must be maintained during the post-closure monitoring and maintenance period as required by the department.

(2) Environmental and facility monitoring points will be maintained and sampled during the post-closure period for a minimum of 30 years or longer as required by the department. Annual summary reports shall be submitted to the department. Annual baseline and quarterly routine monitoring shall be performed on groundwater, surface water and leachate samples for

a minimum period of five years. The requirements for subsequent analysis will be determined at the end of each five-year period.

(3) Maintenance of any leachate removal system is required to ensure the system remains operational over the 30-year monitoring and maintenance period. The method of treatment and disposal of the leachate must be addressed for as long as leachate is capable of contaminating the environment.

(e) *Post-closure monitoring and maintenance manual.* A post-closure monitoring and maintenance manual as described in section 360-7.4(a)(6)(xi) of this Subpart must be submitted as part of the operation and maintenance manual described in section 360-7.4(a)(6) of this Subpart. This document must provide personnel with detailed instructions for assuring efficient monitoring, including, as applicable, leachate management, environmental sampling and analysis, reporting and proper maintenance of all facility components in order to maintain the facility in accordance with the provisions of the manual as approved by the department for a minimum period of 30 years after landfill closure.

(f) *Transfer of ownership.* Upon transfer of ownership of a C&D debris landfill site that is required to operate under permit or registration pursuant to this Part, a provision must be included in the property deed indicating the period of time during which the property has been used as a landfill, a description of the wastes contained within and the fact that the records for the facility have been filed with the department. Said deed shall also reference a map which shall be filed with the county clerk, showing the limits of the landfilled areas within the property.

(g) *Closure and post-closure registration report.* The owner or operator of a closing facility must comply with the requirements of section 360-2.15(l) of this Part, except that landfills three acres or less in size are exempt from the financial assurance requirements of section 360-2.19 of this Part unless specifically required by the department.

Historical Note

Sec. filed Oct. 28, 1988; repealed, new filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-7.7 Corrective measures.

C&D debris landfills issued a permit after October 9, 1993 that are required to conduct water quality monitoring are subject to the requirements of section 360-2.20 of this Part with the following exceptions:

(a) The corrective measures assessment required under section 360-2.20(a)(3) shall include closure in accordance with section 360-7.6 of this Subpart rather than section 360-2.15 of this Part.

(b) The requirements of section 360-2.20(a)(4) of this Part will not apply to C&D debris landfills unless otherwise determined by the department.

Historical Note

Sec. filed Oct. 28, 1988; repealed, new filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360=7.8-360=7.11

Historical Note

Secs. filed Oct. 28, 1988; repealed, filed Aug. 5, 1993 eff. Oct. 9, 1993.

SUBPART 360-8

LONG ISLAND LANDFILLS

Sec.

Historical Note

Subpart (§§360-8.1—360-8.6) filed Oct. 28, 1988 eff. Dec. 31, 1988.

§ 360-8.1 Applicability.

Landfills located in Nassau and Suffolk Counties are subject to this Subpart and Subparts 360-1 and 360-2, except section 360-2.14(a) and (b)(1) of this Part.

Historical Note

Sec. filed Oct. 28, 1988; amd. filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-8.2 Definitions.

(a) *Definitions.* The following terms have the following meanings when used in this Subpart. The terms *deep flow recharge area, downtime waste, Long Island Comprehensive Waste Treatment Management Plan of 1978* and *treatment facility* are the same as found in the Long Island Landfill Law, ECL 27-0704.

(1) *Clean fill* means material consisting of concrete, steel, wood, sand, dirt, soil, glass, construction and demolition debris, and other recognizable inert material designated by the department.

(2) *Existing landfill* means a landfill that was in operation on December 18, 1983. The lateral limit of an existing landfill is set forth in the permit or consent order in effect on that date or by the limits, projected on a horizontal plane, of the actual solid waste in place on December 18, 1983.

(3) *Expansion* means a lateral expansion beyond the lateral limits of an existing landfill.

(4) *Inert material* means material that contains neither leachate constituents at concentrations in excess of groundwater quality standards contained in Part 703 of this Title nor putrescible material.

(5) *New landfill* means a landfill other than an existing landfill or an expansion.

(6) *Product of resource recovery, incineration, or composting* means ash residue, noncombustible residue from a recyclables handling and recovery facility, untreatable waste residue from a composting facility, and compost.

(7) *Resource recovery system* means a system that provides environmentally sound management of collected solid waste through facilities planned, designed, assembled, and constructed to maximize the potential for resource recovery.

(8) *Untreatable waste* means the same as defined in ECL section 27-0704. Untreatable waste for a solid waste incinerator includes, but is not limited to: batteries, such as dry cell batteries, mercury batteries and vehicle batteries; refrigerators; stoves; freezers; washers; dryers; bedsprings; vehicle frame parts, crankcases, transmissions, and engines; lawn mowers; snow blowers; bicycles; file cabinets; air conditioners; hot water heaters; water storage tanks; water softeners; furnaces; oil storage tanks; metal furniture; propane tanks; and clean fill.

(b) *General definitions.* In addition to the definitions contained in subdivision (a) of this section, the definitions in section 360-1.2 of this Part also apply, with the exception of paragraph (b)(61) of this Part.

Historical Note

Sec. filed Oct. 28, 1988; amd. filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-8.3 General landfill requirements.

Except with respect to clean fill landfills, each new landfill located outside the deep flow recharge area, and each expansion and existing landfill is subject to the following conditions:

(a) *Site prohibitions.* No such facility may be operated if it is located in a regulated wetland, or on a floodplain.

(b) *Financial guarantee.* (1) In addition to the requirements of sections 360-1.12 and 360-2.19 of this Part, the owner or operator must post a financial guarantee acceptable to the department securing the costs of:

(i) appropriate corrective action (including the development of alternative water sources) should the facility become a source of groundwater, surface water, or air pollution; and

(ii) the proper operation and maintenance of leachate and other collection and treatment systems for no less than 30 years after the existing landfill, expansion or new landfill is closed.

(2) To assist the department in determining the amount of financial guarantee that may be required: the owner or operator must provide an engineering report on the costs of, providing an alternative potable water supply; corrective action should the facility become a source of ground water, surface water, or air pollution; and the operation and maintenance of the leachate and other collection and treatment systems. In the case of a new landfill outside the deep flow recharge area or of an expansion, this engineering report must be submitted with the application for the permit to construct and operate. The duration, form, terms of posting, and amount of guarantee required for the facility will be determined by the department, and become conditions of the permit to construct and operate. The guarantee must be submitted to the department as a precondition to the operation of the landfill.

(c) *Methane gas.* The facility must be designed and operated to minimize the migration of methane gas or other gases beyond the facility's boundaries so as to avert the creation of a nuisance or a danger to property or public health. If the facility has a history of gas migration, an active perimeter gas control system must be constructed and operated. The facility's design must include appropriate means to vent decomposition gases and a gas monitoring program, with gas monitoring probes placed at various depths.

(d) *Operational limitations.* (1) The facility (except an expansion inside the deep recharge area) can accept only solid waste and that waste must be limited to material that is the product of resource recovery, incineration, or composting and downtime waste, and untreatable waste. However, downtime waste and untreatable waste may only be deposited in a special disposal area that is located and constructed so as to physically segregate these wastes and minimize their effects on residents of the surrounding area. Not more than 10 percent of the annual rated capacity of a resource recovery facility may be disposed of as downtime waste per year. However, up to 10 percent of the annual rated capacity of more than one resource recovery facility may be so disposed of at a single facility.

(2) If located outside the deep flow recharge area, an existing landfill, expansion, or new landfill also may accept solid waste in addition to that described in paragraph (1) of this subdivision whenever that disposal is approved by the commissioner based upon the findings made after the opportunity for a public hearing that:

(i) no resource recovery facility is available to accept such waste;

(ii) the landfill's owner is making all reasonable efforts to implement a resource recovery system acceptable to the department; and

(iii) the landfilling of that waste will not have a significant adverse environmental impact.

In granting any such approval, the commissioner must impose conditions necessary to mitigate any adverse environmental impacts to the maximum extent practicable, and must impose a schedule under which the municipality must implement an acceptable resource recovery system.

(e) *Existing landfill liner requirements.* An existing landfill used for continued operation after the effective date of this Part must be underlain by at least two natural and/or synthetic liners, each with provisions for leachate collection, and have a treatment and disposal system, all of which are approved by the department.

Historical Note

Sec. filed Oct. 28, 1988; amd. filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-8.4 Landfills in deep flow recharge areas.

(a) Landfilling at existing landfills within the deep flow recharge areas is prohibited unless the landfilling complies with sections 360-8.1 and 360-8.3 of this Subpart, and the department has approved such landfilling in advance in writing.

(b) No person may commence construction or operation of a new landfill (except for the disposal of clean fill under section 360-8.6 of this Subpart) that is located in the deep flow recharge area.

Historical Note

Sec. filed Oct. 29, 1988; amd. filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-8.5 Landfills outside deep flow recharge areas.

No person may commence construction or operation of an expansion or new landfill that is located outside of a deep flow recharge area unless the commissioner has made an affirmative determination that it will not pose a threat to groundwater quality, and the requirements of sections 360-8.1 and 360-8.3 of this Subpart are satisfied.

Historical Note

Sec. filed Oct. 28, 1988; amd. filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-8.6 Disposal of clean fill.

(a) *Clean fill disposal requirements.* Notwithstanding any other provisions of this Subpart, the commissioner may allow, by permit, the disposal of clean fill in the Counties of Nassau and Suffolk. Solid waste other than that specifically identified in section 360-8.2(a)(1) of this Subpart may be designated as clean fill by petitioning the commissioner to make such a determination.

(b) *Exemptions.* A site is exempt from regulation under this Part, regardless of its size or location provided that not less than 30 days before starting site construction, the property owner sends a letter to the regional office of the department, and a copy of the letter to the clerk of the town in which the project is located. The letter must state: the intention of using one or more of the types of solid waste described in this subdivision as grade adjustment fill; the exact nature, source, and volume of that waste; the time period over which the activity will occur; the name of the contractor responsible for the work; the areal extent of the proposed fill; the finished grades of the fill area; the exact location of the project; and the intended future use of the filled area including a time schedule for implementing such use; and it does not receive for disposal any solid waste other than recognizable concrete and other masonry solid waste (including steel and fiberglass reinforcing rods that are embedded in concrete), asphalt pavement, sand, dirt, soil, brick, stone and glass that is not contaminated with spills of a petroleum product (contamination does not include asphalt or concrete pavement that has come into contact with petroleum products through normal vehicle use of the roadway), hazardous waste or industrial waste, and that is not commingled with any other solid waste that is placed for the sole purpose of land reclamation, such as grade adjustment before construction of a building, parking area, or roadway; and either:

(1) such solid waste is generated and placed as fill on the same property; or

(2) such solid waste being placed as fill is generated off-site and no fee or other form of consideration is required for the privilege of using the site for disposal purposes.

(c) *Permit requirements for clean fill sites two acres or less.* Except for those sites which are exempt from regulation under subdivision (b) of this section, a site two acres or less in size at which only recognizable concrete and other masonry materials (including steel and fiberglass reinforcing rods embedded in concrete), asphalt pavement, sand, dirt, soil, brick, stone and glass that has not been in contact with any petroleum product (contamination does not include asphalt or concrete pavement that has come into contact with petroleum products through normal vehicle use of the roadway), hazardous waste, or industrial waste, and that is not commingled with any other solid waste when placed at the site, is disposed of, or if placed for land reclamation purposes (such as grade adjustment before construction of a building, parking area, or roadway), regardless of location, and placement occurs on property other than the property on which it was generated, or; a site two acres or less in size, regardless of location, at which only tree stumps, branches, and logs (but not wood chips, grass clippings, leaves or lumber) are disposed of is subject to the following requirements:

(1) The applications for a permit to construct and operate must include the following information:

(i) the exact nature, source, and volume of the material to be disposed of or placed;

(ii) the anticipated life of the facility;

(iii) the name of the person who will operate the facility and the name of each hauler who will deliver to the facility;

(iv) the areal extent and finished grades of the facility;

(v) the exact location of the proposed facility (including a map drawn to scale showing the boundaries of the property upon which the facility will be located, contiguous landowners, and proposed facility boundaries); and

(vi) the intended future use of the property on which the facility is located, including a time schedule for implementing such use.

(2) The engineering standards that apply to facilities in this subdivision are as follows:

(i) Vehicular access to the fill area must be regulated or restricted by natural or constructed barriers, including a gate which must be locked when the site is not attended. The site must be attended during all hours of operation and must be operated only during the hours of sunrise and sunset. The attendant must have in his possession at the facility a copy of the permit issued pursuant to this Part.

(ii) Side slopes must not exceed 25 percent.

(iii) Fill material must not be placed in surface water or groundwater, nor in contact with bedrock.

(iv) Cover material must be placed as necessary to control odors, fire hazards, vectors, blowing litter, and scavenging.

(v) Fill material must be placed in layers not exceeding five feet in uncompacted thickness.

(vi) Final cover must be placed within 30 days after closure of the site, or whenever an additional lift of fill is not applied within a one year period, or to an entire site which is the subject of an application that is denied, or a permit that terminates or is revoked for any reason. As a minimum, final cover must comply with the provisions of section 360-7.3(b)(9) of this Part.

(vii) The boundary or toe of the fill material must be at least 50 feet from all boundaries of the property upon which the facility is located.

(viii) Subsequent applications to construct and to operate a clean fill disposal area under the provisions of this subdivision for the same property, or property from which it was subdivided within the previous five years, regardless of current ownership must comply with

and satisfy the applicable requirements for a clean fill disposal area whose size is the sum of the area of any existing area and the proposed clean fill disposal area.

(d) *Permit requirements for clean fill sites larger than two acres.* Except for those sites which are exempt from regulation under subdivision (b) of this section, a facility not described in subdivision (c) of this section at which only clean fill is placed or disposed is subject to the permitting requirements of this subdivision:

(1) Application requirements for initial permits to construct and to operate a clean fill landfill are identical to the requirements of section 360-2.3 of this Part.

(2) Clean fill landfill liner and leachate collection and removal systems material, construction and certification requirements are identical to the requirements of subdivisions (a)-(e), (g)-(o) (other than subparagraphs [j][1][i], [k][2][i] and [l][2][i]) and (p)-(w) of section 360-2.13 of this Part. In addition:

(i) the minimum liner requirement for all landfills accepting clean fill must consist of the following:

(*a*) for new or lateral expansions of existing landfills within the deep flow recharge area, a double liner system consisting of an upper geomembrane and a lower composite liner system meeting the requirements of section 360-2.13(j)(1)(ii) of this Part, and must provide a primary and a secondary leachate collection and removal system; and

(*b*) for landfills outside the deep flow recharge area, at least a single composite liner system meeting the requirements of section 360-2.13(j)(1)(ii) of this Part, with a provision for primary but not secondary leachate collection and removal;

(ii) in the case of double lined clean fill landfills, the upper geomembrane liner must have a minimum thickness of 80 mils, and the lower geomembrane component of the composite liner must have a minimum thickness of 60 mils; and

(iii) the minimum thickness of the soil drainage layer of the primary leachate collection system must be four feet; and

(iv) the boundary or toe of the fill material must be at least 50 feet from all boundaries of the property upon which the facility is located.

(3) Landfill operation requirements are identical to the requirements of subdivisions (a)-(e), (g)-(k), (m), (q), (s), (t) and (u) of section 360-2.17 of this Part, except that the layers of clean fill must not exceed five feet in uncompacted thickness; and cover must be applied as necessary to control vectors, fires, odors, blowing litter, and scavenging.

(4) Landfill closure and post-closure criteria are identical to the requirements of sections 360-2.15 and 360-7.6(c) of this Part. Final cover must, at a minimum, include a gas venting layer, a barrier layer, barrier protection layer, and a topsoil layer. The final cover system must be designed and constructed in accordance with the applicable requirements of section 360-2.13(p)-(s) of this Part. Financial assurance criteria are identical to the requirements of section 360-2.19 of this Part.

Historical Note

Sec. filed Oct. 28, 1988; amd. filed Aug. 5, 1993 eff. Oct. 9, 1993.

SUBPART 360-9

STATE ASSISTANCE AND LOANS FOR MUNICIPAL LANDFILL CLOSURE PROJECTS

Sec.

Historical Note

Subpart (§§ 360-9.1—360-9.7) filed Oct. 28, 1988; repealed, new (§§ 360-9.1—360-9.9) filed: Aug. 31, 1990 as emergency measure; Nov. 29, 1990 as emergency measure; Jan. 28, 1991 as emergency measure; March 29, 1991 as emergency measure; March 29, 1991; amd. filed Nov. 29, 1994 eff. Dec. 14, 1994. Amended Part title.

§ 360-9.1 Purpose and applicability.

(a) *Purpose.* (1) Title 5 of article 54 of the Environmental Conservation Law provides money in the form of State assistance and loans to eligible municipalities to help pay for municipal landfill closures. For a municipality with a population of 3,500 or more, as determined by the most recent Federal decennial census, the maximum total of State assistance payments shall be either 50 percent of the approved project cost or $2,000,000, whichever is less. For a municipality with a population less than 3,500, as determined by the most recent Federal decennial census, the maximum total of State assistance payments shall be either 75 percent of the approved project cost or $2,000,000, whichever is less. A municipality with a population, as determined by the most recent Federal decennial census, of less than 3,500 may also be eligible for an interest-free loan to a maximum of the unfunded eligible cost portion of the project. The purpose of this Subpart is to establish eligibility requirements, application procedures and procedures the department will follow to implement the State assistance and loan programs.

(2) Title 4 of article 56 of the Environmental Conservation Law provides money in the form of State assistance to eligible municipalities to help pay for municipal landfill closure projects. For a municipality with a population of 3,500 or more, as determined by the most recent Federal decennial census, the maximum total of State assistance payments shall be either 50 percent of the approved project cost or $2,000,000, whichever is less. For a municipality with a population less than 3,500, as determined by the most recent Federal decennial census, the maximum total of State assistance payments shall be either 90 percent of the approved project cost or $2,000,000, whichever is less.

(b) *Applicability.* This Subpart applies to applications for State assistance or loans for municipal landfill closure projects funded by the Environmental Protection Fund and Environmental Quality Bond Act of 1986 as provided for in title 5 of article 54 of the Environmental Conservation Law (ECL) and to applications for State assistance for municipal landfill closure projects funded by the Clean Water/Clean Air Bond Act of 1996 as provided for in title 4 of article 56 of the ECL. Monies available from the Environmental Protection Fund, the Environmental Quality Bond Act of 1986 and the Clean Water/Clean Air Bond Act of 1996 may only fund

eligible project costs incurred before the date specified in Environmental Conservation Law, section 54-0505(2) and Environmental Conservation Law, section 56-0403.

(c) Nothing in this Subpart shall be construed to limit or restrict any powers of the commissioner or any other agency pursuant to any other provision of law.

Historical Note

Sec. filed Oct. 28, 1988; repealed, new filed: Aug. 31, 1990 as emergency measure; Nov. 29, 1990 as emergency measure; Jan. 28, 1991 as emergency measure; March 29, 1991 as emergency measure; March 29, 1991; amds. filed: Nov. 29, 1994; July 29, 1996; Nov. 4, 1999 eff. Nov. 24, 1999. Amended (a)(2).

§ 360-9.2 Definitions.

(a) *Definitions from Environmental Conservation Law.* As used in this Subpart, the following terms shall be interpreted with the meanings ascribed to them in sections 54-0101, 54-0501 and 56-0403 of the Environmental Conservation Law.

(1) *Cost* means the capital cost of an approved municipal landfill closure project including engineering and architectural services, plans and specifications, consultant and legal services, and other direct capital expenses incident to such project, less any federal, State or other assistance for such project received or to be received.

(2) *Federal assistance* means funds available, other than by loan, from the federal government, either directly or through allocation by the State for construction or program purposes pursuant to any federal law or program.

(3) *Governing body* means:

(i) in the case of a county outside of the City of New York, the county board of supervisors or other elective governing body;

(ii) in the case of a city or village, the local legislative body thereof, as the term is defined in the Municipal Home Rule Law;

(iii) in the case of a town, the town board;

(iv) in the case of a public benefit corporation, the board of directors, members or trustees thereof;

(v) in the case of a public authority, the governing board of directors, members, or trustees thereof;

(vi) in the case of a not-for-profit corporation, the board of directors thereof or such other body designated in the certificate of incorporation to manage the corporation;

(vii) in the case of a Native American tribe, any governing body recognized by the United States or the State of New York; and

(viii) in the case of a State agency, the commissioner of the State agency.

(4) *Municipality* means a local public authority or public benefit corporation, a county, city, town, village, State agency, State public authority, State public benefit corporation, or Native American tribe or nation residing within New York State, or any combination thereof. However, for purposes of expenditures of the Clean Water/Clean Air Bond Act of 1996, a municipality does not include a State agency, a State public authority, or State public benefit corporation.

(5) *Municipal landfill closure project* means activities undertaken to close, including by reclamation, a landfill owned or operated by a municipality to achieve compliance with regulations promulgated by the department.

(6) *Not-for-profit corporation* means a corporation formed pursuant to the Not-for-Profit Corporation Law and qualified for tax-exempt status under the Federal Internal Revenue Code.

(7) *Solid waste* shall have the definition set forth in title 7 of article 27 of the Environmental Conservation Law but shall not include hazardous waste as defined in title 9 of article 27 of the Environmental Conservation Law.

(8) *State assistance payment* means monies paid by the State to reimburse municipalities for eligible costs incurred for projects authorized by the Environmental Protection Act to preserve, enhance, restore and improve the quality of the State's environment.

(b) *Other definitions.* These terms have the following meanings when used in this Subpart.

(1) *Approval* means a formal written department determination of compliance with all applicable portions of this Subpart.

(2) *Contiguous* means having a common boundary or being hydraulically connected, as determined by the department.

(3) *Failure to make a loan payment* means failure to make a loan payment on or before the date required in the loan contract described in section 360-9.11 of this Subpart.

(4) *Landfill closure site* means a site as defined in section 360-1.2(b)(154) of this Part or a landfill as recognized by the department.

(5) *Loan payment* means debt service payment on a loan provided by the State in accordance with the Environmental Protection Act.

(6) *Reclamation* means department-approved landfill reclamation activity as defined in section 360-2.18(a)(1) of this Part.

(7) *Reclassification investigation* means an investigation of sufficient scope to enable the department to change the registry classification of a Classification 2a landfill site.

(8) *Registry* means the most recent publication of New York State Department of Environmental Conservation's Inactive Hazardous Waste Disposal Sites in New York State, Annual Report and any subsequent updates.

(9) *State assistance* means funds available, other than by loan, from the State government for construction or program purposes pursuant to any State law or program.

Historical Note

Sec. filed Oct. 28, 1988; repealed, new filed: Aug. 31, 1990 as emergency measure; Nov. 29, 1990 as emergency measure; Jan. 28, 1991 as emergency measure; March 29, 1991 as emergency measure; March 29, 1991; amds. filed: Aug. 5, 1993; Nov. 29, 1994; July 29, 1997 eff. 60 days after filing.

§ 360-9.3 Application eligibility.

A municipality may apply for State assistance, a loan, or State assistance and a loan if the landfill closure site meets the following requirements:

(a) *Ownership.* The site must be municipally owned or operated and the municipality must have full responsibility for all closure and post-closure activities.

(b) The loan applicant must have a population, as determined by the most recent Federal decennial census, of less than 3,500.

(c) *Additional requirements.* The following conditions must be met:

(1) the landfill closure site is not classified as a Classification 1 or Classification 2 in the Registry;

(2) a municipality with a Classification 2a site in the Registry is eligible to apply for State assistance if the municipality has submitted a complete reclassification investigation report to the department.

(i) A landfill closure site classified as Classification 2a is not eligible for State assistance unless it is reclassified to Classification 3, Classification 4, Classification 5 or delisted.

(ii) If, six months after the date of application, the site is not reclassified to a Classification 3, Classification 4 or Classification 5 or delisted, the application status will be reviewed by the department. If the site remains a Classification 2a due entirely to the department's delay in reclassification, then the applicant will be granted an extension up to an additional six months for reclassification; otherwise the application becomes invalid.

(d) *Applicable regulations.* The municipal landfill closure project must comply with regulations for new facilities, as set forth in this Part, which are in effect six months prior to the application for State assistance. A variance granted in accordance with section 360-1.7(c) of this Part, will not make a municipal landfill closure project ineligible for State assistance.

(e) *Obligation to close.* The municipality is obligated to close the landfill by a specific date. The obligation must be in the form of:

(1) an administrative order;

(2) a court order; or

(3) a permit condition.

The municipality must be in substantial compliance with the obligation to close. The obligation to close must include a requirement that the landfill closure site stop receiving solid waste within 18 months following the approval date of the application for State assistance.

(f) *Closure investigation report.* A closure investigation report must be completed for municipal solid waste landfills. A hydrogeologic report must be completed for municipal construction and demolition debris landfills. This report must comply with regulations for new facilities, as set forth in this Part, that are in effect six months prior to the application for State assistance.

(g) *Waiver of assistance.* Upon project approval for State assistance, a loan, or State assistance and a loan under this Subpart, the municipality must waive any right to assistance under section 27-1313 of the Environmental Conservation Law.

(h) *Phased landfill closure.* The department may allow a municipality to close a landfill site in phases. Each phase will be a municipal landfill closure project for construction purposes only. A phased landfill closure project:

(1) does not entitle the municipality to State assistance beyond the $2,000,000 maximum that the municipality can receive for the entire site;

(2) may be approved by the department if the closure project area is noncontiguous to any other landfill waste mass or, if contiguous to another waste mass, such mass has been closed in accordance with regulations that were in effect at the time of its closure; and

(3) must have all subsequent phases closed in accordance with regulations for new facilities, as set forth in this Part, that are in effect six months before the phase becomes inactive.

Historical Note

Sec. filed Oct. 28, 1988; repealed, new filed: Aug. 31, 1990 as emergency measure; Nov. 29, 1990 as emergency measure; Jan. 28, 1991 as emergency measure; March 29, 1991 as emergency measure; March 29, 1991; amds. filed: Aug. 5, 1993; Nov. 29, 1993 eff. Dec. 14, 1994.

§ 360-9.4 Application procedure.

An eligible municipality may apply to the department for State assistance pursuant to Environmental Conservation Law, section 54-0501, *et seq.* and/or Environmental Conservation Law, section 56-0401, *et seq.* and an eligible municipality may apply to the department for a loan or State assistance and a loan pursuant to Environmental Conservation Law, section 54-0501 *et seq.* The application must be submitted according to the following procedure:

(a) *Application form.* The application must be on forms provided by the department, and must be accompanied by the following:

(1) a copy of the closure investigation report required under section 360-9.3(f) of this Subpart, and correspondence indicating the approval status of the report;

(2) a copy of the administrative order, court order or permit condition containing the obligation to close the landfill site by a specified date that conforms to section 360-9.3(e) of this Subpart;

(3) a municipal landfill closure project work plan outlining the tasks to be completed and tasks already completed, a timetable for the proposed or actual completion of each task, and estimated or actual costs for each task;

(4) a certified copy of the governing body's authorization for submission of the application which contains the following information:

(i) name of governing body;

(ii) name of individual authorized to sign application; and

(iii) certification by recording officer;

(5) a statement that the landfill site is not currently a Classification 1 or Classification 2 in the Registry. A site classified as Classification 2a in the Registry must verify that a complete reclassification investigation has been submitted to the department;

(6) an affirmative action workplan which details the applicant's commitment to the affirmative action program, to include: designation of an affirmative action representative, a municipal policy statement and a project description;

(7) a statement that the landfill closure project area will not have a landfill constructed on it; and

(8) a statement that post-closure monitoring and maintenance of the landfill site will be implemented in accordance with section 360-2.15(i) of this Subpart.

(b) [*Reserved*]

(c) *Central office submission.* The original application package for State assistance must be submitted to:

Director
Division of Solid and Hazardous Materials
New York State Department of Environmental Conservation
625 Broadway
Albany, NY 12233-7250

Attn: Landfill Closure State Assistance/Loan Program Application

(d) *Regional office submission.* One complete copy of the application package must be submitted to the regional solid waste engineer in the region in which the landfill closure project is located.

Historical Note

Sec. filed Oct. 28, 1988; repealed, new filed: Aug. 31, 1990 as emergency measure; Nov. 29, 1990 as emergency measure; Jan. 28, 1991 as emergency measure; March 29, 1991 as emergency measure; March 29, 1991; amds. filed: Aug. 5, 1993; Nov. 29, 1994; July 29, 1997; June 19, 2001 eff. July 3, 2001. Amended (c).

§ 360-9.5 Department review.

The department will use the procedures in this section to determine the order in which it will review and approve applications for State assistance pursuant to Environmental Conservation Law, section 54-0501, *et seq.* and/or Environmental Conservation Law, section 56-0401, *et seq.* and loans or State assistance and loans pursuant to Environmental Conservation Law, section 54-0501 *et seq.*

(a) *Receipt of applications.* Date of receipt of approvable applications will be based upon the date received in the Albany, NY office or the date 18 months before the stop accepting waste date set forth in the facility's obligation to close, whichever is later. Applications received on a Saturday, Sunday, a holiday when State offices are closed, or after 4:30 p.m. on any business day will be considered received on the next business day.

(b) *Initial review.* The department will do an initial review of all applications for completeness.

(c) *Award of State assistance and loans.* Applications for State assistance and loans will be funded in the following order:

(1) any application for State assistance which was partially funded by the department under the Landfill Closure State Assistance Program that became effective September 1, 1990 which, due to insufficient funds, was not funded up to the maximum total State assistance authorized by section 360-9.9(e) of this Subpart;

(2) an increase in State assistance from 50 percent of eligible costs to 75 percent of eligible costs for applicants for State assistance that have or had contracts under the Landfill Closure State Assistance Program that became effective September 1, 1990, pursuant to Environmental Conservation Law, section 54-0501, *et seq.*; and an increase in State assistance from 75 percent of eligible costs to 90 percent of eligible costs for applicants for State assistance that have or had contracts under the Landfill Closure State Assistance Program for only those eligible costs incurred after April 1, 1993, pursuant to Environmental Conservation Law, section 56-0401, *et seq.*, and which have a population, based on the most recent Federal decennial census, of less than 3,500, provided, however, that:

(i) in no event shall the State assistance payments exceed a total of $2,000,000; and

(ii) if available funds are insufficient, the department will provide State assistance in the order that approvable applications were initially received;

(3) applicants for loans that have or had existing contracts under the Landfill Closure State Assistance Program that became effective September 1, 1990;

(i) if available funds are insufficient, the department will provide loans in the order that the approvable applications for State assistance were initially received;

(4) all other applications for State assistance and loans;

(i) if available funds are insufficient, the department will provide State assistance and loans in the order of initial date of receipt of approvable applications.

Historical Note

Sec. filed Oct. 28, 1988; repealed, new filed: Aug. 31, 1990 as emergency measure; Nov. 29, 1990 as emergency measure; Jan. 28, 1991 as emergency measure; March 29, 1991 as emergency measure; March 29, 1991; amds. filed: Aug. 5, 1993; Nov. 29, 1994; July 29, 1997 eff. 60 days after filing. Amended opening para., (c)(2).

§ 360-9.6 Eligible and ineligible costs for State assistance payments and loans.

(a) *Eligible costs.* Reasonable costs directly related to a municipal landfill closure project will be considered eligible. Eligible cost include the following to the extent that they are necessary for actual project construction:

(1) costs for preparation of a closure investigation report;

(2) costs for preparation of a reclassification investigation - this cost will be considered eligible for sites that were classified in the Registry as Classification 2a and have become eligible for State assistance as a result of the reclassification investigation;

(3) costs for engineering and architectural services;

(4) costs for preparation of plans and specifications;

(5) costs for consultant services;

(6) costs for legal services

(7) costs for closure construction; and

(8) costs for other direct capital expenses incident to the municipal landfill closure project as approved by the department.

(b) *Ineligible costs.* The following costs incurred in the design and/or implementation of a municipal landfill closure project are not eligible for State assistance:

(1) costs incurred to perform the municipal landfill closure project if it is not fully implemented in accordance with plans and reports approved by the department;

(2) costs incurred in preparing and submitting an application under title 5 of article 54 of the Environmental Conservation Law or Environmental Conservation Law, section 56-0403;

(3) costs for which the commissioner determines funds are not available;

(4) post-closure monitoring and maintenance costs associated with a municipal landfill closure project;

(5) costs for activities associated with development of alternative waste disposal sites or techniques;

(6) costs incurred before the date specified in the Environmental Conservation Law, section 54-0505(2) or Environmental Conservation Law, section 56-0403(2);

(7) costs incurred if the department determines that the landfill closure site is a Classification 1 or Classification 2 in the Registry;

(8) costs incurred to perform the municipal landfill closure project that are inconsistent with or in violation of the procedures and requirements for the State assistance program under title 5 of article 54 of the Environmental Conservation Law, Environmental Conservation Law, section 56-0403, or other applicable laws;

(9) costs associated with a municipal landfill closure project that does not comply with the landfill closure requirements for new facilities as set forth in Part 360 of this Title, that is in effect six months prior to the application for State assistance;

(10) any portion of the cost for which Federal or other specific assistance has been or will be received; and

(11) costs for activities not approved by the department.

Historical Note

Sec. filed Oct. 28, 1988; repealed, new filed: Aug. 31, 1990 as emergency measure; Nov. 29, 1990 as emergency measure; Jan. 28, 1991 as emergency measure; March 29, 1991 as emergency measure; amds. filed: Aug. 5, 1993; Nov. 29, 1994; July 29, 1997 eff. 60 days after filing. Amended (b)(2), (6), (8).

§ 360-9.7 State assistance progress reviews and reimbursement schedule.

(a) *Approval process.* State assistance will be approved only for municipal landfill closure projects that include plans for closure, post-closure and construction that conform to the requirements for new facilities as set forth in Part 360 of this Title, that are in effect six months prior to the application for State assistance.

(b) *Requirements for reimbursement.* A municipality that has entered into a contract with the commissioner in accordance with section 54-0509 of the Environmental Conservation Law must:

(1) perform closure work according to the schedule(s) included in the contract;

(2) file progress reports at intervals stipulated in the contract;

(3) file, on forms prescribed by the department, for reimbursement at each payment milestone identified in the contract documents; and

(4) document and certify, when filing for reimbursement, that the municipality has paid all costs concerned by submitting necessary copies of the project's management, accounting, procurement and property control records.

(c) *Department review.* The department will:

(1) review reimbursement requests and either approve or deny payment;

(2) notify the municipality of denial of payment, with an explanation of the reasons for denial; and

(3) process reimbursement requests expeditiously.

(d) *Revision of award amount.* The amount awarded through State assistance is subject to revision pending a final computation and determination by the commissioner. The approved

project cost will be reduced by the amount of any specific grants for the project received by the municipality from any source.

Historical Note

Sec. filed Oct. 28, 1988; repealed, new filed: Aug. 31, 1990 as emergency measure; Nov. 29, 1990 as emergency measure; Jan. 28, 1991 as emergency measure; March 29, 1991 as emergency measure; March 29, 1991; amds. filed Aug. 5, 1993; Nov. 29, 1994 eff. Dec. 14, 1994. Amended (a)-(b), (d).

§ 360-9.8 Loan approvals.

(a) *Loan requirements.* A municipality eligible for State assistance payments pursuant to section 360-9.7 of this Subpart, and that has a population, as determined by the most recent Federal decennial census, of less than 3,500 is also eligible for an interest-free loan to a maximum of the unfunded eligible cost portion of the project. The loan will not be closed prior to processing of the final reimbursement request as described in section 360-9.9 of this Subpart.

(b) *Loan amount.* The loan amount will not exceed the eligible cost portion of the project not funded by State assistance payments.

(c) *Loan schedule.* The loan must be repaid in equal installments, and over a term not to exceed 20 years.

Historical Note

Sec. filed Aug. 31, 1990 as emergency measure; Nov. 29, 1990 as emergency measure; Jan. 28, 1991 as emergency measure; March 29, 1991 as emergency measure; March 29, 1991; amds. filed: Aug. 4, 1993; renum. 360-9.9, new filed Nov. 29, 1994 eff. Dec. 12, 1994.

§ 360-9.9 State assistance contract.

Upon approval of a State assistance application, a municipality must enter into a contract with the commissioner on a timely basis. The contract must include but not be limited to:

(a) provisions for implementation of the approved municipal landfill closure project and any amendments;

(b) provisions for reimbursement including:

(1) a current estimate of the cost of the project;

(2) periodic reimbursement:

(i) for cost incurred during the project; and

(ii) the periodic reimbursement amount will be prorated based upon the estimated total project cost;

(c) an agreement by the municipality to:

(1) proceed expeditiously with the project;

(2) complete the project in accordance with plans and reports approved by the department; and

(3) complete the project in accordance with the conditions of applicable permits, administrative orders or judicial orders;

(d) provisions relating to:

(1) competitive bidding procedures;

(2) protests;

(3) awarding of construction contracts;

(4) change orders;

(5) department on-site inspections;

(6) inspections of records;

(7) audits;

(8) force accounts;

(9) construction schedules;

(10) project management;

(11) progress report submittals;

(12) submittal of requests for reimbursement;

(13) minority and women's business enterprises and equal employment opportunity requirements;

(14) State retainage of up to 10 percent of the State assistance until the completed project is reviewed and approved by the department; and

(15) post-closure monitoring and maintenance;

(e) a current estimate of the cost of the project as determined by the commissioner at the time of the execution of the contract; and

(f) the maximum total State assistance which may be awarded for the project.

Historical Note

Sec. filed: Aug. 31, 1990 as emergency measure; Nov. 29, 1990 as emergency measure; Jan. 28, 1991 as emergency measure; March 29, 1991 as emergency measure; March 29, 1991; amd. filed Aug. 5, 1993; renum. 360-9.10, new added by renum. and amd. 360-9.8, filed Nov. 29, 1994 eff. Dec. 14, 1994.

§ 360-9.10 Return of State assistance for nonperformance.

(a) *Failure to comply.* If the municipality has failed to comply with the State assistance contract, the department will:

(1) notify the municipality of the failure; and

(2) allow the municipality a reasonable time to correct the failure.

(b) *Violation of contract.* If the failure is not corrected in the time allowed by the department, the municipality will be in violation of the contract and the department will:

(1) withhold any future State assistance under the contract; and

(2) demand immediate repayment of any State assistance received by the municipality.

Historical Note

Sec. added by renum. 360-9.9, filed Nov. 29, 1994 eff. Dec. 14, 1994.

§ 360-9.11 Loan contract.

If a loan application is approved, a municipality must enter into a loan contract with the commissioner, or his agent, on a timely basis. The loan contract must include, but not be limited to:

(a) a provision that the loan is interest-free;

(b) a provision for loan payment, including the loan term;

(c) a provision for adding a one percent per month surcharge for each month of delinquent loan payment on all loan payments not paid within 60 days after the due date;

(d) a provision for conditions under which the municipality is in violation of the loan contract;

(e) a provision incorporating applicable requirements of the State assistance contract into the loan contract;

(f) provisions as set forth in section 360-9.9 of this Subpart, except for subdivisions (b) and (e) and paragraphs (c)(11), (12) and (14) of this Subpart;

(g) a provision for intercepting any State aid payable to a loan recipient that has a failed loan payment to the exact amount of the recipient's total failed payment, including any surcharge; and

(h) a provision for intercepting any State aid payable to a loan recipient that has defaulted on its loan contract to the exact amount of the recipient's total principal and surcharge due.

Historical Note

Sec. filed Nov. 29, 1994 eff. Dec. 14, 1994

§ 360-9.12 Return of loan for nonperformance.

(a) *Failure to make a loan payment.* In the event of failure to make a loan payment:

(1) the department will certify to the comptroller that the municipality has failed to make a loan payment; and

(2) the comptroller will upon receipt of such certification, withhold from the municipality any State aid payable to it to the extent necessary to meet the amount due the department, including the recipient's total failed payment and surcharge.

(b) *Loan contract default.* Failure to make any three loan payments or failure to comply with the terms of the loan contract is a loan contract default. In the event of a loan default, the department may require, upon written notice, prompt payment of the total unpaid principal of the loan and any surcharges. If prompt payment is not made in full, then:

(1) the department will certify to the comptroller that the municipality has defaulted on the loan contract; and

(2) the comptroller will upon receipt of such certification, withhold from the municipality any State aid payable to it to the extent necessary to meet the amount due the department.

Historical Note

Sec. filed Nov. 29, 1994 eff. Dec. 15, 1994.

SUBPART 360-10

REGULATED MEDICAL WASTE STORAGE, TRANSFER AND DISPOSAL

Sec.

Historical Note

Subpart (§§360-10.1—360-10.6) filed Oct. 28, 1988; repealed, new filed Nov. 26, 1991; repealed, new (§§ 360-10.1—360-10.5) filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-10.1 Applicability and exemptions.

(a) *Applicability.* Except for the exemptions of section 360-1.7(b) of this Part and subdivision (b) of this section, all facilities involved with the storage, transfer and disposal of regulated medical waste (RMW) are subject to the requirements of this Subpart and Subpart 360-1 of this Part. Facilities treating RMW must comply with the applicable provisions of Subparts 360-1, 360-3 and 360-17 of this Part and Part 219 of this Title. RMW storage and transfer facilities are not authorized to accept low-level radioactive waste, solid waste, treated RMW or treated and destroyed medical waste (TDMW), unless such authorization is specifically granted, in writing, by the department.

(b) *Exemptions.* A facility or site involved with the storage or transfer of RMW is exempt from this Part for RMW storage or transfer activities if that facility or site:

(1) is located on the site of, and operated by, a health care facility licensed pursuant to article 28 of the Public Health Law or a clinical laboratory licensed pursuant to section 571 of the Public Health Law. RMW may be accepted by licensed health care facilities or clinical laboratories from other generators of RMW, provided the generator meets the requirements of section 364.9(e)(2) of this Title. Written agreements between each generator and the licensed health care facility or clinical laboratory must be on file with the department and the New York State Department of Health (DOH). Storage and transfer facilities located on-site of licensed health care facilities and clinical laboratories, but not operated by the employees of such facilities, are not exempt from this Part;

(2) is used for the non-profit collection of household medical waste sponsored by a community or government organization in accordance with section 360-1.7(b)(6) of this Part; or

(3) is used for on-vehicle storage by a permitted transporter storing RMW in accordance with section 364.9 of this Title, if such storage occurs on the original vehicle transporting the RMW from the point of initial RMW pickup to the point of final delivery. Such on-vehicle storage activities may include, but not be limited to overnight on-the-road stops, and stops for meals, fuel and driver comfort. The consolidation of any RMW between vehicles is a transfer activity subject to the requirements of this Subpart.

Historical Note

Sec. filed Oct. 28, 1988; repealed, new filed: Nov. 26, 1991; Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-10.2 Definitions.

For the purposes of this Subpart, the definitions contained in Subparts 360-1 and 360-17 of this Part, and section 364.9 of this Title apply.

Historical Note

Sec. filed Oct. 28, 1988; repealed, new filed: Nov. 26, 1991; Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-10.3 Permit to construct and operate application requirements.

In addition to the applicable requirements of Subpart 360-1 of this Part, applications for a permit to construct and operate a RMW storage or transfer facility must contain the following:

(a) *Regional plan or map.* The regional plan or map must delineate the service area of the proposed transfer station.

(b) *Engineering plan.* The engineering plan must include:

(1) site conditions and projected site use including all site structures (such as buildings, fences, gates, entrances and exits, parking areas, on-site roadways and signs) and the location of all water supplies;

(2) property boundaries, access roads, the location of all surface water bodies and the location of 100-year floodplain boundaries;

(3) all proposed structures and areas designated for unloading, sorting, storage and loading, including dimensions, elevations and floor plans of these structures and areas and the general process flow; and

(4) adjacent properties including the location of public and private water supplies on these properties.

(c) *Engineering report.* The engineering report must include:

(1) a description of the general operation of the proposed facility including the general origin, composition and expected weight of all RMW to be accepted at the facility, the maximum time any such waste will be stored and where all waste will be treated, the proposed capacity, operating hours and expected life of the facility;

(2) a description of all machinery and equipment to be used, including radiation monitoring equipment, and any associated design capacities;

(3) a proposed transfer plan specifying the transfer route, the number and type of transfer vehicles to be used and how often RMW will be transferred to the treatment or disposal facility; and

(4) a description of the facility's drainage system and water supply system.

(d) *Surety.* The applicant must provide proof of liability insurance or other form of financial surety deemed sufficient by the department, in an amount of at least $1,000,000, to meet all responsibilities in case of release of RMW which causes bodily injury or property damage, including liability for environmental restoration resulting from negligence in operation.

(e) *Design requirements for storage and transfer facilities.* Unless specifically authorized by the department in writing, a RMW storage or transfer facility will only be permitted for the management of untreated RMW. If other solid wastes are being considered for handling at the facility, the application must demonstrate how mixing of untreated RMW with other solid waste will be prevented. All RMW storage and transfer facilities must be designed in accordance with the following provisions:

(1) Unloading and loading areas.

(i) The unloading and loading areas must be adequate in size and design to facilitate efficient transfer of RMW to and from the collection vehicles and the unobstructed movement of vehicles.

(ii) The unloading and loading areas must be constructed of concrete or asphalt paving material, be equipped with adequate drainage structures, and be free of standing water.

(iii) All processing, transfer, sorting and storage areas must be located within an enclosed building or fixed covered area.

(iv) Provisions must be made for weighing all RMW transferred at the facility.

(v) Radiation detection devices for radioactivity assessment must be installed in a location appropriate for the monitoring of all incoming waste.

(2) On-site roads.

(i) The facility must be designed to accommodate expected traffic flow in a safe and efficient manner.

(ii) The road surface design must be suitable for heavy vehicles and the road base must be capable of withstanding expected loads.

(iii) On-site roads must be passable by loaded collection and transfer vehicles in all weather conditions and provisions must be made for deicing ramps.

(f) *Operation plan.* The operation plan, in addition to addressing the operating requirements contained in section 360-10.4 of this Subpart, must include the following:

(1) a method of receiving RMW that ensures that RMW is handled separately from other solid waste until treatment and destruction or treatment and disposal and that prevents unauthorized persons from having access to or contact with the RMW;

(2) a method of unloading and processing RMW that limits the number of persons handling that waste and minimizes the possibility of RMW exposure to employees and the public using or visiting the facility;

(3) a method of monitoring the incoming waste to prevent the acceptance of radioactive waste and unauthorized waste at the facility;

(4) a method of decontaminating empty reusable RMW containers, transport vehicles and facility equipment;

(5) the required use of clean gloves and clean uniforms along with other protective clothing to provide protection for employees against exposure to RMW;

(6) the means of decontaminating any person who has bodily contact with RMW while handling the RMW at the site;

(7) the quantity on a weight basis, of the amount of RMW handled, stored or transferred each month; and

(8) the means of decontaminating the surfaces of transport vehicles that have come in contact with spilled or leaked RMW.

(g) *Contingency plan.* The contingency plan must provide procedures to be used for emergency and other situations such as spills of RMW, rupture of plastic bags and boxes and equipment failure. This plan must include procedures for:

(1) cleanup, protection of personnel, disposal of spill residue, repackaging of RMW and alternate arrangements for RMW treatment, storage and disposal. In the case of extended periods of storage, provide procedures, such as refrigeration, to prevent the RMW from becoming putrescible; and

(2) immediate notification by telephone of the regional solid waste engineer if the facility contingency plan was activated for such occurrences as fires, spills, contamination of any person or other emergencies. A written report must be submitted to the individuals identified in subdivision 360-10.4(p) of this Subpart.

(h) *Personnel training plan.* The personnel training plan must describe training that will be provided to all staff involved in the handling of RMW. Personnel training must include a thorough explanation of the operation plan, contingency plan, and the safe handling of RMW. Facility personnel must successfully complete the personnel training required in the personnel training plan within three months of the date of their employment. Prior to handling RMW, each employee must complete personnel safety training that includes the handling and management of RMW and worker protection.

Historical Note

Sec. filed Oct. 28, 1988; repealed, new filed: Nov. 26, 1991; Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-10.4 Operational requirements.

Facilities subject to this Subpart must comply with the following requirements:

(a) All activities at the facility must be performed in accordance with the facility plans and programs required by this Part and approved by the department. These facility plans and programs are to be maintained and available for reference and inspection at the facility.

(b) The owner or operator of any facility used for the storage or transfer of RMW must, in addition to complying with the applicable requirements set forth in section 360-1.14 of this Part, adhere to a department-approved operation plan for the handling, storage and transfer of RMW.

(c) A new or revised operation plan for the storage or transfer of RMW must be prepared whenever the maximum quantity, on a weight basis, of RMW stored or transferred per month by the facility exceeds 25 percent of the average quantity of RMW stored or transferred in the previous three months, or when changes are otherwise made in an existing operation plan. The new or revised operation plan must be submitted within 30 days of exceeding the 25 percent level. The operation plan must be sent to the regional solid waste engineer in the office of the department administering the region in which the facility is located, with a copy sent to the Director, Division of Solid Waste, New York State Department of Environmental Conservation, 625 Broadway, Albany, NY 12233-4010.

(d) Approval for acceptance of RMW at a storage or transfer facility may be withdrawn by the department for noncompliance with the operation plan or Part 364 of this Title. The permittee may request a hearing after such withdrawal in accordance with subdivision 27-1517.3 of the ECL or section 621.14 of this Title.

(e) All RMW received at the facility must be packaged, labeled and transported in accordance with section 364.9 of this Title.

(f) If the facility is authorized to accept such waste, the delivery of treated RMW or TDMW must be accompanied by a certification form as described in section 360-17.4(g) of this Part.

(g) All areas within the facility site must be free of standing water. All drainage from washing and cleaning areas must be treated or disposed of in compliance with all applicable Federal and State regulations.

(h) The maximum duration for storage or containment of RMW must be limited to seven days, unless prior written approval is received from the department. RMW must not be allowed to become putrescent.

(i) Storage of RMW must be in a secure, vector-free, dry area and in a manner and location that minimizes the possibility of exposure to the environment and to the public.

(j) RMW must not be mixed with or come in contact with other solid waste. If the facility is authorized by the department to accept such waste, a permanent physical barrier must exist to prevent the mixing of RMW, treated RMW, TDMW and solid waste.

(k) Storage areas must protect RMW from the elements, be ventilated to the outdoors, be only accessible to authorized persons and be marked with prominent warning signs on, or adjacent to, the exterior doors or gates. The warning signs must include the nationally recognized biohazard symbol and must be easily read from a distance of 25 feet. Outside storage areas containing RMW (*e.g.*, dumpsters, sheds, tractor trailers or other storage areas) must be locked to prevent unauthorized access.

(l) Reusable containers for RMW must be thoroughly washed and decontaminated each time they are emptied, unless the surfaces of the containers have been completely protected from contamination by disposable liners, bags or other devices that are removed with the RMW.

(m) Reusable containers used for the storage of RMW must be disinfected before they are used for the storage or containmment of any other solid waste or for other purposes.

(n) Except for reusable containers, RMW containers for the management of untreated RMW shall not be opened unless such procedure is part of the approved treatment process.

(o) Compactors and trash chutes must not be used to process untreated RMW. Untreated RMW must not be dumped from vehicles.

(p) In addition to the requirements of sections 360-1.4(c) and 360-1.14(i) of this Part, all correspondence with the department must be submitted in writing to the regional solid waste engineer in the office of the department administering the region in which the facility is located,

with a copy sent to the Director, Division of Solid Waste, New York State Department of Environmental Conservation, 625 Broadway, Albany, NY 12233-4010. The permittee or his representative must:

(1) Immediately notify by telephone the regional solid waste engineer in the office of the department administering the region in which the facility is located, if an unscheduled facility shutdown exceeds 24 hours or if the contingency plan is implemented. Within 72 hours a written report of the incident must be sent to the individuals identified in subdivision (p) of this section.

(2) Prepare and file a quarterly report, compiled on a weekly basis, on a form prescribed by or acceptable to the department. Copies of the report must be received by individuals identified in subdivision (p) of this section within 30 days after the end of each quarter. Reports must include copies of operating information, such as receipt and disposition of RMW and unauthorized waste and other pertinent data.

(3) In addition to the quarterly reports, prepare and file with the department, an annual report on a form prescribed by or acceptable to the department, no later than 60 calendar days after the first day of January of each year of operation. The annual report must be sent to the individuals identified in subdivision (p) of this section.

Historical Note

Sec. filed Oct. 28, 1988; repealed, new filed: Nov. 26, 1991; Aug. 5, 1993; amd. filed June 19, 2001 eff. July 3, 2001. Amended (c), (p).

§ 360-10.5 Disposal.

(a) RMW shall not be disposed of by burial at a disposal facility unless treated in accordance with Subpart 360-17 of this Part or 10 NYCRR Part 70.

(b) RMW consisting of recognizable body parts must be disposed of by interment or treated by incineration in accordance with Subpart 360-3 and the operation plan of section 360-17.3 of this Part.

(c) RMW consisting of animal carcasses known to be exposed to infectious agents must be disposed of by interment at a New York State Department of State-approved facility or treated by incineration in accordance with Subpart 360-3 and the operation plan of section 360-17.3 of this Part. Alternative methods of disposal are acceptable if approved in writing by the commissioner of the DOH as required by paragraph 27-1507.1(d) of the ECL. Animal carcasses not known to be contaminated with infectious agents are considered solid waste and may be disposed of at a department-approved solid waste landfill, a rendering facility or other means as approved by the department.

(d) Treated RMW and TDMW from a department-approved facility or a treatment facility approved in writing by DOH, may be disposed of only at a solid waste landfill or incinerator approved in writing by the department to accept that waste. The treated RMW and TDMW must have been treated in accordance with the facility's approved operation plan and must be accompanied by a completed certification form in accordance with subdivision 360-17.4(g) of this Part. No solid waste landfill or incinerator may accept treated RMW or TDMW unless the treatment process has been approved in writing by the department or the DOH. Treated RMW received by the facility must be packaged, labeled and transported in accordance with section 364.9 of this Title.

(e) RMW consisting of sharps, as defined in section 360-17.2(h)(1)(iv) and (x), must be treated and destroyed prior to disposal in an approved landfill. Incineration of sharps, in accordance with Subpart 360-3 and the operation plan set forth in section 360-17.3 of this Part, includes both treatment and destruction.

Historical Note

Sec. filed Oct. 28, 1988; repealed, new filed: Nov. 26, 1991; Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-10.6

Historical Note

Sec. filed Oct. 28, 1988; repealed, new filed Nov. 26, 1991; repealed, filed Aug, 5, 1993 eff. Oct. 9, 1993.

SUBPART 360-11
TRANSFER STATIONS

Sec.

Historical Note

Subpart (§§ 360-11.1—360-11.4) filed Oct. 28, 1988 eff. Dec. 31, 1988.

§ 360-11.1 Applicability and registration.

(a) *Applicability.* All solid waste transfer stations are subject to the requirements of Subpart 360-1 of this Part and to those set forth in this Subpart. Transfer stations authorized to process construction and demolition (C&D) debris must comply with the operational requirements of section 360-16.4 of this Part.

(b) *Registration.* The following regulated solid waste management facilities identified in this subdivision are eligible for the registration provisions of section 360-1.8(h) of this Part, rather than the permit provisions of this Part, provided all of the applicable requirements of section 360-1.8(h) and this subdivision are met.

(1) A transfer station, that is owned or operated by, or contracted by or on behalf of, a municipality, receiving less than 50,000 cubic yards or 12,500 tons of solid waste annually, provided the following additional conditions are satisfied:

(i) only household waste is accepted at the facility. No industrial waste, commercial waste, treated or untreated regulated medical waste, treated and destroyed medical waste, asbestos waste, or C&D debris shall be accepted unless specifically approved in advance in writing by the department;

(ii) a maximum of 1,000 cubic yards or 250 tons of solid waste is located on-site at any given time;

(iii) all putrescible solid waste is removed from the transfer station within seven days of receipt, unless prior written approval is received from the department;

(iv) the facility complies with the requirements of section 360-11.4(b) of this Subpart;

(v) no on-site permanent operating mechanical equipment is left unattended;

(vi) the facility operates only between the hours of sunrise and sunset, or when an attendant is on duty;

(vii) the facility is developed, operated and maintained in a safe, nuisance-free manner; and

(viii) if recyclables are handled at the facility, the facility complies with the applicable operational requirements of section 360-12.2 of this Part.

(2) A transfer station, that is owned or operated by, or contracted by or on behalf of, a municipality, receiving less than 50,000 cubic yards or 12,500 tons of containerized solid waste annually, provided the following additional conditions are satisfied:

(i) the containers are sealed and leakproof;

(ii) the solid waste is not unpackaged, mixed, or pumped from one container into another at the facility;

(iii) the containers are not opened for any reason at the facility;

(iv) the containers are removed from the transfer station within seven days of receipt, unless prior written approval is received from the department; and

(v) the facility complies with the conditions outlined in subparagraphs (1)(iv)-(viii) of this subdivision.

Historical Note

Sec. filed Oct. 28, 1988; amd. filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-11.2 Additional permit application requirements.

(a) *Application requirements.* An application for a solid waste transfer station permit must conform to the requirements set forth in section 360-1.9 of this Part and the requirements of this section. Applications for initial permits to construct and operate a solid waste transfer station must include the following:

(1) Regional plan or map. The regional plan or map must delineate the service area of the proposed transfer station.

(2) Site plan. The site plan must include:

(i) site conditions and projected site utilization, including all site structures (such as buildings, fences, gates, entrances and exits, parking areas, on-site roadways, and signs) and the location of all water supplies;

(ii) property boundaries, access roads, the locations of all surface water bodies, and 100-year floodplain boundaries;

(iii) all proposed structures and areas designated for unloading, sorting, storage, and loading, including dimensions, elevations and floor plans of these structures and areas, and the general process flow; and

(iv) adjacent properties, including the location of public and private water supplies on these properties.

(3) Engineering report. The engineering report must include:

(i) a description of the general operating plan for the proposed facility, including the origin, composition, and expected weight or volume of all solid waste to be accepted, the maximum time any such waste will be stored, where all waste will be disposed of, and the proposed capacity operating hours, and the expected life of the facility;

(ii) a description of all machinery and equipment, including the design capacity;

(iii) a proposed transfer plan specifying the transfer route, the number and type of transfer vehicles to be used, and how often solid waste will be transferred to the disposal site;

(iv) a description of the facility's drainage system and water supply system;

(v) a plan for hiring and training equipment operators and other personnel who will operate the facility; and

(vi) a contingency plan that details an alternative solid waste handling system for periods when not operating, or for delays in transporting solid waste due to undesirable conditions, such as delivery of unauthorized waste, fires, dust, odor, vectors, unusual traffic conditions, equipment breakdown or other emergencies.

(b) *Other requirements.* Applications for initial permits to construct and operate a transfer station at a closed landfill site may have additional requirements as determined by the department. These additional matters will be required under section 621.14 of this Title.

Historical Note

Sec. filed Oct. 28, 1988; amds. filed: Aug. 5, 1993; Sept. 27, 1996 eff. 60 days after filing. Amended (a)(3)(vi).

§ 360-11.3 Design requirements.

All solid waste transfer stations receiving more than either 50,000 cubic yards or 12,500 tons of solid waste annually must meet the minimum design requirements as follows:

(a) *Unloading and loading areas.* (1) The unloading area must be adequate in size and design to facilitate efficient unloading from the collection vehicles and the unobstructed movement of vehicles.

(2) The unloading and loading pavement areas must be constructed of concrete or asphalt paving material and equipped with adequate drainage structures.

(3) Processing, tipping, sorting, storage, and compaction areas must be located within an enclosed building or covered area.

(4) Provisions must be made for weighing or measuring all solid waste transferred to the facility.

(5) Sufficient internal storage areas must be provided for incoming solid waste.

(6) Exhaust removal systems must be installed in enclosed areas.

(7) Wheel curbs must be provided to prevent trucks from backing into pits while unloading.

(b) *On-site roads.* (1) The facility must be designed to accommodate expected traffic flow in a safe and efficient manner.

(2) Where public dumping is allowed, separate access for passenger vehicles must be provided.

(3) The road surface design must be suitable for heavy vehicles and the road base must be capable of withstanding expected loads.

(4) On-site roads must be passable by loaded collection and transfer vehicles in all weather conditions. Provisions must be made for deicing ramps.

Historical Note

Sec. filed Oct. 28, 1988; amds. filed: Aug. 5, 1993; Sept. 27, 1996 eff. 60 days after filing.

§ 360-11.4 Operational requirements.

In addition to the requirements of section 360-1.14 of this Part, all solid waste transfer stations must comply with the following operational requirements:

(a) *Acceptable waste.* Only household waste and commercial waste shall be accepted at the facility. No industrial waste, treated or untreated regulated medical waste, treated and destroyed medical waste, or construction and demolition debris shall be accepted unless specifically approved by the department.

(b) *Ultimate disposal of waste.* All solid waste passing through the transfer station must be ultimately treated or disposed of at a facility authorized by the department if in this State, or by the appropriate governmental agency or agencies if in other states, territories, or nations. In the case of transfer stations at which solid waste is intended to be placed on vessels, no solid waste shall be placed on a vessel not owned or operated by a city whose population exceeds one million without having first received written department approval to do so. That approval will be granted if the operator of the facility submits to the department the following: a certified copy of each permit or other authorization pertaining to the operation of the treatment or disposal facility to which the solid waste will be brought issued by each governmental entity having jurisdiction over that facility; and original letters from each jurisdiction through which that solid waste will pass, and from each jurisdiction in which that solid waste will be treated or disposed of, stating that the governmental entity does not object to the solid waste being transported through or treated or disposed of within its jurisdiction.

(c) *Signs.* A sign must be posted with the hours of operation and the types of solid waste accepted and not accepted at the transfer station.

(d) *Public access.* A transfer station with permanent operating mechanical equipment must have an attendant on duty whenever the facility is open.

(e) *Control of litter, insects, odors and vectors.* The transfer station must maintain a neat and orderly appearance. Blowing litter, insects and other nuisances must be controlled. The transfer station and transfer vehicles must be cleaned to prevent odors and vectors.

(f) *Drainage.* All floors must be free from standing water. All drainage from cleaning areas must be discharged to sanitary sewers, authorized sanitary waste treatment facilities, or a corrosion-resistant holding tank. Disposal of leachate and drainage from cleaning areas and holding tanks must be in compliance with all applicable federal and State regulations.

(g) *Storage area.* The transfer station must have adequate storage space for incoming solid waste.

(h) *Recoverable solid waste.* Transfer stations that store, collect or process recyclables must also comply with the applicable operational requirements of section 360-12.2 of this Part.

(i) *Operational records.* Operational records must be maintained at facilities with permanent operating mechanical equipment. These records must include a daily log of the quantity of solid waste received and transported, specifying the origin and the destination of the solid waste transported daily.

(j) *Annual report.* An annual report must be submitted to the department's central office and the office of the department administering the region in which the facility is located, no later than 60 days after the first day of January following each year of operation on forms prescribed by or acceptable to the department. This report must contain the total annual amount of waste received by weight or volume, compiled by waste type, the total quantity of solid waste received during each quarter, the origin of the solid waste, the destination of the solid waste, the weight or volume and type of each material recovered, and any changes in operation that have occurred in the previous year.

(k) *Fire protection.* Adequate fire protection equipment must be available at all times.

(l) *Removal of waste.* All putrescible solid waste must be removed from the transfer station whenever transfer containers are full, or within seven days of receipt, whichever comes first.

(m) *Asbestos waste.* Department approval is necessary prior to the acceptance of asbestos waste at a transfer station facility. The asbestos waste must have been removed and packaged in accordance with 40 CFR part 61 subparts A and M, and 29 CFR parts 1910 and 1926 (see section 360-1.3 of this Part). Asbestos waste transfer stations must also meet the following requirements:

(1) All transfer of asbestos waste must be conducted in an enclosed structure. Open air vehicle-to-vehicle transfer of asbestos waste must not occur.

(2) Such enclosed structures should be provided with systems to minimize the discharge of asbestos to the environment using the best available control technology (BACT) as defined in section 200.1(i) of this Title. Any air contamination point-source that is created as a result of such BACT system must obtain a permit pursuant to Part 201 of this Title. Any point source discharge of wastewater from such facility must be authorized pursuant to Parts 750-757 of this Title.

(3) The engineering report for the facility must include detailed operation procedures for careful handling and transferring of the asbestos waste in a manner that will avoid fiber release and damage to the containers. Compaction of asbestos at a transfer station is prohibited.

(4) The contingency plan must include a procedure to contain spills or discharges of asbestos waste from broken or damaged containers; and a procedure to decontaminate vehicles and other equipment or appurtenances that may have become contaminated with asbestos waste from a spill, discharge, or occurrence.

(5) The owner or operator of the facility must provide training specific to handling asbestos waste for all individuals involved in the operation of the facility. The training program should either meet the New York State Department of Labor asbestos waste training and education requirements contained in 12 NYCRR Part 56 or be approved by the New York State Department of Health; be provided as soon as possible after such individuals are employed at the facility; and be completed before these individuals are allowed to handle asbestos waste.

(n) *Additional operational requirements.* Transfer stations receiving more than either 50,000 cubic yards or 12,500 tons of solid waste annually must also comply with the following additional operational requirements:

(1) Processing areas. All processing, tipping, sorting, storage, compaction, and related activities must be conducted in an enclosed or covered area.

(2) Quantity of waste. Solid waste delivered to the facility must be weighed or otherwise measured before unloading.

(3) Facility maintenance. The facility processing area must be cleaned each day by washing or other appropriate method to prevent odors and other nuisance conditions with all residuals properly removed and disposed.

Historical Note

Sec. filed Oct. 28, 1988; amds. filed: Nov. 26, 1991; Aug. 5, 1993; Sept. 27, 1996; Nov. 4, 1999 eff. Nov. 24, 1999. Amended (m)(3).

SUBPART 360-12

RECYCLABLES HANDLING AND RECOVERY FACILITIES

Sec.
360-12.1 Applicability
360-12.2 Operational requirements

Historical Note

Subpart (§§360-12.1—360-12.4) filed Oct. 28, 1988; repealed, new (§§360-12.1—360-12.2) filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-12.1 Applicability.

(a) *Facilities regulated.* This Subpart regulates recyclables handling and recovery facilities. For the purposes of this Subpart, paper materials are not considered putrescible if not otherwise contaminated. If putrescible material or other solid waste is received at the facility, the facility must comply with the requirements of Subpart 360-11 of this Part. Facilities which separate recyclables from construction and demolition debris or are described under section 360-16.1 of this Part, are considered construction and demolition debris processing facilities subject to the requirements of Subpart 360-16 of this Part.

(b) *Exempt facilities.* In addition to the exemptions provided for under subdivision 360-1.7(b) of this Part, the following facilities are exempt from regulation under both this Subpart and Subpart 360-11 of this Part:

(1) Returnable beverage container redemption operations conducted at a dealer, distributor or redemption center (as defined by Part 367 of this Title) or solely on behalf of a dealer, distributor or redemption center.

(2) Manufacturing facilities. For the purposes of this Subpart, manufacturing facility means a facility which accepts a single general type of source separated, non-putrescible recyclable, including, but not limited to glass, plastics, metals or paper, and which produces, through physical chemical transformation of the material, a marketable product that is then leased, sold, used by a manufacturer or offered for sale or offered for promotional purposes to a consumer as a product and is not disposed of by the manufacturer. Manufacturing facilities which store or process more than one type of recyclable may be exempt provided they comply with the requirements of this paragraph and the department has issued an exemption in writing to the owner or operator of the facility. The owner or operator of the facility must submit a written request for an exemption to the department with details of the facility's operations. The department shall determine whether or not the facility is a manufacturing facility which is exempt from regulation under this Subpart.

(3) Buy-back centers. *Buy-back center,* for the purposes of this Subpart, means a facility that purchases source separated, nonputrescible, recyclables from the public and accepts no other solid waste materials.

(4) Waste tire retreaders and the processing of waste tires for energy recovery onsite are exempt from this Subpart provided the facility complies with the requirements of paragraph 360-13.1(d)(1) of this Part.

(5) An intermediate processor provided all solid waste handled at the facility is sent for recycling or disposed of appropriately.

(c) *Automobile dismantlers reporting requirements.* Automobile dismantlers, scrap metal processors, automobile junkyards, facilities that recover metal from sludges that are not hazardous waste which are required to be managed at a facility subject to regulation under Part 373 or 374 of this Title, and metal salvage facilities are exempt from regulation under this Part, except as follows: the owner or operator of each of these facilities must provide the department with an annual report that details how the waste fluids (including, but not limited to, refrigerants, oil and transmission fluids) are disposed. Duplicate originals of this report must be submitted to the department's central office and the office of the department administrating the region within

which the facility is located no later than 60 days after the first day of January following each year of operation or portion thereof.

(d) *Registration.* (1) The following regulated solid waste management facilities identified in this subdivision are subject to the registration provisions of subdivision 360-1.8(h) of this Part rather than the permit provisions of this Part, provided all the applicable requirements of subdivision 360-1.8(h) and this subdivision are met. Recyclables handling and recovery facilities exclusively handling source separated, non-putrescible solid waste that generate less than two tons or 15 percent of their average intake per day (whichever is greater) as residue based on a full year of operation.

(2) In addition to the requirements of this subdivision the following conditions must be satisfied:

(i) The department may require surety in an amount and under terms it determines appropriate as a condition to accepting the registration form for facilities that are not owned or operated by a municipality. If surety is requested as a condition of registration, the amount of the surety shall be based in part on the estimated cost to dispose of the maximum potential amount of recyclables to be located at the facility at a department approved disposal facility unless otherwise approved by the department.

(ii) If the facility owner or operator does not submit a completed registration form acceptable to the department, in accordance with subdivision 360-1.8(h) and subparagraph 360-1.7(a)(3)(v) of this Part, the facility owner or operator may be required to comply with all applicable provisions of this Part, including all requirements of Subpart 360-11 of this Part, unless otherwise determined in writing by the department.

(3) In addition to the operational requirements listed in subdivision 360-1.8(h) of this Part, the operational requirements of this Subpart must be satisfied.

(e) *Other recycling activities.* (1) Combination facilities. Recyclables stored, collected or processed at facilities requiring a permit under other provisions of this Part must also comply with the operational requirements of section 360-12.2 except for paragraph 360-12.2(a)(1) of this Subpart.

(2) Post-collection separation facilities. Facilities which separate recyclables from solid waste, other than from source separated recyclables or construction and demolition debris, are required to:

(i) obtain a permit to construct and operate in accordance with the requirements under Subpart 360-11 of this Part;

(ii) comply with all applicable operational requirements of section 360-12.2 (except for paragraph 360-12.2[a][1]) and section 360-11.4 of this Part; and

(iii) comply with all other applicable requirements of this Part.

Historical Note

Sec. filed Oct. 28, 1988; repealed, new filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-12.2 Operational requirements.

In addition to the requirements set forth in subdivision 360-1.8(h) of this Part, the owner or operator of a recyclables handling and recovery facility (other than those facilities described in subdivisions 360-12.1[b] and 360-12.1[c] of this Subpart) must operate in compliance with the operational requirements of this section. Failure to comply with these operational requirements may result in the revocation of any exemptions previously granted by the department and may subject the owners or operators to all otherwise applicable portions of Part 360 including permitting under Subpart 360-11 of this Part.

(a) *Receipt and handling of solid waste.* (1) The facility may receive only source separated nonputrescible recyclables which may be further processed.

(2) External storage of paper and other recyclables whose marketability may be adversely affected by exposure to the sun or weather conditions is prohibited unless stored in covered containers or in a manner otherwise acceptable to the department. Solid waste separated for

recycling must be stored separately and maintained in a safe, sanitary and orderly manner to ensure its marketability is not adversely affected. Solid waste which the facility does not intend to recover and which does not contain putrescible material may be stored for a period not to exceed two weeks unless otherwise acceptable to the department. No person shall store solid waste or recyclables at the facility in such a manner that they become a nuisance or a sanitary or environmental problem.

(3) All indoor and outdoor storage, handling and tipping areas must include appropriate fire detection and protection equipment, and be accessible by fire fighting equipment.

(4) The site and facility must have adequate drainage, be drained and be free of standing water.

(5) All solid waste passing through the facility must ultimately be recycled or be disposed of at a solid waste management facility authorized by the department if in this State, or by the appropriate governmental agency or agencies if located in other states, territories, or nations.

(6) In addition to the above requirements, for facilities handling materials containing refrigerants, the refrigerants must be properly removed and managed prior to crushing or shredding of the materials.

(7) Incidental putrescibles or putrescible residues may be stored for a period not to exceed one week.

(b) *Storage.* Nonputrescible recyclables may be stored for up to 60 days. Recyclables may be stored for a longer period of time with department approval if the department determines:

(1) there is a demonstrated need to do so (such as a market agreement with terms of receipt based on greater than 60-day intervals or volumes that may take longer than 60 days to acquire);

(2) there is sufficient department-approved storage area;

(3) an inventory methodology including a daily log system is used to ensure that the recyclables do not remain on the facility site for longer than specified; and

(4) the inventory methodology is provided to and approved by the department before storage begins.

(c) *Access.* The owner or operator must restrict the presence of, and minimize the possibility for, any unauthorized entry onto the facility. Any person entering the facility during regular business hours must be directed to report to the facility office by appropriate signs located at facility entrances and other locations in sufficient number to be seen from any approach to the facility. In the case of facilities allowing local residents to bring in materials, a designated area to do so must be provided in order to minimize potential accidents and unauthorized entry.

(d) *Reporting and recordkeeping.* In addition to the requirements of subdivisions 360-1.4(c) and 360-1.14(i) of this Part, the facility owner or operator must:

(1) Prepare and file an annual report, in accordance with paragraph 360-1.8(h)(8) of this Part.

(2) For facilities identified in paragraph 360-12.1(d)(1) of this Subpart, the owner or operator must maintain daily records for facility monitoring. This monitoring information must include a daily log specifying the date, signature of the individual recording the information, the quantity and destination of recyclables sent from the facility by major material category, and the quantity and destination of residue and solid waste sent from the facility for disposal. These records must account for all materials handled at the facility. If the facility is otherwise exempt under Subpart 360-11 of this Part, the daily records for facility monitoring shall only include the quantity and destination of recyclables sent from the facility by major material category.

(3) Municipalities which own or operate more than one recyclables handling and recovery facility, may combine the information required for each facility into a single report or submit this information to the department as part of the compliance report as stipulated within Subpart

360-15 of this Part, provided the municipality identifies each recyclables handling and recovery facility included in the combined information.

Historical Note

Sec. filed Oct. 28, 1988; repealed, new filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360=12.3-360=12.4

Historical Note

Secs. filed Oct. 28, 1988; repealed, filed Aug. 5, 1993 eff. Oct. 9, 1993.

SUBPART 360-13

WASTE TIRE STORAGE FACILITIES

Sec.

Historical Note

Subpart (§§360-13.1—360-13.4) filed Oct. 28, 1988; repealed, new (§§360-13.1—360-13.3) filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-13.1 Applicability.

(a) *Storage.* This Subpart regulates only the storage of waste tires or portions of waste tires. Waste tire processing facilities are regulated under Subpart 360-12 of this Part.

(b) *Temporary storage.* No person shall engage in storing 1,000 or more waste tires at a time without first having obtained a permit to do so pursuant to this Part.

(1) If waste tires are collected or stored on-site in trailers, the facility may be exempt from the requirements of this Subpart even if the facility stores 1,000 or more tires, provided:

(i) each trailer is removed from the site within 72 hours of being filled to capacity unless otherwise authorized in writing by the department;

(ii) the owner or operator of the facility has a contractual agreement for the prompt removal and use or proper disposal of the waste tires;

(iii) each trailer is locked to prevent access when the facility is closed;

(iv) each trailer is registered with the department under a valid waste transporters permit pursuant to Part 364 of this Title;

(v) the facility maintains daily records of waste tires received, processed and/or removed from the facility which also identifies from whom the tires were received (if over 25 tires per day were received from an individual) and documentation showing the destination of the waste tires on removal from the facility;

(vi) an annual report is prepared and filed with the department's central office and office of the department administrating the region within which the facility is located, on a form prescribed by or acceptable to the department, no later than 60 days after the first day of January following each year of operation, which includes a monthly summary of the daily records required by subparagraph (v) of this paragraph;

(vii) an identification of the facility's location, owner, operator, and operations is provided to the department prior to such storage;

(viii) there shall be no more than ten waste tire storage trailers on-site at any one time whether filled, partially filled or empty unless otherwise authorized in writing by the department;

(ix) the facility is enclosed by a security fence if more than two trailers are stored on-site;

(x) storage of the trailers is approved by the local fire marshal and in accordance with State and local building and fire codes; and

(xi) the facility is permitted as a transfer station under Subpart 360-11 of this Part prior to such storage.

(c) *Agricultural soils.* Waste tire storage facilities located on a floodplain, a regulated wetland, or agricultural soil group 1 or 2 (Land Classifications System as certified by the New York State Commissioner of Agriculture and Markets) within an agricultural district formed

pursuant to the Agricultural and Markets Law, must immediately cease operations and remove waste tires from the site and dispose or treat them in a lawful manner pursuant to a department-approved removal plan.

(d) *Registration.* (1) The following regulated solid waste management facilities are subject to the registration provisions of subdivision 360-1.8(h) of this Part, rather than the permit requirements of this Part, provided all the applicable requirements of this Subpart are also met:

(i) waste tire retreaders;

(ii) storage of waste tires for on-site energy recovery;

(iii) tire dealers selling waste tires; and

(iv) those using waste tires in the manufacture of a new product, as approved in advance in writing by the department, which may include asphalt and roadbed manufacturing.

(2) In addition to the requirements of this subdivision, the following conditions must be satisfied:

(i) for facilities listed under subparagraphs 360-13.1(d)(1)(i), (ii) and (iv) of this section;

(*a*) less than 30 days supply of waste tires, based on the design capacity of the facility, are stored on-site, unless otherwise approved in advance in writing by the department;

(*b*) a vector control plan that satisfies the requirements of subdivision 360-13.2(j) of this Subpart is complied with;

(*c*) operational requirements in subdivisions 360-13.3(c) and (d) of this Subpart regarding fire prevention and control, and access are complied with;

(*d*) the facility maintains daily records of the waste tires received, processed and/or removed from the facility and also identifies from whom the tires were received (if over 25 tires per day were received from an individual) and documentation showing the destination of the waste tires when removed from the facility;

(*e*) for facilities storing waste tires on-site for energy recovery, a sorting plan must be implemented in accordance with subdivision 360-13.3(b) of this Part; and

(*f*) waste tires must be stored in accordance with paragraph 360-13.2(i)(3) and (4) of this Part; and

(ii) for facilities listed under subparagraph 360-13.1(d)(1)(iii) of this section;

(*a*) waste tires received are stored in an enclosed building;

(*b*) waste tires are suitable for resale;

(*c*) waste tires are sorted and stored on shelves or racks by tire size and type;

(*d*) an inventory is maintained by tire size and type that identifies each waste tire;

(*e*) storage configuration and fire prevention and protection systems are in accordance with State and local building and fire codes;

(*f*) the facility maintains daily records of the waste tires received, processed and/or removed from the facility and also identifies from whom the tires were received (if over 25 tires per day were received from an individual) and documentation showing the destination of the waste tires when removed from the facility; and

(*g*) the owner or operator has a signed contractual agreement for the proper disposal of solid wastes.

(e) *Other uses.* Other uses of waste tires may be approved by the department provided the generator or potential user petitions the department, in writing, for a beneficial use determination under Subpart 360-1 of this Part and receives a positive written determination in advance from the department.

(1) The use of tires mounted on rims for the support of junk automobiles is acceptable provided not more than four waste tires are used for each automobile.

(2) For purposes of this Subpart, tires at automobile dismantlers and automobile junkyards still mounted on a vehicle shall not be considered a waste tire until removed from the vehicle.

(f) *Waste tire disposal.* A facility storing more than 1,000 waste tires for longer than 60 days shall be considered a disposal facility in violation of this Part unless the facility is:

(1) permitted in accordance with this Part;

(2) under consent order with the department; or

(3) otherwise exempt from this Part.

(g) *Transition.* All waste tire storage facilities permitted or under consent order with the department prior to the effective date of this Subpart, must cut into pieces no larger than four by six inches, compact by 75 percent or treat by a process acceptable to the department, all waste tires within three years of the effective date of this Subpart, in order to reduce the potential for mosquito breeding and fire transmission, unless such permit or consent order requires removal or processing in a shorter period. This size reduction, compaction or treatment, is required for all waste tires except those tires to be removed from the facility for an intended end use which utilizes whole tires as substantiated by signed contractual agreements. If an end use is identified, the facility may only store a six-month supply of whole tires for each signed contractual agreement. Any waste tires received above that amount must be reduced into pieces no larger than four by six inches, be compacted by 75 percent or treated by a process acceptable to the department before storage. If a signed contractual agreement expires or is otherwise cancelled, the facility owner must obtain another agreement for use of such whole tires in six months of such expiration or cancellation. If such an agreement is not signed with another end user within that six-month period, those whole waste tires accumulated for the intended end use must be reduced in size, or compacted as described above or treated by a process acceptable to the department within a time period specified by the department.

Historical Note

Sec. filed Oct. 25, 1988; amds. filed: May 16, 1989 as emergency measure; Aug. 10, 1989 as emergency measure; Oct. 6, 1989 as emergency measure; Dec. 5, 1989 as emergency measure; Jan. 26, 1990 as emergency measure; Jan. 26, 1990; repealed, new filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-13.2 Additional application requirements for an initial permit to construct and operate.

In addition to the requirements set forth in Subpart 360-1 of this Part, an application for an initial permit to construct and operate a waste tire storage facility used to store 1,000 or more waste tires at a time must include the following:

(a) *Report.* A report that must include the following, in addition to the requirements of section 360-1.9 of this Part:

(1) A description of the overall facility, including:

(i) the function of all equipment to be used; and

(ii) identification of the storage area for the waste tires and other solid waste accepted at the facility illustrating adequacy for both daily storage capacity as well as long term storage capacity.

(2) A description of the operation of the waste tire storage facility including:

(i) a quantity description that must include a table or graph showing the projected quantities delivered per month during the initial year of operation (and the background data and assumptions used to produce this table or graph);

(ii) projected future annual quantities for the projected life of the facility; and

(iii) a description of the operations and activities involving the flow of the waste tires from the time of their receipt continuing through handling, storage and disposal, that describes the waste tire facility as a whole. There must be sufficient description in the narrative to understand the flow of the waste tires and the associated operations at the facility.

(3) A discussion of the concept of the facility's possible expansion at a later date.

(4) An identification of possible groundwater and surface water discharges.

(5) An identification of how residues and recyclables which cannot be marketed will be disposed of.

(b) *Site plan.* A site plan that must show the facility's property boundaries; site acreage; distances from adjacent residences, property owners and population centers; off-site utilities such as electric, gas, water, and storm and sanitary sewer systems; a north arrow; site topography; the location of screening provided, regulated wetlands, rights-of-way, surface water and classifications, floodplains, buildings and appurtenances, fences, gates, roads, staging areas, parking areas, drainage culverts and signs; monitoring wells; transportation systems in the vicinity of the facility including, but not limited to railways and ports; the location and identification of special waste handling and storage areas; and a wind rose.

(c) *Market analysis.* A market analysis relating to waste tires to be received at the facility must include an identification of available and potential markets. This analysis must include:

(1) an identification of the information reviewed to identify potential markets including information obtained from the New York State Department of Economic Development;

(2) the results of a survey of potential markets and potential market services which includes an identification of all local and regional markets and market services contacted, quality requirements, quantity requirements, market pricing structures and transportation services available; and

(3) an identification of the types of processing necessary for separation and upgrading of the waste tires to assure market acceptance.

(d) *Plans and specifications.* Copies of all plans and specifications reflecting construction of the proposed facility must be included.

(e) *Monitoring and inspection plan.* A facility monitoring and inspection plan must satisfy the requirements of paragraph 360-1.14(f)(3) of this Part, and having an inspection schedule reflecting inspections to be conducted at a frequency of no less than once per quarter. The inspection plan must address the following concerns: the presence of vermin; the readiness of fire-fighting equipment; and the integrity of the security system.

(f) *Closure plan.* A closure plan must comply with the closure requirements described in subdivision 360-1.14(w) of this Part and must identify the steps necessary to close the facility. The plan may be amended at any time during the active life of the facility with the department approval. The plan must be amended whenever changes in operating plans or facility design affect the closure plan, or whenever there is a change in the expected year of closure.

(g) *Surety.* In addition to the requirements of section 360-1.12 of this Part, surety in an amount sufficient to cover the cost of handling the worst case contingency identified in the contingency plan or the insolvency of the facility owner or operator requiring closure of the facility at its maximum capacity (whichever is greater) must be provided, but may be no less than the following:

(1) One dollar and fifty cents per tire for surety must be provided for every whole waste tire not stored in accordance with the storage requirements of paragraphs 360-13.2(i)(3) and (4) of this Subpart after the effective date of this Part, unless otherwise specified by the department.

(2) One dollar per tire for surety must be provided for every whole waste tire stored in accordance with the storage requirements of paragraph 360-13.2(i)(3) and (4) of this Subpart after the effective date of this Part, unless otherwise specified by the department.

(3) Fifty cents per tire for surety must be provided for every waste tire either reduced in size into pieces no larger than four inches by six inches, compacted by 75 percent or treated by a treatment process acceptable to the department and not stored in accordance with the requirements of paragraph 360-13.2(i)(3) and (4) of this Subpart after the effective date of this Part, unless otherwise specified by the department.

(4) Twenty-five cents per tire for surety must be provided for every waste tire either reduced in size into pieces no larger than four by six inches, compacted by 75 percent or treated

by a process acceptable to the department and stored in accordance with the storage requirements of paragraphs 360-13.2(i)(3) and (4) of this Subpart after the effective date of this Subpart, unless otherwise specified by the department.

(5) The department may accept less than the amounts stipulated in paragraphs (1) through (4) of this subdivision if it is determined in writing to be appropriate by the department based on information provided by the owner or operator justifying a reduced amount. The department may also require more than the amounts stipulated in paragraphs (1)-(4) of this subdivision if it is determined necessary based on past practices by the owner or operator or found necessary by the department to protect human health and the environment.

(6) Surety for new facilities may be phased in over time as waste tires are received and may be reduced over time for all facilities as a number of waste tires stored is reduced.

(h) *Contingency plan.* In addition to the requirements set forth in subdivision 360-1.9(h) of this Part, the contingency plan must include but not be limited to:

(1) Scope. The contingency plan must be designed to minimize hazards to human health and the environment resulting from fires or releases into the air, onto the soil or into groundwater or surface water.

(2) Contents. The contingency plan must describe the actions that must be taken in response to a fire or releases which could threaten human health or the environment. The contingency plan also must provide for the worst case contingency such as a fire occurring at the facility at its maximum capacity. Consideration must be provided regarding on-site water supply, access routes to the site, security, alarms, training, drills and on-site fire protection equipment.

(3) A copy of the contingency plan and all revisions to this plan must be maintained at the facility and be submitted to the local police department, fire department, hospitals, and State and local emergency response teams that may be called on to provide emergency services. Any comments made by these groups must be addressed in the contingency plan. The operator must assure that the provisions of this plan are carried out in the event of an incident covered by it.

(4) Any amendments to this plan must be submitted to the department. This plan must be immediately amended whenever:

(i) it fails to provide information to respond to an emergency situation;

(ii) the facility changes in its design, construction, operations, maintenance or other circumstance in a manner that materially increases the potential for fires, releases of pollutants or changes the response necessary in an emergency;

(iii) the list of emergency coordinators changes;

(iv) the list of emergency equipment changes; or

(v) changes are made to address comments made by the local police or fire departments, hospitals and State and local emergency response services.

(5) The applicant must contact the local fire marshal for requirements and recommendations for fire protection and control measures including roadways constructed for all weather conditions, storage configurations, and pre-emergency planning. The applicant must include documentation verifying that the local fire marshal has been contacted and any comments made by the local fire marshall must be addressed in the contingency plan.

(6) The facility must comply with all applicable National Fire Protection Association standards, including *Standards for Storage of Rubber Tires,* NFPA 231D, 1989 edition (see section 360-1.3 of this Part).

(i) *Storage plan.* The storage plan must address the receipt and handling of all waste tires and solid waste to, at and from the facility. The plan must address the following matters:

(1) The facility may receive and accumulate only waste tires for storage.

(2) All solid waste generated as a result of facility operation must be stored in a department-approved location and disposed of at a department-approved solid waste disposal facility within one week after generation unless otherwise approved by the department in writing.

(3) Waste tire piles must not exceed 20 feet in height. Horizontal dimensions of waste tire piles at the base of the pile must have a surface area no greater than 10,000 square feet, with the width not to exceed 50 feet.

(4) Waste tire piles must have a minimum separation distance of 50 feet between piles, and between a pile and: the facility property boundaries: a public right-of-way located at the facility property boundary: any other buildings or structures. These 50-foot separation areas must be maintained free of obstructions and vegetation at all times and maintained in such a manner that emergency vehicles will have adequate equipment access.

(5) The facility must not store waste tires in excess of the quantity for which the facility is permitted.

(6) Rims removed from the waste tires may be stored for up to 30 days but may be stored for a longer period of time with prior written department approval if the department finds that:

(i) there is a demonstrated need or use to do so (such as a market agreement with terms of receipt based on greater than 30-day intervals or volumes that may take longer than 30 days to acquire); and

(ii) there is sufficient department-approved storage area.

(7) Waste tire piles may not be located in excavations or below grade without prior written approval by the department.

(j) *Vector control plan.* This plan must provide that:

(1) All waste tires be maintained in a manner which limits mosquito breeding potential and other vectors.

(i) A method of acceptable vector control will require that tires received must be drained of water within 24 hours of receipt and must include one or more of the following:

(*a*) covering by plastic sheets or other impermeable barriers, other than soil, to prevent the accumulation of precipitation;

(*b*) chemical treating to eliminate vector breeding provided all chemicals used are registered for use in New York State and are applied by a person licensed in New York State to apply pesticides;

(*c*) mechanical tire size reduction into pieces no larger than four by six inches, with storage in piles in compliance with paragraphs 360-13.2(i)(3) and (4) of this section and allow for complete water drainage; or

(*d*) any other method approved by the department in writing.

(2) If a fire pond is provided, the vector control plan must include provisions to limit mosquito breeding potential and other vectors in the vicinity of the pond.

Historical Note

Sec. filed Oct. 28, 1988; repealed, new filed Aug. 5, 1993 Oct. 9, 1993.

§ 360-13.3 Operational requirements.

In addition to the requirements of section 360-1.14 of this Part, all waste tire storage facilities subject to the permitting requirements of this Part must comply with the following operational requirements:

(a) *Operation and maintenance manual.* All activities at the facility must be performed in accordance with plans required by this Part and approved by the department. All plans required by this Part must be incorporated into a final operations and maintenance (O&M) manual, a copy of which must be maintained and be available for reference and inspection at the facility. This manual must be updated no less frequently than at each time an application to renew a permit is submitted. Operation of the facility may not begin unless a draft O&M manual is first approved in writing by the department. As a condition of the permit to construct and operate, a final O&M manual must be submitted to and be approved by the department within six months from the date facility operation begins.

(b) *Sorting of waste tires.* (1) Rims must be removed from the waste tires within one week of receipt at the facility. Any solid waste resulting from the facility operation must be stored in accordance with the storage plan required in subdivision 360-13.2(i) of this Subpart until removed from the facility.

(2) Waste tires received must be evaluated for suitability for retreading. Usable waste tires must be transported to retreading facilities where feasible, unless the waste tires are committed to another market as substantiated by signed contractual agreements. The waste tires must be transported at planned intervals as provided in the facility operation and maintenance manual.

(3) Waste tires received must be sorted by tire types if the materials are to be used as a chemical feedstock.

(4) Waste tires received must be appropriately sorted within five working days of receipt.

(c) *Fire prevention and control.* In addition to the contingency plan requirements set forth in paragraph 360-1.9(h)(1) of this Part:

(1) approach roads to the facility and access roads within the facility must be constructed for all weather conditions and maintained in passable condition at all times to allow for access by fire-fighting and emergency response equipment;

(2) the facility must be maintained free from weeds, trees and vegetation which may restrict access to or operations of the facility;

(3) the facility must be constructed to prevent the uncontrolled collection and pooling of water on the facility;

(4) waste tire facilities having a planned or actual capacity of 2,500 or more waste tires must have, at a minimum, an active hydrant or viable fire pond on the facility and fully charged large capacity carbon dioxide or dry chemical fire extinguishers located in strategically placed enclosures throughout the entire facility in quantities as deemed necessary in the contingency plan or other fire protection and prevention equipment as approved by the local fire marshal;

(5) waste tire piles must be accessible on all sides to fire fighting and emergency response equipment; and

(6) potential ignition sources must be eliminated and combustibles must be removed as they accumulate. Smoking, welding, storage of flammable liquids, and open fires are prohibited in the storage area.

(d) *Access.* (1) The facility owner or operator must restrict the presence and minimize the possibility of any unauthorized entry onto the facility. Any person entering the facility during regular business hours must be directed to report to the facility office by appropriate signs located at the facility entrances and other locations in sufficient number to be seen from any approach to the facility.

(2) Facilities having a planned or actual capacity of 2,500 or more waste tires must be enclosed by a woven wire, chain-link or other acceptable fence material, at least six feet in height. Access must be controlled by locking gates. Keys for the locking gates shall be provided to local fire and police officials for emergency fire response unless otherwise approved by the department.

(3) Security and access control may include other appropriate measures in lieu of paragraph (2) of this subdivision if otherwise approved in writing by the department.

(e) *Reporting and recordkeeping.* In addition to the requirements of subdivisions 360-1.4(c) and 360-1.14(i) of this Part, the facility owner or operator must:

(1) Maintain daily records for facility monitoring. This monitoring information must include a daily log specifying the date, printed name and signature of the individual recording the information, the quantity and origin of waste tires received and processed and the quantity and destination of waste tires removed from the facility. These records must account for all materials handled at the facility and specify the name and permit number, if required, of the waste tire haulers, removing and delivering waste tires to the facility.

(2) Prepare and file duplicate original quarterly operation reports with the department's central office and the office of the department administrating the region within which the facility is located, on a form prescribed by or acceptable to the department, within 15 days after the end of each quarter. The report must:

(i) include the total quantity of waste tires at the facility and the quantity added or removed since the previous report;

(ii) identify any environmental problems, fires or significant changes or progress toward the ultimate disposal of or use of waste tires received or located at the facility;

(iii) identify the types and quantities of pesticides used during the reporting period; and

(iv) include a monthly summary of the daily records required under paragraph (1) of this subdivision.

(3) Prepare and file an annual report with the department's central office and the office of the department administrating the region within which the facility is located, on a form prescribed by or acceptable to the department, no later than 60 days after the first day of January following each year or portion thereof of operation.

(f) *Receipt and handling.* (1) Waste tires must be transported to and from the facility only by waste haulers permitted under or exempt from Part 364 of this Title.

(2) All waste tire storage facilities applying for an initial permit to construct and operate in accordance with this Part after the effective date of this Part, may only store whole tires which are to be removed from the facility for an end use which uses whole tires as substantiated by signed contractual agreements. If an end use is identified, the facility may only store a six-month supply of whole tires for each signed contractual agreement. Any whole waste tires received above that amount must be reduced into pieces no larger than four by six inches, be compacted by 75 percent or treated by a treatment process acceptable to the department before storage. If a signed contractual agreement expires or is otherwise cancelled, the facility owner must obtain another agreement for use of such whole tires within six months of such expiration or cancellation. If such an agreement is not signed with another end user within that six-month period, those whole waste tires accumulated for that purpose must be reduced in size, or compacted as described above or treated by a treatment process acceptable to the department within a time period specified by the department.

Historical Note

Sec. filed Oct. 28, 1988; repealed, new filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360=13.4

Historical Note

Sec. filed Oct. 28, 1988; repealed, filed Aug. 5, 1993 eff. Oct. 9, 1993.

SUBPART 360-14

USED OIL

Sec.

Historical Note

Subpart (§§ 360-14.1—360-14.4) filed Oct. 28, 1988; repealed, new (§§ 360-14.1—360-14.5) filed: Aug. 5, 1993; Subpart (§§ 360-14.1—360-14.4) filed March 13, 2006 eff. 60 days after filing.

§ 360-14.1 Applicability.

(a) *Applicable requirements.* (1) This Subpart contains special provisions governing facilities regulated by ECL article 23, Title 23 (Rerefining of Used Oil), and article 27, Title 7 (Solid Waste Management and Resource Recovery Facilities). This Subpart does not regulate household do-it-yourself oil changers.

(2) Owners and operators of facilities which manage used oil, as defined by this Subpart, are subject to all other appropriate requirements of Subpart 360-1 of this Part and to this Subpart, unless exempted under subdivision (b) of this section.

(3) Owners and operators of facilities which manage used oil, as defined by this Subpart, must meet all applicable requirements contained in Subpart 374-2 of this Title. Materials defined as used oil under section 374-2.2 of this Title are also subject to regulation as used oil under this Subpart.

(4) Any used oil transfer facility, processor/re-refiner or collection center located at a facility regulated under Part 373 of this Title must be structurally independent of the Part 373 facility operations, in order to be regulated under this Subpart. Facilities having operations regulated under both Subpart 360-14 and Part 373 of this Title may share joint laboratories, offices, and access roads. However, all used oil storage tanks, piping and appurtenances, processing equipment, and transfer points must be structurally separate from the Part 373 facility. Where Subpart 360-14 and Part 373 tanks or containers share the same containment area or transfer point, any spills in the containment area or at the same transfer point must be managed as a hazardous waste, unless testing or knowledge is used to determine that the material is not a hazardous waste, pursuant to Subpart 374-2 of this Title.

(b) *Exemptions.* The following operations and facilities that manage used oil are exempt from this Part, but are subject to regulation as indicated.

(1) Used oil burner facilities (other than used oil fired space heater facilities), as defined in section 374-2.1(a) of this Title, subject to regulation under section 374-2.7 of this Title.

(2) Used oil generator facilities, as defined in section 374-2.1(a) of this Title, including used engine lubricating oil retention facilities, subject to regulation under section 374-2.3 of this Title.

(3) Used oil aggregation points, as defined in section 374-2.1(a) of this Title, subject to regulation under section 374-2.4(c) of this Title.

(4) Do-it-yourselfer (DIY) used oil collection centers, as defined in section 374-2.1(a) of this Title, subject to regulation under section 374-2.4(a) of this Title.

(5) Facilities that manage only on-specification used oil fuel that is to be burned for energy recovery, pursuant to the provisions of section 374-2.2(b) of this Title. Facilities managing used oil prior to declaring it on-specification do not qualify for this exemption for any activities performed upon the oil prior to the declaration. However, this exemption applies to activities performed upon the oil subsequent to an on-specification determination.

(6) Used oil fired space heater facilities, which are subject to regulation as generator facilities under section 374-2.3 of this Title. Requirements for the on-site burning of used oil in space heaters at generator facilities are at section 374-2.3(d) of this Title. Such facilities are also subject to all applicable requirements of Parts 201 and 225 of this Title.

(7) The transfer of used oil from vehicle to vehicle, other than at a used oil facility permitted under this Part, provided the following requirements are met:

(i) transfer operations are continuously observed;

(ii) a contingency plan meeting the applicable requirements of section 374-2.6(c)(2) of this Title is in place in case of an emergency during transfer. The contingency plan must be prepared and certified by an individual licensed to practice engineering in the State of New York;

(iii) the transporters meet all applicable requirements of Part 364 of this Title;

(iv) procedures are established to meet the requirements of section 374-2.6(f)(1) and (3) of this Title and section 360-14.3(c)(3)(i) of this Subpart;

(v) facilities storing beyond 24 hours must also comply with the facility standards of 40 CFR 279, subpart E, incorporated by reference in section 360-1.3 of this Part; and

(vi) used oil must be stored for 35 days or less, from receipt.

(8) The storage of used oil by a transporter permitted under Part 364 of this Title at such transporter's facility for a period of 10 calendar days or less, is exempt from permitting under this Part, provided that no transfer, pumping or consolidation of loads occurs. Facilities storing beyond 24 hours must also comply with the facility standards of 40 CFR 279, subpart E, incorporated by reference in section 360-1.3 of this Part.

(9) Any materials or operations that are not subject to used oil regulation under section 374-2.2(a) of this Title are exempt from permitting under this Subpart.

(c) *Waste oil compared to used oil.* Waste oils, including but not limited to, used engine lubricating oil, fuel oil, motor oil, gear oil, cutting oil, transmission fluid, hydraulic fluid, dielectric fluid, or oil storage tank residues, which have been contaminated by physical and chemical impurities, through use or accident, and have not subsequently been re-refined, shall be regulated in the same manner as used oil under this Subpart unless otherwise specifically exempted or excluded. Waste oil which is hazardous in accordance with Part 371 of this Title, and is not a used oil, shall be regulated as a hazardous waste. Waste oil shall be classified as on-specification or off-specification, pursuant to the provisions of section 374-2.2(b)(1) of this Title.

Historical Note

Sec. filed Oct. 28, 1988; repealed, new filed Aug. 5, 1993; amds. filed: Nov. 15, 1994; Sept. 27, 1996; repealed, new filed March 13, 2006 eff. 60 days after filing.

§ 360-14.2 Definitions.

(a) *Definitions.* Terms that are defined in section 374-2.1(a) of this Title have the same meanings when used in this Subpart. The following terms have the following meanings when used in this Subpart:

(1) *EPA* means the United States Environmental Protection Agency.

(2) *Fuel oil* means all oil that has been refined, re-refined, or otherwise reprocessed for the purpose of being burned to produce heat.

(3) *Lube stock* means the base petroleum fraction used to formulate lubricating oil.

(4) *Lubricating oil* means all oil suitable for use as a lubricant, or sold for use as a lubricant.

(5) *New oil* means all oil that has been refined from virgin oil, which may or may not contain additives, but has never been used and does not contain re-refined, reprocessed, or used lubricating oil.

(6) *Processing* means chemical or physical operations designed to produce from used oil, or to make used oil more amenable for production of, fuel oils, lubricants, or other used oil-derived product. Processing includes, but is not limited to: blending used oil with virgin petroleum products; blending used oils to meet the fuel specification; filtration; simple distillation; chemical or physical separation; and re-refining.

(7) *Reprocessing* means any process, method or technique, short of re-refining, that removes physical or chemical contaminants from used oil so that such oil can be used productively.

(8) *Re-refining* means any process, method or technique that removes the physical and chemical contaminants from used oil so that such oil is suitable for use as lube stock or fuel oil and, when used by itself or when mixed with new oil or additives, is substantially equivalent or superior to new oil intended for the same purpose, as specified in the American Petroleum Institute's API Publication 1509, Engine Service Classification System and Guide to Crankcase Oil Selection, as incorporated by reference in section 360-1.3 of this Part.

(9) *Used engine lubricating oil* means petroleum-based lubricating oil from internal combustion engines and/or from vehicle transmissions that, through use, has been contaminated by physical or chemical impurities.

(10) *Used engine lubricating oil retention facility* means any facility employed to store used engine lubricating oil generated by a service establishment or any other person, commercial or industrial operation, airport, bus or trucking terminal, or State or local government facility; that generates at least 500 gallons of used engine lubricating oil annually, or accepts used oil from do-it-yourselfers.

(11) *Used oil* means any oil that has been refined from crude oil, or any synthetic oil, that has been used, and as a result of such use, is contaminated by physical or chemical impurities.

(12) *Used oil collection center* means any site or facility that is recognized by this department pursuant to section 374-2.4(b)(2) of this Title, to manage used oil, and accepts/aggregates and stores used oil collected from used oil generators regulated under section 374-2.3 of this Title, who bring used oil to the collection center in shipments of no more than 55 gallons under the provisions of section 374-2.3(e) of this Title. Used oil collection centers may also accept used oil from household do-it-yourselfers.

(13) *Used oil processor/re-refiner* means a facility that either processes or re-refines used oil.

(14) *Used oil transfer facility* means any transportation related facility including loading docks, parking areas, storage areas, and other areas where shipments of used oil are held for more than 24 hours and not longer than 35 days during the normal course of transportation or prior to an activity performed pursuant to section 374-2.3(a)(2)(ii) of this Title. Transfer facilities that store used oil for more than 35 days are subject to regulation under section 374-2.6 of this Title.

(15) *Used oil transporter* means any person who transports used oil, any person who collects used oil from more than one generator and transports the collected oil, and owners and operators of used oil transfer facilities. Used oil transporters may consolidate or aggregate loads of used oil for purposes of transportation but, with the following exception, may not process used oil. Transporters may conduct incidental processing operations that occur in the normal course of used oil transportation (*e.g.*, settling and water separation), but that are not designed to produce (or make more amenable for production of) used oil derived products or used oil fuel.

(16) *Waste oil* means used engine lubricating oil or any other oil including, but not limited to, fuel oil, motor oil, gear oil, cutting oil, transmission fluid, hydraulic fluid, dielectric fluid, oil storage tank residues, animal oil, and vegetable oil, which has been contaminated by physical or chemical impurities, through use or accident, and has not subsequently been re-refined.

Historical Note

Sec. filed Oct. 28, 1988; repealed, new filed Aug. 5, 1993; amds. filed: Nov. 15, 1994; Nov. 4, 1999; repealed, new filed March 13, 2006 eff. 60 days after filing.

§ 360-14.3 Used oil collection centers and transfer facilities.

(a) *Applicability.*

This section applies to all used oil collection centers and transfer facilities. A used oil collection center or transfer facility must obtain a Part 360 permit for the construction and operation of the facility. A used oil collection center must also meet the requirements of section 374-2.4(b) of this Title. A used oil transfer facility must also meet the requirements of section 374-2.5 of this Title.

(b) *Transition.* A used oil collection center or transfer facility which currently possesses a Part 360 permit must meet the requirements of this Subpart in accordance with the applicable provisions of section 360-1.7(a)(3) of this Part.

(c) *Permit application requirements.* Unless exempt under the provisions of section 360-14.1(b) of this Subpart, an owner or operator of a used oil collection center or transfer facility must provide the following information to the department in applying for a permit to construct and operate:

(1) Notification. An application to construct and operate a used oil collection center or transfer facility must include a copy of the facility's EPA notification and identification number, obtained in accordance with section 374-2.5(c) of this Title.

(2) Engineering report. An application to construct and operate a used oil collection center or transfer facility must include an engineering report which, in addition to the requirements of section 360-1.9(e) of this Part, includes the following information:

(i) a general description of the overall process and a functional description of all equipment to be used in operating the facility including, but not limited to, design criteria and a process flow diagram;

(ii) a description and map of the geographic service area from which the used oils will be received;

(iii) information which indicates the facility is designed, maintained, and operated to minimize hazards to human health and the environment, resulting from fires, explosions, or releases into the air, onto the soil, or into ground water or surface water;

(iv) a detailed description of the types of used oils to be accepted by the facility and the origin of the used oils;

(v) proof of used oil storage tank licensing or registration with the department, or proof of certification by an individual licensed to practice engineering in the State of New York, that the tanks at the facility meet the requirements of section 374-2.5(f)(3) of this Title; and

(vi) a description of how the owner or operator will maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area or operation in an emergency, unless aisle space is not needed for these purposes.

(3) Quality control plan. An application to construct and operate a used oil collection center or transfer facility must include a quality control plan which describes how the facility will implement quality control procedures in accordance with sections 374-2.5(e) and 374-2.6(f) of this Title:

(i) if the used oil collection center or transfer facility handles any waste oil which is not defined as a used oil under section 360-14.2(a) of this Subpart, or disposes of any used oil rather than recycling or reusing it, the used oil quality control plan must contain additional procedures to assure that the facility does not accept any characteristic hazardous waste; and

(ii) the used oil quality control plan must include a description of the training program for facility personnel to aid them in recognizing a listed hazardous waste.

(4) Contingency plan. An application to construct and operate a used oil collection center or transfer facility must contain a contingency plan in accordance with the requirements of section 360-1.9(h) of this Part and section 374-2.6(c)(2) of this Title.

(5) Closure plan. An application to construct and operate a used oil collection center or transfer facility must include a closure plan which describes how the facility will implement closure procedures in accordance with sections 360-1.14(w) of this Part and 374-2.5(f) of this Title.

(6) Draft operations and maintenance manual. An application to construct and operate a used oil collection center or transfer facility must include a draft operations and maintenance manual, which contains all the applicable plans required by this Part.

(7) Tracking requirements. An application to construct and operate a used oil collection center or transfer facility must include a description of the used oil tracking system to be used at the facility, in accordance with the requirements of section 374-2.5(g) of this Title.

(d) *Reporting.* The owner or operator of a used oil collection center or transfer facility must prepare an annual report on a form prescribed by or acceptable to the department. It must be sent to the department's central office and to the department office in the region in which the facility is located, no later than March 1st of the calendar year following each year of operation. The report must include the following information:

(1) facility name, address, EPA identification number, contact person, phone number and location;

(2) a listing of each storage tank and its capacity; and

(3) a monthly summary of all incoming and outgoing loads since the last report, which must include:

(i) a list of the names, addresses, and EPA identification numbers of the originating facilities from which used oil was accepted (if used oil is received from numerous facilities under one load, the transporter's name, Part 364 permit number, and EPA identification number can be used);

(ii) a list of the names, addresses and EPA identification numbers of the off-site receiving facilities to which oil was shipped; and

(iii) a summary by type (on-specification or off-specification) of the quantity of used oil accepted from or shipped to the facilities listed under subparagraphs (i) and (ii) of this paragraph;

(4) if, since the last report, any chemical analysis was performed on the used oil received by the facility for the purpose of checking on-site screening for total halogens, a tabulation of the data from any such analysis and the associated total halogen screening data;

(5) a description of any spills or emergencies that occurred at the facility since the last report and corrective actions taken in response to such spills or emergencies;

(6) a list of any unacceptable used oil that was rejected or received by the facility since the last report and how it was handled. Management of unacceptable used oil must be in accordance with the permittee's used oil quality control plan for management of materials suspected or determined to be hazardous waste, as required by section 374-2.6(f)(3) of this Title. This list must include the date the shipment was rejected or received, the quantity of material rejected, the Part 364 permit number of the transporter of the rejected load, and the EPA identification number of the transporter of the rejected load; and

(7) a description of any past changes since the last report or anticipated future changes to the facility.

Historical Note

Sec. filed Oct. 28, 1988; repealed, new filed Aug. 5, 1993; amds. filed: Nov. 15, 1994; Nov. 4, 1999; repealed, new filed March 13, 2006 eff. 60 days after filing.

§ 360-14.4 Used oil processors/re-refiners.

(a) *Applicability.* This section applies to all used oil processors/re-refiners. A used oil processor/re-refiner must obtain a Part 360 permit for the construction and operation of the facility, and must also meet the requirements of section 374-2.6 of this Title.

(b) *Transition.* A used oil processor/re-refiner which currently possesses a Part 360 permit must meet the requirements of this Subpart in accordance with the applicable provisions of section 360-1.7(a)(3) of this Part.

(c) *Permit application requirements.* An owner or operator of a used oil processing/re-refining facility must provide the following information to the department in applying for a permit to construct and operate:

(1) Notification. A permit application to construct and operate a used oil processing/re-refining facility must include a copy of the facility's EPA notification and identification number, obtained in accordance with section 374-2.6(b) of this Title.

(2) Engineering report. An application to construct and operate a used oil processing/re-refining facility must include an engineering report which, in addition to the requirements of section 360-1.9(e) of this Part, includes the following information:

(i) a general description of the overall process and a functional description of all equipment to be used in operating the facility including, but not limited to, design criteria and a process flow diagram;

(ii) a description and map of the geographic service area from which the used oils will be received;

(iii) information which indicates the facility is designed, maintained, and operated to minimize hazards to human health and the environment, resulting from fires, explosions, or releases into the air, onto the soil, or into ground water or surface water;

(iv) a detailed description of the types of used oils to be accepted by the facility and the origin of the used oils;

(v) proof of used oil storage tank licensing or registration with the department, or proof of certification by an individual licensed to practice engineering in the State of New York, that the tanks at the facility meet the requirements of section 374-2.6(e)(2) of this Title; and

(vi) a description of how the owner or operator will maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area or operation in an emergency, unless aisle space is not needed for these purposes.

(3) Quality control plan. An application to construct and operate a used oil processing/re-refining facility must contain a quality control plan which meets the requirements of section 374-2.6(f) of this Title:

(i) if the used oil processing/re-refining facility handles any waste oil which is not defined as a used oil under section 360-14.2(a) of this Subpart, or disposes of any used oil rather than recycling or reusing it, the used oil quality control plan must contain additional procedures to assure that the facility does not accept any characteristic hazardous waste; and

(ii) the used oil quality control plan must include a description of the training program for facility personnel to aid them in recognizing a listed hazardous waste.

(4) Contingency plan. An application to construct and operate a used oil processing/re-refining facility must contain a contingency plan in accordance with the requirements of section 360-1.9(h) of this Part and section 374-2.6(c)(2) of this Title.

(5) Closure plan. An application to construct and operate a used oil processing/re-refining facility must contain a closure plan which describes how the facility will implement closure procedures in accordance with section 360-1.14(w) of this Part and section 374-2.6(e)(7) of this Title.

(6) Draft operations and maintenance manual. An application to construct and operate a used oil processing/re-refining facility must include a draft operations and maintenance manual, which contains all the applicable plans required by this Part.

(7) Tracking requirements. An application to construct and operate a used oil processing/re-refining facility must include a description of the used oil tracking system to be used at the facility, in accordance with the requirements of section 374-2.6(g) of this Title.

Historical Note

Sec. filed Oct. 28, 1988; repealed, new filed Aug. 5, 1993; amds. filed: Nov. 15, 1994; Nov. 4, 1999; June 19, 2001; repealed, new filed March 13, 2006 eff. 60 days after filing.

§ 360-14.5

Historical Note

Sec. filed Aug. 5, 1993; amds. filed: Nov. 15, 1994; Nov. 4, 1999; repealed, filed March 13, 2006 eff. 60 days after filing.

SUBPART 360-15

COMPREHENSIVE SOLID WASTE MANAGEMENT PLANNING

Sec.

Historical Note

Subpart (§§360-15.1—360-15.11) filed: Feb. 14, 1989 as emergency measure; May 15, 1989 as emergency measure; July 14, 1989 as emergency measure; Sept. 12, 1989 as emergency measure, expired 60 days after filing; Nov. 15, 1989 as emergency measure; Jan. 12, 1990 as emergency measure; Jan. 12, 1990; amd. filed Aug. 5, 1993 eff. Oct. 9, 1993. Amended Part title.

§ 360-15.1 Purpose and overview.

The purpose of this Subpart is to establish procedures to apply for a State grant pursuant to ECL 27-0109, to develop standards for the content and for the review and approval of a local solid waste management plan acceptable to the department under section 27-0107 of the ECL with or without a solid waste management planning grant, to develop standards for the content and for the review and approval of plan modifications and updates, and to develop standards for the content and the review of plan compliance reports. Since applications for such grants or for plan approval under this Subpart are not for permits to construct and operate a solid waste management facility, review of grant applications and plans are not subject to Part 621 of this Title.

Historical Note

Sec. filed: Feb. 14, 1989 as emergency measure; May 15, 1989 as emergency measure; July 14, 1989 as emergency measure; Sept. 12, 1989 as emergency measure, expired 60 days after filing; Nov. 15, 1989 as emergency measure; Jan. 12, 1990 as emergency measure; Jan. 12, 1990; amd. filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-15.2 Definitions.

The following terms have the following meanings when used in this Subpart:

(a) *Compliance report* means a planning unit's accounting to the department of the progress of implementation of a department-approved plan.

(b) *Integrated system* means the solid waste management program selected in the plan to manage the planning unit's solid waste, including, but not limited to its minimization at point of generation and its collection, treatment, transfer, storage, processing, energy recovery, and disposal of materials.

(c) *Modification* means a revision to a department approved plan which is initiated by a planning unit, or by request of the department, due to a significant solid waste issue that was not identified at the time of plan approval.

(d) *Planning unit* means a county; two or more counties acting jointly; a local government agency or authority established pursuant to State law for the purposes of managing solid waste; any of the above in combination with one or more neighboring cities, towns, or villages; or two or

more cities, towns, or villages, or any combination of them, that the department determines to be capable of implementing a regional solid waste management program (*i.e.,* an integrated system for those cities, towns, or villages). Some of these determining factors include planning unit population, political boundaries, transportation systems, current waste management system, and other relevant factors. In order for a county to be a planning unit for purposes of this Subpart, it must include all cities, towns, and villages within its borders; and a county not including same shall be, for purposes of this Subpart, a planning unit consisting of two or more cities, towns, or villages that the department must determine to be capable of implementing a regional solid waste management program.

(e) *Plan* means a local solid waste management plan prepared by a planning unit pursuant to section 27-0107 of the ECL.

(f) *Update* means a revision to a department-approved plan that is required by the department as a condition of approval due to one or more specific solid waste issues identified at the time of plan approval.

Historical Note

Sec. filed: Feb. 14, 1989 as emergency measure; May 15, 1989 as emergency measure; July 14, 1989 as emergency measure; Sept. 12, 1989 as emergency measure, expired 60 days after filing; Nov. 15, 1989 as emergency measure; Jan. 12, 1990 as emergency measure; Jan. 12, 1990; amd. filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-15.3 Grant application.

(a) A planning unit may apply to the commissioner, on forms provided by the department, for a grant to pay up to 90 percent of the costs of preparing its plan, which grant shall not exceed the greater of $25,000 or $1 per person in the planning unit (based on the 1980 federal census). The application must contain the following:

(1) a listing of the municipal corporations, agencies and authorities constituting the planning unit;

(2) a certified copy of the following:

(i) for a county or a local government agency or authority established pursuant to State law for the purposes of managing solid waste, a resolution, law or ordinance authorizing its status as a planning unit for purposes of this Subpart;

(ii) for two or more counties acting jointly, a copy of the resolution, law, or ordinance from each county that authorizes the creation of the planning unit for purposes of this Subpart and its participation in the planning unit and in the plan's preparation;

(iii) for two or more cities, towns, or villages, a copy of the resolution, law, or ordinance from each participant in the planning unit that authorizes the creation of the planning unit for purposes of this Subpart and its participation in the planning unit and in the plan's preparation; and

(iv) for a county, two or more counties acting jointly, or local government agency or authority established by State law for managing solid waste in combination with one or more neighboring cities, towns, or villages, a copy of the resolution, law or ordinance from each participant that authorizes the creation of the planning unit for purposes of this Subpart and its participation in the planning unit and in the plan's preparation; and

(3) a statement that the planning unit agrees to proceed expeditiously with preparation of the plan and with the implementation of the plan as approved by the department, and that it will abide by the procedures, policies and requirements of the State concerning hiring, affirmative action, accounting, contracting and recordkeeping; and

(4) a scope of work identifying the proposed contents of the detailed plan, a timetable for preparation of the plan, an estimate of the costs to prepare the plan, a statement that either there is no existing plan, or if there is, that it is inadequate and a description of what is necessary to make it adequately address the requirements of section 360-15.9 of this Subpart, and a description of the process that will be used to inform the public of the planning unit's planning

process and of the opportunity for the public to participate in the plan's development and in the implementation of the integrated system.

(b) No initial application for a grant under this Subpart shall be accepted by the department if the department receives the application later than 4:30 p.m., eastern time, June 30, 1989. Subsequent applications will be accepted by the department only if and when additional solid waste management planning grant funding becomes available.

Historical Note

Sec. filed: Feb. 14, 1989 as emergency measure; May 15, 1989 as emergency measure; July 14, 1989 as emergency measure; Sept. 12, 1989 as emergency measure, expired 60 days after filing; Nov. 15, 1989 as emergency measure; Jan. 12, 1990 as emergency measure; Jan. 12, 1990; amd. filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-15.4 Department grant application review.

(a) Except as provided in subdivision (b) of this section, the department will, within 30 days of its receipt, review each application in order of receipt to determine its acceptability pursuant to this Subpart. The department will approve or disapprove the application consistent with this Subpart and the availability of grant monies; and if it disapproves the application, the department will set forth its reasons for disapproval. Within 20 days of receipt of the department's comments, the planning unit may resubmit its application addressing the deficiencies noted by the department; however, for purposes of priority of review, the department shall consider the application as having been received on the date the department receives the revised application. If the planning unit's revised application does not fully address the department's comments, the application will be disapproved. Once disapproved, no new application from the same planning unit will be received after 4:30 p.m. eastern time, June 30, 1989. Subsequent applications will be accepted by the department only if and when additional solid waste management planning grant funding becomes available.

(b) In the case of a planning unit consisting of two or more cities, villages or towns, or any combination of them, for purposes of priority of review, the department must first determine whether the applicant is capable of implementing a regional solid waste management program (*i.e.,* an integrated system for those cities, towns, or villages); and if determined capable, the department will consider the application as having been received on the date of that determination. Two or more cities, towns, or villages that have already been included in another planning unit that has applied for a grant under this Subpart are not a planning unit for purposes of this Subpart.

Historical Note

Sec. filed: Feb. 14, 1989 as emergency measure; May 15, 1989 as emergency measure; July 14, 1989 as emergency measure; Sept. 12, 1989 as emergency measure, expired 60 days after filing; Nov. 15, 1989 as emergency measure; Jan. 12, 1990 as emergency measure; Jan. 12, 1990; amd. filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-15.5 Contract content.

Upon approval of the grant application, the planning unit will be so notified and must enter into a contract with the commissioner that must include, but not be limited to or exemplified by, provisions to implement the plan (and any amendments thereto), as approved by the department; and relating to competitive bidding procedures, protests, awarding of contracts, inspection of records, grant money disbursements, audits, plan preparation schedules, project management and recoupment of grant monies. Notwithstanding the provisions of subdivision 360-1.7(c) of this Part, no modification to any application will be approved if that modification has the effect of

decreasing the size of the planning unit, except as provided for in subdivision 360-15.11(a) of this Subpart.

Historical Note

Sec. filed: Feb. 14, 1989 as emergency measure; May 15, 1989 as emergency measure; July 14, 1989 as emergency measure; Sept. 12, 1989 as emergency measure, expired 60 days after filing; Nov. 15, 1989 as emergency measure; Jan. 12, 1990 as emergency measure; Jan. 12, 1990; amd. filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-15.6 Payments under contract.

Grant payments under the contract described in section 360-15.5 of this Subpart will be made according to the following schedule:

(a) fifty percent of the grant, based upon the estimated cost to prepare the plan, will be awarded upon the approval by the State Comptroller;

(b) twenty-five percent of the grant, based upon the estimated cost to prepare the plan, will be awarded when a complete draft of the plan is submitted to the department that contains those provisions included in the scope of work approved by the department; and

(c) the balance of the grant will be awarded upon the department's approval of the final plan based upon, final computation of actual costs and determination by the department and State Comptroller of eligible costs; payment of the balance of the grant will not exceed 90 percent of the actual eligible costs.

Historical Note

Sec. filed: Feb. 14, 1989 as emergency measure; May 15, 1989 as emergency measure; July 14, 1989 as emergency measure; Sept. 12, 1989 as emergency measure, expired 60 days after filing; Nov. 15, 1989 as emergency measure; Jan. 12, 1990 as emergency measure; Jan. 12, 1990; amd. filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-15.7 Eligible costs.

The following costs are eligible for funding under this Subpart:

(a) any costs incurred by the planning unit's consultants or employees that are directly attributed to the plan's preparation or to management of the plan's preparation on or after February 14, 1989; and

(b) any costs incurred to prepare the plan that are not identified in section 360-15.8 of this Subpart.

Historical Note

Sec. filed: Feb. 14, 1989 as emergency measure; May 15, 1989 as emergency measure; July 14, 1989 as emergency measure; Sept. 12, 1989 as emergency measure, expired 60 days after filing; Nov. 15, 1989 as emergency measure; Jan. 12, 1990 as emergency measure; Jan. 12, 1990; amd. filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-15.8 Ineligible costs.

The following costs incurred to prepare the application for a grant under this Subpart or to prepare the plan are ineligible planning costs under section 27-0109 of the ECL:

(a) any costs incurred by the planning unit, its consultants, or employees before February 14, 1989. However, such costs may be applied toward the 10 percent share of the planning unit's costs;

(b) any costs incurred to prepare the grant application or to obtain a grant under this Subpart;

(c) any costs incurred to implement the plan, including but not limited to or exemplified by the following:

(1) costs for site evaluation and development, such as soil borings, monitoring well installation or sampling, surveys, fencing, road building, clearing, soil testing and engineering;

(2) costs to design solid waste management facilities, such as preparation of design drawings, specifications, and engineering plans, and reports; and

(3) implementation of a recyclables recovery program, including the purchase of containers, equipment, or vehicles; and

(d) any costs incurred in any enforcement proceeding regarding solid waste management facilities, plans or programs;

(e) any costs that have been the basis for specific grants received by the planning unit from any source for preparing any portion of the plan (nonspecific grants, such as amounts paid pursuant to section 54 of the State Finance Law, shall not be considered as having been received for preparing any portion of the plan); and

(f) all costs of developing the plan, if the planning unit does not submit a plan according to the schedule contained in the grant contract identified in section 360-15.5 of this Subpart, or implement the plan as approved by the department.

Historical Note

Sec. filed: Feb. 14, 1989 as emergency measure; May 15, 1989 as emergency measure; July 14, 1989 as emergency measure; Sept. 12, 1989 as emergency measure, expired 60 days after filing; Nov. 15, 1989 as emergency measure; Jan. 12, 1990 as emergency measure; Jan. 12, 1990; amd. filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-15.9 Plan contents.

A plan must take into account the objectives of the State's solid waste management policy set forth in section 27-0106 of the ECL and provide for the management of all solid waste within the planning unit for at least a 10-year period. It also must reflect and employ sound principles of solid waste management, natural resources conservation, energy production, and employment-creating opportunities. The plan must include, at a minimum, the following:

(a) a description of the planning unit, including:

(1) size of the planning unit;

(2) municipalities, agencies, and authorities included in the planning unit;

(3) population of the planning unit; and

(4) significant circumstances pertaining to the planning unit, such as, but not limited to or exemplified by, major population centers, State or federal parks, seasonal usage, large or significant industries, etc.; and

(b) identification of the quantity and types of solid waste that are being generated in the planning unit as identified in existing reports, studies or other available sources, as appropriate;

(c) identification of proposed or existing solid waste management facilities used to process, store, treat, or dispose of the solid waste generated within the planning unit, their expected life and current operating status, and proposed or existing solid waste management facilities that have capacity to manage solid waste from outside the planning unit, and their expected life and current operating status;

(d) projections of future population, waste generation, changes to the planning unit, and special conditions that may affect any of these characteristics;

(e) projections of changes to the waste stream, and the effects of the changes on the current and proposed management practices in the planning unit;

(f) a comprehensive recycling analysis for the planning unit, to include those items identified in subdivision 360-1.9(f) of this Part;

(g) evaluation of the various technologies for storage, treatment, and disposal of solid waste within the planning unit, including:

(1) determination of appropriate sizing of solid waste management facilities, based on projected quantities and composition of the solid waste to be treated, stored, or disposed of within the planning unit and waste generation minimization/recyclables recovery efforts;

(2) costs of the various alternatives; and

(3) an assessment of the potential environmental, economic and social impacts associated with each technology; and

(h) selection of an integrated system for managing each of the various types of solid waste to be treated, stored, or disposed of within the planning unit. If the plan relies on the private sector to manage a specific waste stream, the plan must address how this waste stream will be managed if the private sector does not adequately manage this waste stream. Additionally, the plan must specify how the private sector is to be notified of the responsibility for management of a specific waste stream and, if the planning unit proposes to provide technical, administrative and financial assistance to the private sector in meeting this responsibility, how it will provide that assistance;

(i) certification of disposal capacity when exporting waste out of the planning unit. If exportation for less than five years is proposed as part of the integrated system, the planning unit must certify capacity for disposal or treatment of the planning unit's solid waste for that entire time period. When waste exportation for five or more years is proposed as part of the integrated system, the planning unit must certify a minimum five years of capacity for disposal or treatment of the planning unit's solid waste;

(j) a timetable to implement the integrated system, to close existing inadequate solid waste management facilities or bring them into conformance with appropriate statutory and regulatory requirements, and to identify major events and milestones to achieve implementation;

(k) identification of measures to manage each of the various types of solid waste to be treated, stored, or disposed of within the planning unit, until the integrated system is completely implemented;

(l) identification of the administrative structure that will be responsible for implementing each element of the integrated system and for operating the various portions of the integrated system;

(m) identification of any new local laws, ordinances, regulations, or amendments to existing local laws, ordinances, or regulations that may be required to fully implement the integrated system, including those changes made pursuant to section 120-aa of the General Municipal Law;

(n) an analysis of the costs of implementing the integrated system (including capital investments, insurance, operation, maintenance, administration, and financing) and the financing mechanisms that will meet the anticipated costs;

(o) a description of the measures used to secure participation of neighboring jurisdictions, any limitations which the plan's implementation would impose on the neighboring jurisdictions' solid waste management programs, and the effects of including the jurisdiction in the plan, including additional viable alternatives; and

(p) an accounting, to the maximum extent practicable, for the comments and views expressed by concerned governmental, environmental, commercial, and industrial interests, the public, and neighboring jurisdictions.

Historical Note

Sec. filed: Feb. 14, 1989 as emergency measure; May 15, 1989 as emergency measure; July 14, 1989 as emergency measure; Sept. 12, 1989 as emergency measure, expired 60 days after filing; Nov. 15, 1989 as emergency measure; Jan. 12, 1990 as emergency measure; Jan. 12, 1990; amd. filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-15.10 Plan approval.

(a) All plans prepared pursuant to this Subpart must be submitted to the department in draft form for approval. The department, within 60 days of its receipt, will review the draft plan to determine whether or not it contains all matters identified in section 360-15.9 of this Subpart, and, in the event, that it does not, the department will specify the matters in which the draft plan is deficient.

(b) The planning unit must, within 60 days of receipt of the department's comments, revise the plan (addressing in full the department's comments) or remit all grant monies received. The

department, within 30 days of receipt of the revised plan will review the revised plan and inform the planning unit in writing that the plan either contains those matters identified in section 360-15.9 of this Subpart, or that it does not, and in the latter event, will specify the matters in which the revised plan is deficient. If the plan does not contain the elements set forth in this Subpart, the planning unit must, within 60 days of receipt of the department's comments, revise the plan (addressing in full the department's comments) or remit all grant monies received. If the plan, as revised again, does not address in full the department's comments, the plan will not be determined to contain all matters identified in section 360-15.9 of this Subpart, and the planning unit must remit all grant monies received within 60 days of being notified in writing of the department's determination.

(c) Once the department has determined that the draft plan contains a substantive consideration of those elements identified in section 360-15.9 of this Subpart, the department shall provide written notification to the planning unit of its intent to approve the plan.

(d) Within 60 days of receipt of the notice that the draft plan is satisfactory, the planning unit must submit to the department the following:

(1) a final plan which is a stand-alone document containing all elements identified in section 360-15.9 of this Subpart and all corrections, changes and revisions resulting from department comments;

(2) a resolution of adoption that must state that the planning unit will:

(i) adopt the integrated solid waste management plan;

(ii) implement the solid waste management programs, projects and plans as identified in the local solid waste management plan;

(iii) submit compliance reports to the department every two years as required by section 360-15.12 of this Subpart;

(iv) submit a plan modification to the department when required by section 360-15.11 of this Subpart; and

(v) submit updates to the department-approved solid waste management plan when required by the department pursuant to section 360-15.11 of this Subpart; and

(3) if the planning unit has determined that an environmental impact statement is necessary for the development and adoption of the plan, a State Environmental Quality Review findings statement prepared in accordance with section 617.10(i) of this Title.

(e) Once the department has determined that the final plan, adopting resolution, and, if applicable, State Environmental Quality Review findings statement are complete and acceptable, the department shall approve the plan. The plan, as approved, will then become the plan in effect for the planning unit.

(f) If a planning unit does not submit a plan according to the schedule contained in the grant contract identified in section 360-15.5 of this Subpart, the planning unit must remit to the department all grant monies paid pursuant to this Subpart within 60 days after written demand therefor is made by the department.

Historical Note

Sec. filed: Feb. 14, 1989 as emergency measure; May 15, 1989 as emergency measure; July 14, 1989 as emergency measure; Sept. 12, 1989 as emergency measure, expired 60 days after filing; Nov. 15, 1989 as emergency measure; Jan. 12, 1990 as emergency measure; Jan. 12, 1990; amd. filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-15.11 Plan modification/update.

(a) Modifications to plans approved pursuant to this Subpart must be submitted to the department for approval. An application for a permit to construct which is pending before the department on the effective date of this Part and an application for a permit to construct and operate a solid waste management facility by, or on behalf of, a municipality which is not described by an approved plan may not be determined by the department to be complete until the department approves a modified plan describing such a facility. However, notwithstanding the

provisions of subdivision 360-1.7(c) of this Part, no modification to any plan will be approved if that modification has the effect of decreasing the size of the planning unit unless each municipality withdrawing from the planning unit joins with or forms a second planning unit and the department determines in writing that each planning unit is capable of implementing a regional solid waste management program.

(b) A planning unit must undertake a plan modification pursuant to subdivision (a) of this section if there is:

(1) a significant change in the method of managing all or any significant portion of the solid waste generated within the planning unit;

(2) a significant change in the management or administration of the planning unit; or

(3) a change of more than one year to any significant component of the solid waste management plan implementation schedule.

(c) A planning unit must undertake a plan update if the department has approved an interim solid waste management plan for the planning unit while the planning unit develops a long-range solid waste management plan.

(d) The planning unit must modify the plan pursuant to this Subpart or update the plan pursuant to this Subpart consistent with a schedule approved by the department. The department may, where the planning unit fails to modify or update a plan in a manner that is consistent with the requirements of this Subpart, withdraw its prior approval of the plan.

(e) A plan modification or plan update must contain the following components:

(1) a detailed description, acceptable to the department, of the modification or update proposed by the planning unit;

(2) reasons for the proposed modification or update;

(3) a revised implementation schedule;

(4) a State Environmental Quality Review determination, if any;

(5) an accounting of comments as required in subdivision 360-15.9(p) of this Subpart;

(6) a description of how the planning unit will ensure that the modification or update, upon department approval, will be made to all official copies of the existing department-approved plan;

(7) a resolution by the planning unit adopting the modification or update that satisfies the requirements of paragraph 360-15.10(d)(2) of this Subpart; and

(8) additional items as deemed necessary by the department for the development of an integrated solid waste management plan that takes into account the objectives of the state solid waste management policy.

(f) The plan modification or update must be formatted according to guidance developed by the department.

(g) The plan modification or update must be submitted by the planning unit for review and approval by the department in accordance with section 360-15.10 of this Subpart.

(h) Plan modifications or plan updates may, at the discretion of the department, be submitted concurrently with compliance reports required by section 360-15.12 of this Subpart.

Historical Note

Sec. filed: Feb. 14, 1989 as emergency measure; May 15, 1989 as emergency measure; July 14, 1989 as emergency measure; Sept. 12, 1989 as emergency measure, expired 60 days after filing; Nov. 15, 1989 as emergency measure; Jan. 12, 1990 as emergency measure; Jan. 12, 1990; amd. filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-15.12 Plan compliance reports.

(a) All planning units with a department-approved plan must submit initial compliance reports to the department no later than March 1, 1995, and no later than March 1st every two years thereafter. This schedule supersedes all previous schedules for submitting compliance reports.

(b) Compliance reports must be submitted on a form prescribed by or acceptable to the department, and contain the following components:

(1) a brief narrative of the current status of the implementation schedule for the plan including:

(i) the status of compliance with the milestones identified in the plan and plan updates;

(ii) the identification of obstacles to reaching those milestones, and the planning unit's attempts to overcome those obstacles;

(iii) deviations from the plan, the reasons for each deviation and the effect of each deviation on other aspects of the plan; and

(iv) a discussion of solid waste issues not previously addressed in the plan;

(2) a new implementation schedule, if appropriate, which includes all plan milestones (*i.e.*, those previously identified and any revised or added milestones);

(3) a description of planning unit resources including, at a minimum:

(i) a discussion of whether or not funding and staffing levels are adequate for implementation of the plan; and

(ii) a list of actual or proposed changes to the financial mechanisms presented in the plan;

(4) a waste and recyclables generation/disposal and treatment inventory for each year covered by the report using forms prescribed by, or acceptable to, the department; and

(5) additional items deemed necessary by the department to demonstrate progress in the implementation of the integrated solid waste management plan.

Historical Note

Sec. filed Aug. 5, 1993 eff. Oct. 9, 1993.

SUBPART 360-16

CONSTRUCTION AND DEMOLITION DEBRIS PROCESSING FACILITIES

Sec.

Historical Note

Subpart (§§360-16.1—360.16.4) filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-16.1 Applicability.

(a) *Processing and disposal.* This Subpart regulates the construction and operation of construction and demolition (C&D) debris processing facilities and the use and disposal of C&D debris processed at authorized C&D processing facilities. C&D debris processed at a facility other than an authorized C&D debris processing facility is a solid waste and is no longer considered to be C&D debris and is subject to all applicable requirements of this Part. The facility may not accept putrescible material or other solid wastes mixed with C&D debris unless the facility meets the applicable requirements of Subpart 360-11 of this Part. Any mixture of solid waste and C&D debris must be disposed of at a solid waste management facility authorized by the department to accept the mixed solid waste.

(b) *Exempt facilities.* In addition to the exemptions provided for under subdivision 360-1.7(b) of this Part, facilities that receive and process only land clearing debris and/or unadulterated wood, wood chips, or bark from logging operations, pulp and paper production, and wood products manufacturing are exempt from regulation under this Part.

(c) *Prohibition.* Except as provided in this section, no person shall construct or operate a facility used to receive, treat or process C&D debris without first having obtained a permit to do so pursuant to this Part.

(d) *Registration.* (1) The following regulated solid waste management facilities are subject to the registration provisions of subdivision 360-1.8(h) of this Part, rather than the permit requirements of this Part, provided all the applicable requirements of this Subpart and subdivision 360-1.8(h) of this Part are met:

(i) a facility receiving and processing only recognizable uncontaminated concrete and other masonry waste (including steel or fiberglass reinforcing embedded in concrete), asphalt pavement, brick, soil or rock that has not been in contact with a spill from a petroleum product, hazardous waste, or industrial waste, and that is not commingled with any other solid waste;

(ii) a facility receiving and processing only uncontaminated and unadulterated wood; or

(iii) a combination of the facilities listed in subdivision (b) and subparagraphs (i) and (ii) of this Subpart provided the materials of the subdivision and each subparagraph are processed and stored separately.

(2) In addition to the requirements of this subdivision, the following conditions must be satisfied:

(i) storage of all wood materials must be consistent with subdivision 360-16.4(f) of this Subpart; and

(ii) the facility must comply with the reporting and recordkeeping requirements of subdivision 360-16.4(i) of this Subpart; and

(3) If any C&D debris or other solid waste is received at the facilities listed under paragraph (d)(1) of this section, other than the allowable material specifically listed in subpara-

graphs (1)(i)-(iii) of this section, the department may determine that the facility shall require a permit under this Part.

Historical Note

Sec. filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-16.2 Definitions.

The following terms have the following meanings when used in this Subpart:

(a) *Pulverize* means to process by any mechanical means such as, but not limited to crushing, grinding, chipping or shredding that breaks and intermixes the components of C&D debris into small fragments so that the basic constituents of these fragments cannot be readily identified by the department through visual observation.

(b) *Screenings* means the resulting material that is separated from C&D debris by passing through the openings of a screen.

(c) *Uncontaminated* means C&D debris that is not mixed or commingled with other solid waste at the point of generation, processing or disposal, and that is not contaminated with spills of a petroleum product, hazardous waste or industrial waste. Contamination from spills of a petroleum product does not include asphalt or concrete pavement that has come into contact with petroleum products through normal vehicle use of the roadway.

Historical Note

Sec. filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-16.3 Additional application requirements for a permit to construct and operate.

In addition to the requirements set forth in Subpart 360-1 of this Part, an application for an initial permit to construct and operate a C&D debris processing facility must contain the following:

(a) *Regional map.* A regional map (minimum scale of 1:62,500) that delineates the service area of the proposed facility (both existing and proposed); existing and proposed collection, processing and disposal operations; the location of the closest population centers; and the transportation systems including highways, airports and railways.

(b) *Vicinity map.* A vicinity map (minimum scale of 1:24,000) that delineates the area within one mile of the facility boundaries and shows: zoning and land use; residences; surface waters; access roads; bridges; railroads; airports; historic sites; wetlands; hospitals, police and fire stations and other existing and proposed artificial or natural features relating to the proposed project.

(c) *Site plan.* A site plan (minimum scale of 1:2,400) with five feet contour intervals showing existing and proposed elevation contours that delineates property boundaries and shows: the location of sensitive environmental areas, existing and proposed buildings and appurtenances; fences; gates; roads; parking areas; drainage culverts; signs; water supplies; storm water and sanitary sewage systems; adjacent properties and residences; surface water bodies; proposed facility unloading, processing and storage areas; and includes a wind rose and a north arrow. The site plan must show general dimensions of all structures and processing areas and be sufficiently detailed to allow for identification of the overall process.

(d) *Engineering report.* An engineering report that, in addition to the requirements of subdivision 360-1.9(e) of this Part, must include the following:

(1) a description of the waste to be accepted at the facility including its origin, composition and expected weight and volume;

(2) a flow diagram of the entire process, including all equipment and flow streams;

(3) a description of the overall operation and function of all processing equipment to be used including design criteria, capacity, anticipated performance and any process water flow diagrams;

(4) a schedule of operation, including the days and hours that the facility will be open, the preparations required prior to opening and procedures followed after closing for the day;

(5) anticipated daily traffic routes and flow to and from the facility, including the number of trips (separately presented for private and public collection vehicles);

(6) the procedure for unloading trucks (including frequency, rate and method);

(7) a description and sizing of storage facilities for processed and unprocessed C&D debris, screenings, recovered materials, process residues and unacceptable solid waste;

(8) identification of how C&D debris which cannot be beneficially used or recovered as a recyclable will be disposed of;

(9) a description of the facility's drainage system and water supply system; and

(10) identification of the maximum daily throughput of the facility as measured in tons and cubic yards.

(e) *Fire protection and control.* The applicant must contact the local fire marshal for requirements and recommendations for fire protection and control measures including roadways constructed for all weather conditions, storage configurations, and pre-emergency planning. The applicant must include documentation verifying that the local fire marshal has been contacted and comments made by the local fire marshal must be addressed in the contingency plan.

(f) *Unloading, loading and storage areas.* (1) The unloading area must be adequate in size and design to facilitate efficient unloading from the vehicles and the unobstructed movement of vehicles.

(2) The unloading, loading and storage areas must be constructed of concrete or asphalt paving material, unless otherwise approved by the department, and equipped with adequate drainage and retention structures. A concrete or asphalt pad is not required for the separate storage of processed or unprocessed uncontaminated concrete and other masonry waste (including steel or fiberglass reinforcing embedded in concrete), asphalt pavement, brick, soil, or rock that has not been in contact with a spill from a petroleum product, hazardous waste, or industrial waste, and that is not commingled with any other solid waste.

(3) Exhaust removal systems must be installed in enclosed areas.

(g) *On-site roads.* (1) The facility must be designed to accommodate expected traffic flow in a safe and efficient manner.

(2) Where public use is allowed, separate access for passenger vehicles must be provided.

(3) The road surface design must be suitable for heavy vehicles and the road base must be capable of withstanding expected loads.

(4) On-site roads must be passable by loaded collection and transfer vehicles in all weather conditions. Provisions must be made for deicing ramps.

(5) On-site roads must be kept free of waste and shall not be allowed to become a source of dust or become a nuisance or hazard to health, safety or property.

(h) *Draft operation and maintenance manual.* A draft operation and maintenance (O&M) manual which includes general design information, detailed operational information and instructions and includes the following specific information:

(1) A description of the proposed measures to control litter, insects, odors, dust, noise and vectors at the facility. This may include enclosing various facility operations.

(2) A staffing plan which identifies adequate staff coverage of essential positions whenever the facility is operational.

(3) A personnel training plan that details how staff will be trained regarding the operation of the facility and identifies a program that addresses the program requirements of paragraphs (a)(4) and (5) of this section.

(4) A waste control plan that, in addition to addressing the matters contained in subdivision 360-1.14(e) of this Part, includes:

(i) A plan to identify, control, separate out, record, and prevent unauthorized solid waste received at the facility from being accepted or treated at the facility. This plan must include but not be limited to:

(*a*) a description of how these wastes will be handled and disposed if received at the facility and must include provisions to notify the department within the annual monitoring report of receipt and disposal of such wastes;

(*b*) an identification of the personnel trained for this purpose;

(*c*) a location provided at the facility for the separation and storage of such waste;

(*d*) contractual requirements or other appropriate notification and inspection procedures to minimize the quantity of such waste received at the facility;

(*e*) a conspicuously posted sign at the entrance to the facility that specifically identifies the waste authorized to be accepted at the facility; and

(*f*) containers set out by the owner or operator shall specifically identify the waste authorized to be accepted by the facility.

(ii) A plan for detecting and preventing the disposal of hazardous wastes at the facility. This plan must include, but not be limited to:

(*a*) random inspections of incoming loads;

(*b*) inspections of suspicious loads;

(*c*) records of inspections;

(*d*) training of facility personnel to recognize regulated medical waste and hazardous waste; and

(*e*) procedures for notifying the proper authorities if a regulated medical waste or regulated hazardous waste is discovered at the facility.

(5) Contingency plan. In addition to the requirement of subdivision 360-1.9(h) of this Part, a contingency plan detailing corrective or remedial action to be taken in the event of equipment breakdown; air pollution (nuisance odors); unacceptable waste delivered to the facility; groundwater contamination; spills; and undesirable conditions such as fires, dust, noise, vectors, and unusual traffic conditions.

(6) Closure plan. In addition to the closure requirements of subdivisions 360-1.14(w) and 360-16.4(j) of this Part, the closure plan must also identify the steps necessary to close the facility. The plan may be amended at any time during the active life of the facility, with department approval. The plan must be amended whenever changes in operating plans or facility design affect the closure plan or whenever there is a change in the expected year of closure. The permit application must contain the most recent closure cost estimate for the facility prepared in accordance with section 360-1.12 of this Part and a copy of the documentation required to demonstrate financial assurance under section 360-1.12 of this Part.

(i) *Residue disposal.* An identification of the solid waste management facility, and its current and future capacity, at which residue will be treated or disposed.

(j) *Daily cover use.* An identification of the solid waste landfills at which screenings that meet the requirements of paragraph 360-16.4(d)(1) of this Subpart will be accepted as daily cover.

Historical Note

Sec. filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-16.4 Operational requirements.

In addition to the requirements set forth in section 360-1.14 of this Part, the owner or operator of a C&D debris processing facility must operate in compliance with the following:

(a) *O&M manual.* Operation of the facility may not begin unless a draft O&M manual is first approved by the department. As a condition of the permit, a final O&M manual must be submitted and approved by the department. All activities at the facility must be performed in accordance with this final O&M manual except for that period of time from initial facility

operation to the time when the department approves such final manual. During that period of time all activities at the facility must be performed in accordance with the draft O&M manual. All plans required by section 360-16.3(h) of this Subpart must be incorporated into this final O&M manual within six months of facility operation and a copy of it must be maintained and be available for reference and inspection at the facility. This manual must be updated no less frequently than at each time an application to renew a permit under this Part is submitted.

(b) *Receipt and handling of waste.* (1) Only construction and demolition debris consistent with the department-approved O&M manual may be received at the facility.

(2) The owner or operator must inspect all incoming solid waste before acceptance. The facility may only accept recognizable, uncontaminated, nonpulverized C&D debris or C&D debris from other authorized C&D processing facilities. C&D debris accepted at the facility must be weighed or otherwise measured before unloading and recorded in the daily log required by paragraph (i)(2) of this section.

(3) All C&D debris passing through the facility must ultimately be recycled or be disposed of at a solid waste management facility authorized by the department if in this State, or by the appropriate governmental agency or agencies if in other states, territories or nations.

(4) All indoor C&D debris storage, processing, handling and tipping areas must include appropriate functioning fire detection and protection equipment and all outdoor C&D debris storage, processing, handling and tipping areas must include appropriate functioning fire protection equipment and aisle space as identified in section 360-16.3(e) of this Subpart.

(5) In addition to the requirements of section 360-1.14(l) and (m) of this Part, the facility must:

(i) control blowing papers and litter, insects, odors, dust, noise, vectors and other potential nuisances;

(ii) maintain the facility in a manner which prevents litter, dust and other potential nuisances and controls odors and vectors;

(iii) immediately undertake any and all measures required by the department to control blowing papers and litter, insects, odors, dust, noise, vectors and other potential nuisances, including immediate cessation of all or part of the facility operation; and

(iv) if required by the department, implement an air monitoring program as required to monitor dust, odors or other air pollutants at, and emanating from, the facility.

(c) *Disposal of processed C&D debris.* (1) Pulverized C&D debris, other than metals which are magnetically separated, that is not approved by the department for use as landfill daily cover, must be disposed at a solid waste management facility authorized by the department if in this State, or by the appropriate governmental agency or agencies if in other states, territories, or nations.

(2) Pulverized C&D debris which is landfilled must be disposed of only at landfills authorized by the department to accept pulverized C&D debris.

(3) Unadulterated waste wood which is separated from C&D debris prior to any pulverization and subsequently pulverized or processed in a separate area, is exempt from paragraph (1) of this subdivision. However, there must be proper separation of materials and adequate supervision to ensure that the waste wood is unadulterated and not contaminated. The unadulterated waste wood must be used or disposed of properly. If stored, it must be stored in compliance with subdivision (f) of this section.

(4) Recognizable concrete, asphalt pavement, brick or rock which is separated from C&D debris at a C&D processing facility prior to any pulverization and subsequently pulverized or processed in a separate area, is exempt from paragraph (1) of this subdivision and may be beneficially used in accordance with section 360-1.15 of this Part or disposed of according to section 360-7.1(b)(1) of this Part and, where applicable, Subpart 360-8 of this Part. The above materials may also be transferred to a registered facility dedicated solely for the recycling of recognizable uncontaminated concrete, asphalt pavement, brick, soil or stone.

(d) *Use of C&D debris as an alternative daily cover material at a landfill.* (1) Screenings. The department may approve the use of screenings separated prior to pulverizing operations at C&D debris processing facilities that only accept recognizable, uncontaminated, non-pulverized C&D debris for use as an alternative daily cover on landfills in the State, if:

(i) It can be demonstrated that the material is capable of meeting the following minimum performance criteria for daily cover material:

(*a*) to control and not sustain fire;

(*b*) to control and not contribute to odors (this may require the separation of plaster and wallboard from daily cover material);

(*c*) to control and not contribute to the propagation of vectors;

(*d*) to control and not contribute to blowing litter and dust; and

(*e*) to control scavenging.

(ii) The amount of fines (material passing through a number 200 sieve) in the screenings is less than 25 percent by weight (dry basis).

(iii) The organic content of the screenings is less than 15 percent by weight (dry basis).

(2) Pulverized C&D debris. The department may approve the use of pulverized C&D debris from permitted C&D processing facilities for use as an alternative daily cover material on landfills in New York State if:

(i) the pulverized C&D debris satisfies the same requirements for screenings as described in subparagraphs (1)(i)-(iii) of this subdivision; and

(ii) the pulverized C&D debris is used as daily cover only at landfills authorized by the department to accept pulverized C&D debris.

(3) Testing of C&D debris used for daily cover. All C&D debris intended to be used as daily cover must receive written department approval prior to its use as an alternative daily cover material. Facilities which recover C&D debris for use as daily cover on landfills in New York State must have a plan approved by the department which fully describes sampling and analytical procedures, including the frequency of testing, to ensure compliance with paragraph (1) of this subdivision.

(e) *Beneficial uses of C&D debris.* (1) Materials separated from C&D debris, other than recyclables separated prior to pulverizing and in conformance with paragraph (f)(4) of this section or materials specifically identified in section 360-1.15 of this Part, may be reused for a specific use if a petition for a beneficial use determination pursuant to Subpart 360-1 of this Part is approved by the department.

(f) *Storage requirements.* (1) Adequate storage space for incoming C&D debris must be available at the facility. Unauthorized solid waste material must be removed within 24 hours.

(2) Processed and unprocessed C&D debris may be stored uncovered at the facility for a period not to exceed 30 days. Processed or unprocessed C&D debris may be stored in enclosed or covered storage for a period not to exceed 90 days unless otherwise approved in writing by the department.

(3) Processed or unprocessed C&D debris storage piles shall not exceed 20 feet in height, and the area of the storage piles at the base of the pile shall not exceed 5,000 square feet unless otherwise authorized by the department. Piles may not be located in excavations or be below normal grade without prior written approval by the department. A minimum separation distance of 25 feet must be maintained between adjacent piles, and a minimum separation distance of 50 feet must be maintained between piles and property boundaries unless otherwise authorized by the department. Notwithstanding these requirements, minimum separation distances must also be in accordance with any more stringent requirement of the New York State Uniform Fire Protection and Building Code, Title 9(B) NYCRR and local building and fire codes.

(4) Recyclables recovered from the C&D debris may be stored up to 60 calendar days. Recyclables may be stored for a longer period of time with prior written department approval if the department finds that:

(i) there is a demonstrated need to do so (such as a market agreement with terms of receipt based on greater than 30-day intervals or volumes that may take longer than 30 days to acquire);

(ii) there is sufficient department-approved storage area;

(iii) an inventory methodology, which states the maximum time material will be stored, is used to ensure that the recyclables do not remain on the facility site for longer than specified;

(iv) the inventory methodology is approved in writing by the department before storage begins; and

(v) it is demonstrated that the storage will not affect the quality of the recyclables.

(5) The storage of recognizable uncontaminated concrete and other masonry waste (including steel or fiberglass reinforcing embedded in concrete), asphalt pavement, brick, soil or rock that has not been in contact with a spill from a petroleum product, hazardous waste, or industrial waste, and that is not commingled with any other solid waste; does not have to meet the standards set forth in paragraphs (2) and (3) of this subdivision except that piles may not be located in excavations or be below normal grade without prior written approval by the department.

(6) Screenings which meet all the requirements for an alternative daily cover material contained in paragraph (d)(1) of this section, and screenings which receive an approval of a petition for a beneficial use determination, may be stored uncovered for up to 15 calendar days.

(g) *Leachate management and drainage.* In addition to the requirements in section 360-1.14(b) of this Part, the site and facility must have adequate drainage, be drained and be free of standing water. All processed and unprocessed C&D debris must be stored and managed to minimize leachate production. Enclosed or covered storage may be necessary to control the production of leachate.

(h) *Access.* The owner or operator must restrict the presence of, and must minimize the possibility for, any unauthorized entry onto the facility. Access control must include but not be limited to a means to control entry at all times through the gates or other entrances to the facility (such as a 24 hour surveillance system which continuously monitors and controls entry, or an artificial or natural barrier). Signs, clearly legible from a distance of at least 25 feet, that read "VISITORS AND UNAUTHORIZED PERSONNEL MUST FIRST REPORT TO THE OFFICE" must be posted at each entrance to the facility and at other locations, in sufficient numbers to be seen from any approach to the facility.

(i) *Reporting and recordkeeping.* In addition to the requirements of sections 360-1.4(c) and 360-1.14(i) of this Part, the facility owner or operator must:

(1) Prepare and submit an annual report on forms prescribed by or acceptable to the department with the department's central office and the office of the department administrating the region within which the facility is located, no later than 60 days after the first day of January following each year or portion thereof of operation. This report must include a monthly summary of the daily records accounting for the facility total throughput and must include details of any equipment added to the facility and any occurrences which have led to change in facility procedures during that reporting period and must specify what those changes were.

(2) Maintain daily records for facility monitoring. This monitoring information must include a daily log specifying the date; signature of the individual recording the information; the quantity, description and origin of C&D debris received at the facility; the quantity and destination of recyclables sent from the facility by major category; the quantity and destination of material used as an alternative daily cover material; and the quantity and destination of C&D debris sent from the facility for disposal. These records must account for all materials handled at the facility.

(j) *Closure requirements.* The owner or operator must comply with the following closure requirements:

(1) The owner or operator must notify the department in writing at least 180 days before the date the facility is expected to begin closure. No C&D debris or other solid waste may be received within 30 calendar days of the date closure is expected to begin.

(2) Within 30 calendar days after receiving the final quantity of solid waste, the owner or operator must remove from the site all solid waste in accordance with the department-approved closure plan.

(3) The owner or operator must complete closure activities in accordance with the department-approved closure plan within 90 days after receiving the final quantity of solid waste.

(4) When closure is completed, the owner or operator must submit to the department certification, prepared and certified by an individual licensed to practice engineering in the State of New York, that the facility has been closed in accordance with the department-approved closure plan.

(k) *On-site environmental monitors.* The department may require department on-site environmental monitors on a full or part-time basis to conduct monitoring and inspections beyond those routinely performed by department personnel and beyond the routine or enhanced self-monitoring performed by the facility, site or regulated activity pursuant to department permits.

(l) *Tracking document.* (1) All materials leaving a C&D debris processing facility shall be accompanied by a tracking document. This tracking document shall be in a form prescribed by or acceptable to the department. The tracking document shall indicate which C&D debris processing facility generated the material transported, who the hauler is and the intended destination of the material. Once the material has reached its destination of use or disposal, the hauler shall sign the form indicating its delivery. The owner or operator of the facility receiving the material must then sign the tracking document and return it to the generating facility within two weeks. The owner or operator of the generating facility shall maintain these tracking documents at its facility for inspection and must account for all materials leaving the facility.

(2) Additional information may be requested as part of the tracking document if determined appropriate by the department.

(3) If C&D debris is transported to another facility that further processes this material (and is subject to permitting under this Part) and subsequently transports the material to another facility, an additional tracking document is necessary for this secondary transfer.

Historical Note

Sec. filed Aug. 5, 1993; amd. filed Nov. 4, 1999 eff. Nov. 24, 1999. Amended (a).

SUBPART 360-17

REGULATED MEDICAL WASTE TREATMENT FACILITIES

Sec.

Historical Note

Subpart (§§ 360-17.1—360-17.6) filed Nov. 26, 1991 eff. 60 days after filing.

§ 360-17.1 Applicability.

(a) *Applicability.* This Subpart regulates the construction and operation of facilities which treat and destroy regulated medical waste (RMW), except as provided in subdivision (c) of this section. In addition, RMW treatment facilities must comply with the applicable provisions of Subpart 360-1 of this Part. Regulations governing construction and operation of RMW treatment facilities requiring an air pollution control permit are set forth in Parts 200, 201, 211, 212, 219 and 257 of this Title. Regulations governing the tracking and management of RMW are set forth in Part 364 of this Title. Regulations governing the disposal of RMW and the construction and operation of facilities which store and transfer RMW are set forth in Subpart 360-10 of this Part. This Part does not apply to the decontamination of reusable equipment unless a waste is generated. If such waste is a RMW and the RMW is treated at the facility by a treatment unit, this Part applies to such treatment facility. RMW must be managed in accordance with this Subpart, Subpart 360-10 and Part 364 of this Title until it has been both treated and destroyed, after which it can be managed as a commercial solid waste.

(b) *Approved treatment methods.* RMW may be treated by the following methods:

(1) combustion in an incinerator regulated under Parts 200, 201, 211, 212, 219, and 257 of this Title and, if applicable, Subparts 360-1 and 360-3 and subdivision 360-17.3(g) of this Part, except for hazardous waste identified or listed in Part 371 of this Title or radioactive materials or NARM waste as defined in Parts 380, 382 and 383 of this Title or low-level radioactive waste that is required by Parts 380, 382 and 383 of this Title to be disposed of at a Part 383 permitted facility;

(2) autoclaving, except for recognizable human body parts, recognizable animal carcasses and body parts, hazardous waste identified or listed in Part 371 of this Title, chemotherapeutical waste, antineoplastic waste, pathological wastes, bulk liquids, and radioactive materials or NARM waste as defined in Parts 380, 382 and 383 of this Title or low-level radioactive waste that is required by Parts 380, 382 and 383 of this Title to be disposed of at a Part 383 permitted facility;

(3) discharge to a sewage system if the waste is liquid or semi-liquid, except as prohibited by the New York State Department of Health, local laws, or ordinances; or

(4) other treatment methods approved in writing by the commissioner of the New York State Department of Health. The procedures required to receive New York State Department of Health approval for any other treatment method are found at 10 NYCRR Part 710. In addition, the proposer or applicant must submit a detailed and thorough written proposal to the individuals identified in section 360-17.5(e) of this Subpart, for environmental review, that provide specifics of the treatment method proposed. This proposal must include:

(i) experience with existing equipment operations and include contact names, addresses, and telephone numbers;

(ii) testing and supporting documentation conducted on pilot or test scale projects or actual operating equipment; and

(iii) sufficient information to determine the efficacy of the proposed treatment technology, including its ability to completely and consistently kill the appropriate biological indicator for the technology chosen;

(5) radioactive materials or NARM waste as defined in Parts 380, 382 and 383 of this Title or low-level radioactive waste that is required by Parts 380, 382 and 383 of this Title to be disposed of at a Part 383 permitted facility may not be treated at a solid waste management facility subject to this Part unless that facility has been issued a permit pursuant to Part 380 of this Title.

(c) *Exemption.* RMW treatment facilities and destruction processes located onsite of, and operated by, a health care facility licensed pursuant to Public Health Law, article 28, and clinical laboratories licensed pursuant to Public Health Law section 571 are exempt from this Part for the treatment and destruction of RMW generated from that facility or laboratory. Such exempt facilities may accept RMW from other generators of RMW provided they first obtain written agreements with each such generator and submit copies of these agreements to the department and the New York State Department of Health.

(d) *Existing facilities.* RMW treatment facilities which have chosen to treat RMW, but then send this RMW to a department-approved treatment facility for treatment, and package, label, and transport such RMW as if it had not been treated, are not subject to this Subpart. If such RMW treatment facilities propose to treat RMW in accordance with the requirement of this Subpart, then the owner or operator of such RMW treatment facility must immediately comply with the operating requirements of sections 360-17.4 and 360-17.5 of this Subpart. In addition, such owner or operator must submit a complete application for a permit to construct and operate the existing RMW treatment facility in accordance with section 360-17.3 of this Subpart before RMW will be considered properly treated. A draft validation testing program, draft procedures for developing the standardized load, and draft procedures for conducting and analyzing the results of challenge testing, prepared in accordance with sections 360-17.3 and 360-17.5 of this Subpart, must also be submitted as part of the permit application. No RMW will be considered properly treated until the results of the validation testing program have been approved in writing by the New York State Department of Health.

(e) *New York State Department of Health approvals.* Whenever approval is required by this Subpart in writing from the New York State Department of Health, two copies of the required documents must be submitted by the applicant to the director, Division of Solid Waste, New York State Department of Environmental Conservation, 625 Broadway, Albany, NY 12233-4010. The director will coordinate the review and approval of these documents within the department and with the New York State Department of Health. The applicant shall also submit two copies of the required documents to the regional permit administrator in the departmental region in which the facility is located. The applicant will be notified in writing by the regional permit administrator of the results of the review. Reference to New York State Department of Health may be found in sections 360-17.1(b)(4), (d), 360-17.2(c), 360-17.3(d), 360-17.3(g)(2), 360-17.4(b)(9) and 360-17.5(a)(4), (b)(1)-(2), (c)(2) and (d) of this Subpart.

Historical Note

Sec. filed Nov. 26, 1991; amds. filed: Aug. 5, 1993; June 19, 2001 eff. July 3, 2001.
Amended (e).

§ 360-17.2 Definitions.

For the purposes of this Subpart, the definitions contained in Subpart 360-1 of this Part and section 364.9 of this Title apply. In addition, the following definitions apply:

(a) *Autoclave* means a vessel using saturated steam under pressure to treat RMW.

(b) *Bypass RMW* means RMW which constitutes bypass waste as defined by section 360-1.2(b) of this Part.

(c) *Challenge testing* means tests of each treatment unit with a biological indicator approved by the New York State Department of Health to verify the effectiveness of each RMW treatment unit and the RMW treatment process using the standardized load as described in the approved operation plan.

(d) *Daily startup* means the powering up of each RMW treatment unit and its appurtenances. For intermittent unit operation, multiple daily start-ups could occur.

(e) *Destroyed RMW* means RMW that has been ruined, torn apart, or mutilated through processes such as thermal treatment, melting, shredding, grinding, tearing or breaking, so that it is no longer generally recognizable as RMW. It does not mean compaction.

(f) *Infectious agent* means any organism (such as a virus or a bacterium) that is capable of being communicated by invasion and multiplication in body tissues and capable of causing disease or adverse health impacts in humans.

(g) *Operating parameters* means the time, temperature, pressure and other operating conditions maintained to effect treatment of RMW.

(h) *Regulated medical waste.* (1) A regulated medical waste is any medical waste that is a solid waste, as defined in section 360-1.2(a) of this Part, generated in the diagnosis, treatment (*e.g.*, provision of medical services), or immunization of human beings or animals, in research pertaining thereto, or in the production or testing of biologicals, that is not excluded or exempted under paragraph (2) of this subdivision, and that is listed below:

(i) cultures and stocks of infectious agents and associated biologicals, including: cultures from medical and pathological laboratories; cultures and stocks of infectious agents from research and industrial laboratories; wastes from the production of biologicals; discarded live and attenuated vaccines; and culture dishes and devices used to transfer, inoculate, and mix cultures;

(ii) human pathological wastes, including tissues, organs, body parts and body fluids that are removed during surgery or autopsy, or other medical procedures, and specimens of body fluids and their containers;

(iii) liquid waste human blood, products of human blood, items saturated and/or dripping with human blood, or items that were saturated and/or dripping with human blood that are now caked with dried human blood, including serum, plasma, and other blood components, and their containers, which were used or intended for use in either patient care, testing and laboratory analysis or the development of pharmaceuticals. Intravenous bags are also included in this category;

(iv) sharps that have been used in animal or human patient care or treatment or in medical, research, or industrial laboratories, including hypodermic needles, syringes (with or without the attached needle), pasteur pipettes, scalpel blades, blood vials, needles with attached tubing, culture dishes (regardless of presence of infectious agents). Also included are other types of broken or unbroken glassware that were in contact with infectious agents, such as used slides and cover slips;

(v) contaminated animal carcasses, body parts, and bedding of animals that were known to have been exposed to infectious agents during research (including research in veterinary hospitals), production of biologicals, or testing of pharmaceuticals;

(vi) wastes from surgery or autopsy that were in contact with infectious agents, including soiled dressings, sponges, drapes, lavage tubes, drainage sets, underpads, and surgical gloves;

(vii) laboratory wastes from medical, pathological, pharmaceutical, or other research, commercial, or industrial laboratories that were in contact with infectious agents, including slides and cover slips, disposable gloves, laboratory coats, and aprons;

(viii) dialysis wastes that were in contact with the blood of patients undergoing hemodialysis or renal dialysis, including contaminated disposable equipment and supplies such as tubing, filters, disposable sheets, towels, gloves, aprons, and laboratory coats;

(ix) biological waste and discarded materials contaminated with blood, excretion, exudates, or secretion from humans who are isolated to protect others from certain highly communicable diseases, or isolated animals known to be infected with highly communicable diseases; and

(x) the following unused, discarded sharps: hypodermic needles, suture needles, syringes, and scalpel blades.

(2) Exclusions and exemptions.

(i) Exclusions.

(*a*) hazardous waste identified or listed under the regulations in Part 371 of this Title is not RMW;

(*b*) household waste, as defined in this Part, is not RMW;

(*c*) ash from incineration of RMW is not RMW once the incineration process has been completed;

(*d*) residues from treatment and destruction processes are no longer RMW once the waste has been both treated and destroyed; and

(*e*) human corpses, remains, and anatomical parts that are intended for interment or cremation are not RMW.

(ii) Exemptions.

(*a*) samples of RMW transported off-site by EPA or State-designated enforcement personnel for enforcement purposes are exempt from the requirements of this Part during the enforcement proceeding; and

(*b*) RMW that has been decontaminated by autoclaving, or by other technique approved by the Department of Health. RMW so treated shall be disposed of as solid waste provided it is not otherwise a hazardous waste as defined in ECL section 27-0903 or the regulations promulgated thereunder, is accompanied by a certificate, in a form prescribed by the Commissioner of Health which evidences such treatment, and complies with the requirements of ECL section 27-1507, and the Public Health Law sections 1389-dd and 3381-a.

(i) *Residence time* means the duration of time which begins when the minimum operating parameters as established by validation testing have been attained and continues for the length of time established by validation testing for the effective treatment of RMW.

(j) *Standardized load* means a specific quantity and configuration of RMW representative of the type of RMW to undergo treatment which has been established by the facility's approved operation plan.

(k) *Treated RMW* means RMW that has been treated to substantially reduce or eliminate its potential for causing disease but has not yet been destroyed.

(l) *Treatment* means any method, technique, or process designed to change the character or composition of any RMW so as to either neutralize such waste or to render such waste not infectious, safer for transport, amenable for recovery, amenable for storage, or reduced in volume.

(m) *Treatment facility* means, for the purposes of this Subpart, a solid waste management facility that either provides treatment or destruction of RMW.

(n) *Untreatable waste* means, for the purposes of this Subpart, RMW which cannot undergo treatment using the technology chosen. Untreatable wastes for specific technologies are described in section 360-17.1(b) of this Subpart.

(o) *Validation testing* means the procedures, established by the validation testing program prior to commercial operation, used to verify the efficacy of each RMW treatment unit and the RMW treatment process.

Historical Note

Sec. filed Nov. 26, 1991; amds. filed: Aug. 5, 1993; Sept. 27, 1996 eff. 60 days after filing. Amended (h)(2)(ii).

§ 360-17.3 Application requirements for a permit to construct and operate.

In addition to the applicable provisions of Subpart 360-1 of this Part, except for the requirements of sections 360-1.9(f) and 360-1.11(h) of this Part, an application for an initial permit to construct and operate a RMW treatment facility (which, for the purposes of this Subpart, includes start-up and validation testing) must contain draft facility plans. These facility plans include: an operation plan; a maintenance and monitoring plan; a personnel staffing and training plan; a waste control plan; a contingency plan; a closure plan; and a security plan. The contents of these facility plans are described in subdivisions (g)-(m) of this section. Final facility plans must be submitted to the department for review and written approval prior to commercial operation. Subdivisions (a)-(m) of this section must be included in an application for an initial permit to construct and operate. An application for a renewal of the initial permit to construct and operate or permit to operate must contain revised facility plans as described in subdivisions (g)-(m) of this section.

(a) *Engineering report.* The engineering report must include the following:

(1) a general description of the overall process and functional description of all equipment to be used, with design criteria, and anticipated performance and process flow diagrams;

(2) a description of the proposed service area, including generic sources and quantities of RMW anticipated;

(3) identification of sufficient support equipment to maintain operation of all treatment and destruction equipment functions;

(4) a description of the facility operation which includes:

(i) a sequential description of the major components used for the treatment of the RMW, including storage, weighing, processing, treatment and destruction;

(ii) a description of operations for initial facility start-up, daily start-up, and scheduled and unscheduled shutdowns;

(iii) a description of the appropriate operating parameters for the proposed facility, such as residence time, temperature, pressure, irradiation levels and chlorine concentrations;

(iv) a description of the methods and equipment to disinfect reusable containers, if provided;

(v) a description of facility usage, including days and hours of operation, and number of treatment units; and

(vi) in addition to the requirements of section 360-1.14(k)-(m) of this Part, a description of the proposed methods to control the emmission of odors, volatile organic compounds, or other contaminants generated by the facility operations (*e.g.,* negative building air pressure, fans and vents, internal air recirculation, air pollution control equipment and filtration), as necessary to comply with section 360-17.4(f) of this Subpart, including all supporting design and engineering data;

(5) a description of the RMW proposed to be treated, processed, or destroyed for the initial year, and yearly projections for a minimum of 10 years or the life of the facility, whichever is less, in terms of:

(i) Quantity. Submit a table or graph showing the projected quantities delivered per month during the first year of operation and the background data and assumptions used to produce this table or graph. Describe all RMW materials, anticipated variations in quantity received and projections for future quantities of RMW to be treated, processed, stored or destroyed; and

(ii) RMW characteristics. Estimates, along with assumptions and supporting data, of the RMW characteristics such as: density (peak and low), composition, moisture content, rate of steam penetration of the RMW, and RMW packaging and containers to be treated;

(6) a summary of the utility requirements, including:

(i) an estimate of the type, quantity, and on-site storage of fuels needed for the facility;

(ii) estimates of steam generated and utilized on-site in terms of pressure, temperature, and pounds per hour;

(iii) estimates of water used for cooling, sanitary and process water, including that which is, or may be, recycled or treated; and

(iv) characterization and estimates of domestic sewage, process water, storm-water runoff and drainage, and a description of disposal, including point of discharge;

(7) a list and description of all authorizations, permits, and approvals that may be required for this facility, including those from the department, other state agencies, federal agencies, local governments, sewer districts, the Adirondack Park Agency, and agricultural districts;

(8) a description of the provisions necessary to enable emergency shutdown of the facility;

(9) a complete description of the RMW handling and storage methods, in accordance with Part 364 of this Title, which are used during facility operation. Also, this description shall

include the proposed methods to handle bypass RMW, untreatable waste, and unauthorized waste for the technology chosen; and

(10) a brief description of provisions for transportation of RMW to and from the facility, and for any subsequent processing, storage, treatment, destruction, and ultimate disposal.

(b) *Engineering plans and specifications.* In addition to the requirements of section 360-1.9(e) of this Part, the following is required:

(1) engineering plans that contain information on known site conditions and projected site use. The engineering plans must show general dimensions of the proposed structures and be sufficiently detailed to identify the overall process, as follows:

(i) a site plan which shows the following within 1,000 feet of the proposed facility site: the facility's property boundaries; site acreage; distances from adjacent residences, property owners and population centers; off-site and on-site utilities, such as electric, gas, water, storm, and sanitary sewer systems; a north arrow; site topography; the location of screening, regulated wetlands, rights-of-way, surface water conditions, floodplains, buildings, and appurtenances, fences, gates, roads, staging areas, parking areas, drainage culverts, and signs; location of soil borings, if available; transportation systems in the vicinity of the facility including, highways, airports, railways, and ports; the location and identification of handling and storage areas for RMW, untreatable waste, and unauthorized waste not located in the primary building; and a wind rose;

(ii) preliminary piping and instrumentation diagrams;

(iii) plan and cross section views of the facility taken at different elevations in the facility, which must include: the storage areas for RMW, and any temporary storage areas for bypass RMW, unauthorized waste, and untreatable waste, intended equipment locations, anticipated equipment configurations, air supply duct-work locations, onsite utilities, and anticipated underdrain locations (as appropriate); and

(iv) plans of the facility operation that contain a process flow diagram or diagrams to illustrate the complete material and process sequence. They must depict all major equipment associated with the facility, including weighing, processing, heating, cooling, ventilation, radiation detection treatment, destruction, and storage of all RMW and solid waste;

(2) performance specifications for all major equipment, instrumentation and control centers incorporated into the facility; and

(3) project construction schedules which incorporate specific information essential for monitoring the progress of the project. Bar chart schedules are acceptable, if they indicate the individual time spans from start to completion. Time requirements must be shown for design and engineering, construction milestone dates, equipment deliveries, and the start and completion date for construction. Critical path scheduling may be used in lieu of bar chart schedules. After the permit to construct and operate is issued, monthly updates of project construction activities must be submitted in accordance with the procedures described in section 360-17.4(e) of this Subpart.

(c) *Treatment, destruction and disposal facility.* The following information must be provided:

(1) the name and mailing address of the treatment, destruction, and disposal facility or facilities that will receive all solid waste removed from the facility (*i.e.,* treated, untreated, and bypass RMW; untreatable and unauthorized wastes; and treated and destroyed medical waste), including the name, title, mailing address, and telephone number of the individual who is the facility contact. Each such treatment, destruction or disposal facility must:

(i) if located in New York State, be currently authorized to operate or have an application deemed complete by the department or other appropriate regulatory agency, and be capable of demonstrating a projected capacity to accept the projected solid waste for two years from the anticipated operation start date of the proposed RMW treatment facility. Disposal facilities must be approved by the department to accept treated RMW, and treated and destroyed medical waste in accordance with section 360-10.5 of this Part; and

(ii) if located outside of New York State, also submit a copy of authorization to operate (*i.e.*, permit to operate) certified by the appropriate regulatory agency of that state or country, including the agency contact person's name, address and telephone number; and

(2) 90 days before start-up, one original and one copy of an executed agreement with the facility or facilities that will receive the projected solid waste for a minimum of two years. Include the name, mailing address, telephone number and New York State permit number of each transporter permitted under Part 364 of this Title that is proposed for shipment off-site to the designated treatment, destruction or disposal facility.

(d) *Validation testing program.* A description of the proposed validation testing program, which complies with the requirements of section 360-17.5(b) of this Subpart, must be submitted to the department. The results of validation testing will be used to establish facility operating parameters, and these parameters will be included as special conditions in the permit. Operation of the facility beyond startup and validation testing will not be permitted until the results of the validation testing program have been approved, in writing, by the New York State Department of Health.

(e) *Surety.* The applicant must provide proof of liability insurance or other form of financial surety deemed sufficient by the department, in an amount of at least $1,000,000, to meet all responsibilities in case of release of RMW causing bodily injury or property damage, including liability for environmental restoration resulting from negligence in operation.

(f) *Facility plans.* All facility plans shall be submitted for department review as follows:

(1) final facility plans must be submitted to the department for review not less than 90 days before any RMW is received by the facility;

(2) final facility plans must be approved, in writing, by the department before any RMW is received at the facility;

(3) updated facility plans must be submitted to the department for review with each renewal application; and

(4) any proposed substantial changes to any of the elements of the department-approved facility plans required by this Part must be submitted to the department in accordance with the procedures described in sections 360-1.8(e) and 360-17.4(e) of this Part for review and approval before these changes are implemented.

(g) *Operation plan.* The operation plan shall establish facility operating procedures, describe the management of RMW within the facility, and minimize bypass RMW.

(1) The operation plan must include the following:

(i) a description of the proposed procedures for the operation of each major facility component;

(ii) procedures to be followed during daily start-up and scheduled and unscheduled shutdown of operations;

(iii) a description of the measures proposed to control dust, noise, litter, odors, vectors, and blowing debris at the facility;

(iv) an inventory and location of all facility records and as-built construction drawings;

(v) a list of chemicals, including quantities to be used at the facility, amounts to be stored, location of storage, and safety procedures for handling and storage, as appropriate;

(vi) a description of the daily operatinq procedures for RMW treatment facilities in accordance with the requirements of sections 360-17.4 and 360-17.5 of this Subpart;

(vii) a description of the measures proposed for radioactive waste detection;

(viii) a description of proposed storage methods, including provisions for storage beyond 48 hours; and

(ix) other items as identified by the department that are specific to the individual facility due to its location, technology, or type of RMW delivered (such as processing, storage, and handling).

(2) The department and the New York State Department of Health will review the proposed operation plan for consistency with the following requirements for the handling, storage, treatment, and disposal of RMW:

(i) a method of receiving RMW that ensures that RMW is handled separately from other solid waste until treatment and destruction, or treatment and disposal, and that prevents unauthorized persons from having access to, or contact with, the RMW;

(ii) a method of unloading and processinq RMW that limits the number of persons handling RMW and minimizes the possibility of RMW exposure to employees and the public using or visiting the facility. Except for reusable containers, RMW containers for the management of untreated RMW shall not be opened, unless such a procedure is part of the approved treatment process;

(iii) a method of processing, disinfecting, and treating emptied reusable RMW containers, transport vehicles, and facility equipment;

(iv) required use of protective clothing, such as gloves and clean uniforms, to provide protection of employees against exposure to RMW;

(v) the means of decontaminating any person having had bodily contact with RMW while handling or treating the RMW at the site;

(vi) a quantification, on a weight basis, of the maximum amount of RMW to be treated, stored, or removed from the facility each day;

(vii) appropriate methods for handling and processing RMW with packaging that is leaking, dented, ripped, torn or bulging;

(viii) the procedures for conducting the challenge testing and analyzing the results;

(ix) the procedures for establishing the standardized load; and

(x) the procedures for conducting the validation testing program and analyzing the results.

(3) Whenever there is a proposed increase in the permitted design capacity of the treatment facility, or when changes are otherwise made in an existing operation plan, two copies of a new or revised operation plan shall be submitted to the department in accordance with the provisions of sections 360-1.8(e) and 360-17.4(e) of this Part for review and approval prior to the proposed increase or change being implemented.

(4) The department may withdraw approval for acceptance of RMW at a treatment facility for noncompliance with the approved operation plan. The permittee may request a hearing after such withdrawal in accordance with ECL, section 27-1517.3 or section 621.14 of this Title.

(h) *Maintenance and monitoring plan.* In addition to the requirements of section 360-1.14(f) of this Part, the maintenance and monitoring plan that is submitted must:

(1) include an analysis of spare parts needed to keep the facility operational; an analysis of parts that are expected to frequently fail; and suggested list of spare parts and quantity of each that will be maintained as inventory. This list must be as detailed as necessary to allow an inventory check to be accomplished. The method of recording spare parts usage and inventory control also must be identified. The facility must maintain an adequate supply of spare parts necessary to keep the facility operational;

(2) describe the monitoring and inspections to be undertaken at the facility to discover and correct equipment malfunctions or deteriorations, operator errors, and discharges that may threaten the environment or human health;

(3) provide a schedule for the inspection and repair of equipment at the facility including safety, emergency, and security equipment which is necessary to ensure optimization of equipment availability. The frequency of inspection must be based on the projected rate of equipment deterioration or malfunction and the probability of failure between inspections. In addition, a detailed visual inspection of each treatment unit and its associated equipment shall be conducted every 40 hours of operation in conjunction with challenge testing. Areas of the

facility subject to spills and areas in which adverse environmental or health consequences may result if breakdown occurs, must be inspected daily;

(4) identify the operating parameters for the process and any control devices used to detect a malfunction or failure, the normal range of these variables, and describe the method of monitoring and the sequence of responsible action in the event that the equipment and instruments deviate from normal operating ranges;

(5) describe methods and schedules to check operation of control equipment and instrumentation, including a list of all equipment and instruments requiring calibration and a schedule of proposed calibration intervals. All process instruments shall be calibrated at least annually. Process control instruments shall be maintained in proper operating condition at all times; and

(6) include requirements for a general facility inspection, conducted at least annually, of the items described in paragraph (3) of this subdivision, to ensure that the facility is operating in accordance with the approved facility plans. This annual facility inspection must be performed under the direction of an individual licensed to practice engineering in the State of New York. The individual must prepare a summary report of the findings resulting from this inspection. The annual facility inspection report must be signed and embossed with the individual's engineering seal. The annual facility report must be submitted in accordance with the provisions of section 360-17.4(e) of this Subpart.

(i) *Personnel staffing and training plan.* The personnel staffing and training plan that is submitted must:

(1) demonstrate that adequate staff are provided for essential positions and describe how all facility personnel will successfully complete a program of instruction, on-the-job training, and periodic retraining. This training must teach staff to perform their duties in a way that ensures the facility's compliance with the requirements of this Part and Part 364 of this Title;

(2) identify facility personnel and the procedures that will be used to train facility staff in the processing and handling of all solid waste received at the facility in accordance with the waste control plan of subdivision (j) of this section;

(3) identify the positions which will receive training, and identify the instructor(s) who must know the procedures, equipment, and processes at the facility. The training must teach facility personnel proper RMW management procedures (including contingency plan implementation) relevant to the positions in which they are employed. This training and staffing plan must include, where applicable:

(i) procedures for familiarizing facility personnel with emergency equipment, radiation detection devices and safety equipment, emergency procedures, and emergency systems;

(ii) procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment;

(iii) key parameters for system shutoff;

(iv) communication or alarm systems;

(v) response to fires or explosions, spills, and leaks;

(vi) response to surface and groundwater contamination incidents; and

(vii) start-up and shutdown of operations;

(4) show how facility personnel will complete the personnel training requirements of this subdivision within three months of the date of their employment or assignment to a facility. Each employee must complete personnel safety training concerning the handling and management of RMW and worker protection prior to being exposed to RMW. Employees must not work in unsupervised positions until they have completed the training requirements of this subdivision;

(5) show how facility personnel will participate in an annual evaluation of the training required in this subdivision. The results of this evaluation will be included in the annual report required by section 360-17.4(e)(3) of this Subpart;

(6) include examples of the following records which must be maintained at the facility:

(i) the job title for each position at the facility related to RMW management, the name of the employee filling each job, and a written job description for each position. This description must include the requisite skills, education, or other qualifications and duties of employees assigned to each position;

(ii) a written description of the type and amount of both introductory and continuing training that will be given to each person filling a position listed under subparagraph (i) of this paragraph; and

(iii) documentation that the training has been given to, and completed by, facility personnel;

(7) provide for the maintenance of training records for current and former employees of the facility in accordance with section 360-1.14(j) of this Part; and

(8) provide that the on-site operation of any RMW treatment facility subject to these requirements is directed at all times by a person(s) possessing an appropriate current New York State RMW Treatment Facility Operation Certification. (This paragraph is effective nine months after the date of the first qualifying examination approved by the commissioner.)

(j) *Waste control plan.* In addition to addressing the requirements of section 360-1.14(f) of this Part and section 364.9(h) of this Title, the waste control plan that is submitted must:

(1) ensure that the facility receives, stores, treats, and destroys only RMW specifically authorized by the department;

(2) provide a notification program to instruct all generators and transporters who will use the facility of the types of RMW which are authorized to be accepted at the facility. Also, the notification program must identify those wastes which are untreatable and unauthorized at the facility, including radioactive wastes. This notification program must include one or more of the following:

(i) training programs for the generators and transporters; or

(ii) contractual requirements with generators or transporters that contain specific provisions to prevent untreatable and unauthorized wastes from being received at the facility; or

(iii) a solicitation letter and questionnaire that must be mailed to all known generators and transporters whose RMW will be sent to the facility, requesting the name of their RMW transporters, a description of the RMW proposed for treatment, and the names of any chemical used or wastes generated, that may potentially be delivered to the proposed facility, and a copy of the operating procedures which the generator and transporter will use for handling and separating RMW.

Implementation of the approved notification program must be undertaken at least 90 days before start-up, and must be undertaken no less frequently than every two years thereafter. Department approval to accept RMW at the facility will not be granted until the department has verified that an approved notification program has been properly implemented. The facility must not accept RMW from any generator or transporter, including generators and transporters contracted with after issuance of the permit to construct and operate, until they have participated in the approved notification program;

(3) ensure the facility will not accept RMW which is not packaged, labeled, and marked in accordance with section 364.9(d) of this Title;

(4) ensure the facility will not accept RMW which is not accompanied by a tracking form which complies with the requirements of section 364.9(e)(3) of this Title; and

(5) provide an on-site program to identify, control, separate out, record, and prevent untreatable and unauthorized wastes from being accepted and treated at the facility. The waste control plan must include a description of how these wastes will be handled and disposed. If these wastes are rejected by the facility, the waste control plan must provide for departmental notification in accordance with section 364.9(h) of this Title. In addition, this program must include the following:

(i) a location for the separation and proper storage of untreatable and unauthorized wastes;

(ii) contractual requirements or other appropriate notification and inspection procedures to remove untreatable and unauthorized wastes from the facility;

(iii) a metal sign, a minimum of 12 inches high by 18 inches wide, that will be conspicuously posted at each entrance to the facility that identifies the types of untreatable and unauthorized wastes which must be separated from the treatable RMW. The information on this sign shall be legible from a distance of at least 25 feet and have lettering a minimum of one inch in height. Procedures for the rejection of untreatable and unauthorized RMW and its separation from treatable RMW must be made available to all RMW transporters;

(iv) daily random inspections of incoming loads before and after treatment;

(v) use of radiation detection devices for radioactivity assessment of all RMW;

(vi) inspections of questionable or unusual loads before or after treatment;

(vii) records of inspections; and

(viii) procedures for identifying and handling untreatable and unauthorized wastes. These procedures must include the following:

(*a*) separate handling from other RMW received at the facility;

(*b*) secure wrapping or containerization of such wastes to prevent exposing the contents to personnel or the environment;

(*c*) provisions to minimize the handling of such wastes;

(*d*) provisions for storing wastes on-site so that they do not become putrescent;

(*e*) management of such wastes in accordance with the appropriate portions of the facility plans; and

(*f*) identification of safety procedures for employees that are required to work with such wastes. Such safety procedures must comply with all applicable OSHA standards, New York State right-to-know and other worker protection laws and requirements.

(k) *Contingency plan.* The contingency plan that is submitted must:

(1) provide for the following in addition to the requirements of section 360-1.9(h) of this Part:

(i) a description of the procedures that will be used to minimize hazards to human health and the environment resulting from equipment failure, utility failure (*i.e.,* loss of electricity, water, sewers, etc.), fires, spills, leaks, explosions, or releases into the air, onto the soil, into storm or sanitary sewers, or into groundwater or surface water; and

(ii) a description of the following:

(*a*) actions facility personnel must take in response to equipment failure, utility failure, fire, explosion, spills, leaks, releases that could threaten human health or the environment, and unscheduled facility shutdown if it exceeds 24 hours;

(*b*) procedures to follow if operating parameters or associated operating parameter indicator devices do not identify that the minimum operating conditions were achieved during the RMW treatment process in accordance with the approved operation plan;

(*c*) the personnel safety equipment and protective gear that will be available, including showers, eye wash, fire extinguishers, hoses, hard hats, safety goggles, hearing protection, gloves, full body suits, aprons, absorbants, and proposed personnel hygiene facilities; and

(iii) measures proposed to handle incoming RMW during periods of emergencies, equipment breakdown, or facility shutdown, and methods, such as refrigeration, which will be employed to keep from becoming putrescent;

(2) be maintained at the facility; and a complete copy of the approved contingency plan must be submitted to all local police departments, fire departments, hospitals, State and local

emergency response teams that may be called upon to provide emergency services. The emergency coordinator must assure that the provisions of this plan are carried out in the event of an incident covered by the contingency plan;

(3) be immediately amended in accordance with the procedures of sections 360-1.8(e) and 360-17.4(e) of this Part whenever:

(i) the plan fails to adequately address an emergency situation;

(ii) the facility changes in its design, construction, operation, maintenance or other circumstance in a way that materially increases the potential for fires, explosions, spills, leaks, or releases of pollutants or changes the response necessary in an emergency;

(iii) the list of emergency coordinators changes; or

(iv) the list of emergency equipment changes;

(4) provide for the maintenance of adequate aisle space to allow for emergency operations and response by emergency equipment, and provide the following:

(i) an internal communications system capable of providing immediate emergency instruction to facility personnel, or an alarm system to notify facility personnel of an emergency condition;

(ii) a device, such as a telephone (immediately available at the scene of operations) or a hand-held two-way radio, capable of summoning emergency assistance from local police departments, fire departments, and State or local emergency response teams;

(iii) portable fire extinguishers, fire control equipment (including appropriate extinguishing equipment, such as that using foam, inert gas, or dry chemicals), and spill prevention/control equipment; and

(iv) water available in adequate volume and at adequate pressure to supply water hose streams, foam producing equipment, automatic sprinklers, or water spray systems;

(5) describe all equipment that will be tested and maintained to assure its proper operation at all times, including all facility emergency equipment, communications and alarm systems, fire protection equipment, spill prevention/control equipment, and personal safety equipment;

(6) provide for an emergency coordinator and an alternate emergency coordinator as follows:

(i) designate at least one employee at all times during facility operation, either on the facility premises or available to respond to an emergency by reaching the facility within 15 minutes, with the responsibility for coordinating all emergency response measures. This emergency coordinator must be thoroughly familiar with all aspects of the facility's contingency plan, all operations and activities at the facility, the location and characteristics of the RMW managed, the location of all records within the facility, and the facility layout. In addition, this employee must have the authority to commit the personnel, equipment, and financial resources needed to implement the requirements of the contingency plan;

(ii) the emergency coordinator, whenever there is an emergency situation, must immediately ensure that internal facility alarms or communication systems are activated to notify all facility personnel and, if their help is needed, all appropriate State or local agencies with designated response roles;

(iii) if the emergency coordinator determines that the facility has had a major equipment or utility failure, fire, explosion, spill, or leak which could threaten human health or the environment beyond the facility, this finding must be immediately reported by the emergency coordinator to the appropriate officials designated in the contingency plan;

(iv) during an emergency, the emergency coordinator must take all reasonable measures necessary to ensure that fires and explosions, leaks, or spills do not occur, recur, spread into other areas of the facility, or beyond the facility in accordance with the requirements of the contingency plan. These measures must include, when appropriate, stopping equipment and operations, collecting and containing RMW, and removing or isolating RMW containers;

(v) if facility operations cease in response to a major equipment or utility failure, fire, explosion, spill, or leak, the emergency coordinator must monitor for leaks, pressure buildup, gas generation or ruptures in valves, pipes, or other equipment, wherever appropriate;

(vi) immediately after an emergency, the emergency coordinator must provide or arrange for the appropriate treatment, storage, destruction, or disposal of all RMW, contaminated soil or water, and any other solid waste at the facility resulting from the emergency;

(vii) the emergency coordinator must ensure that cleanup procedures are completed in accordance with the provisions of the contingency plan. Emergency equipment used during emergency operations must be thoroughly cleaned of contaminated materials prior to reuse. The owner or operator must provide written notification to the department in accordance with subdivision 360-17.4(e) of this Subpart and to appropriate State and local officials when the facility is to resume operations in the affected areas of the facility; and

(viii) the emergency coordinator must note in the operating record and the quarterly report, the time, date, and details of any incident that requires implementing any provisions of the contingency plan and must submit a written report on the incident. This report must be received within 72 hours by the individuals identified in section 360-17.4(e) of this Subpart. The incident report must include the following:

(*a*) the name, address, and telephone number of the operator and the facility;

(*b*) the date, time, and type of incident (*i.e.,* utility failure, fire, explosion, spill, leak, etc.) and in the case of major equipment failure, a description of the equipment and the name of the manufacturer;

(*c*) the type and quantity of materials involved;

(*d*) the extent of injuries, if any;

(*e*) an assessment of actual or potential hazards to human health or the environment (groundwater, surface water or air), where this is applicable;,

(*f*) the date of disposal and the location of the disposal facility for the materials involved;

(*g*) the procedures or equipment available to prevent a recurrence of the reported event; and

(*h*) any modifications necessary to the contingency plan.

(l) *Closure and financial assurance plans.* In addition to the closure requirements of section 360-1.14(w) of this Part, the closure plan must also identify the steps necessary to close the facility. This closure plan may be amended at any time during the active life of the facility with department approval. This closure plan must be amended whenever changes in operating plans or facility design affect the closure plan, or whenever there is a change in the expected closure date. Closure requirements are as follows:

(1) the owner or operator must notify the department, in writing, by certified mail, return receipt requested, at least 180 days before the date the facility is expected to begin closure. This notification must be sent to the individuals identified in section 360-17.4(e) of this Subpart. No RMW may be received after the scheduled date of closure;

(2) within 30 days after receiving the final quantity of RMW, the owner or operator must remove from the site all solid waste including untreatable and unauthorized wastes, in accordance with the approved closure plan;

(3) the owner or operator must complete closure activities in accordance with the approved closure plan within 180 days after receiving the final quantity of RMW;

(4) when closure is completed, the owner or operator must submit a written report to the individuals identified in section 360-17.4(e) of this Subpart, certified by an individual licensed to practice engineering in the State of New York and retained by the operator or owner, which states that the facility has been closed in accordance with the approved closure plan; and

(5) the closure plan that is submitted must contain the most recent closure cost estimate for the facility prepared in accordance with section 360-1.12 of this Part and a copy of this documentation required to demonstrate financial assurance under section 360-1.12 of this Part.

(m) *Security plan.* The security plan that is submitted must:

(1) restrict the presence of and minimize the possibility for, any unauthorized entry onto the facility site and limit contact with any RMW. A description of the security measures must be provided in the security plan and must include a means to control entry at all times through the gates or other entrances to the facility (as by a 24-hour surveillance system which continuously monitors and controls entry, or an artificial or natural barrier). Metal signs, legible from a distance of at least 25 feet, that read "CAUTION - REGULATED MEDICAL WASTE. VISITORS AND UNAUTHORIZED PERSONNEL MUST REPORT TO THE OFFICE" must also be posted at each entrance to the facility and at other locations, in sufficient numbers to be seen from any approach to the facility. These signs shall be at least 12 inches high by 18 inches wide, have lettering a minimum of one inch in height and include the nationally recognized bio-hazard symbol; and

(2) identify specific operating areas within the facility where access must be controlled, and the specific control procedures that will be followed.

Historical Note

Sec. filed Nov. 26, 1991; amd. filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360-17.4 Operational requirements.

RMW treatment facilities subject to this Subpart must operate in compliance with the following requirements:

(a) *General.* All activities at the facility must be performed in accordance with the facility plans and programs required by this Part and approved by the department. These facility plans and programs must be maintained and at all times be available for reference and inspection at the facility.

(b) *Receipt and handling of solid waste.* All solid waste must be managed in accordance with the following procedures:

(1) only solid waste authorized by the department may be received at the facility. All solid waste received at the facility, and all solid waste which leaves the facility must be weighed and recorded, and the results must be incorporated into the quarterly report;

(2) all RMW received at the facility must be managed in accordance with the requirements of section 364.9(h) of this Title. All solid waste must be completely contained within an enclosed area, in a vehicle, or in another approved device in accordance with the approved operation plan, to minimize the effects of weather, wind, and precipitation. Uncontrolled storage of any solid waste is strictly prohibited. Untreatable or unauthorized wastes may be temporarily stored in areas specifically designed for such wastes on the facility site in accordance with the approved waste control plan;

(3) all solid waste received at the facility that has the ability to become putrescent, or a nuisance, or a sanitary or environmental problem must be stored in the following manner:

(i) for periods of time less than 72 hours after receipt at the facility, solid waste may be stored at room temperature;

(ii) for periods of time from 72 hours to seven days after receipt at the facility, solid waste must be stored in a refrigerated area at a temperature less than 45°F (7°C);

(iii) for periods of time from seven days to 30 days after receipt at the facility, solid waste must be stored in a freezer at a temperature less than 0°F (– 18°C); and

(iv) no solid waste may be stored onsite for more than 30 days after receipt at the facility;

(4) any solid waste which becomes putrescent must be immediately treated, refrigerated, frozen, or removed from the facility;

(5) all treated or untreated RMW which leaves the facility shall be transported to an authorized treatment, destruction, or disposal facility by a permitted transporter, packaged and tracked in accordance with section 364.9 of this Title;

(6) all treated and destroyed medical waste that leaves the facility shall be transported directly to the authorized incinerator or disposal facility or facilities identified in subdivision 360-17.3(c) of this Subpart;

(7) all RMW received at the facility must be transported by permitted transporters in accordance with section 364.9 of this Title or by generators meeting the conditions of section 364.9(e)(2) of this Title;

(8) treated RMW, untreated RMW, treated and destroyed medical waste, and solid waste must not be mixed without written authorization of the department. All post-treatment processing of RMW, and treated and destroyed medical waste, must be conducted in areas separate from treatment and pre-treatment operations to prevent contamination by untreated RMW;

(9) untreated RMW must not be destroyed prior to treatment, unless the destruction process is part of a RMW treatment technology which has been approved in writing by the New York State Department of Health;

(10) mechanical compaction of untreated RMW is strictly prohibited;

(11) except for reusable containers, RMW containers for the management of untreated RMW shall not be opened unless such procedure is part of the approved treatment process;

(12) RMW must be completely protected from the effects of wind, weather, and precipitation during transfer operations. Trash chutes must not be used to transfer RMW between locations. Untreated RMW must not be dumped from one vehicle to another, or from a vehicle to the ground. Untreated RMW must not be handled in a manner that results in the rupturing of RMW packaging or an increase in the risk of exposure to employees or the public;

(13) during the treatment process the minimum approved operating parameters shall be maintained for the entire length of the approved residence time. The residence time will not include any duration of time for which the minimum operating parameters are not achieved; and

(14) no uncontrolled gases, liquids, or solids may be discharged from the RMW treatment unit before the completion of the treatment cycle.

(c) *Drainage.* The site and facility must have adequate drainage and be free of standing water. In areas where RMW is managed, pavements, floors, and drains must be properly maintained to prevent ponding, and facilitate discharges to sanitary sewers.

(d) *Process changes.* The department must be notified, in accordance with the provisions of subdivision (e) of this section, of all process changes before they are implemented. If a permit modification is required for a process change, the procedures for such modification are contained in sections 360-1.8(e) and 360-1.9(c) of this Part.

(e) *Reporting.* In addition to the requirements of sections 360-1.4(c) and 360-1.14(i) of this Part, all correspondence with the department must be submitted, in writing, to the regional solid waste engineer in the departmental region in which the facility is located, with a copy sent to the Director, Division of Solid Waste, New York State Department of Environmental Conservation, 625 Broadway, Albany, NY 12233-4010. The permittee or his representative must:

(1) immediately notify, by telephone, the regional solid waste engineer in the departmental region in which the facility is located, if an unscheduled facility shutdown exceeds 24 hours. Within 72 hours a written report of the incident must be sent to the individuals identified in subdivision (e) of this section;

(2) prepare and file a quarterly report, compiled on a weekly basis on a form provided by, or acceptable to, the department. Copies of the report must be received by individuals identified in subdivision (e) of this section within 30 days after the end of each quarter. Reports must include copies of operating information, such as verification of operating parameters recorded in accordance with section 360-17.5(a)(6),(c)-(d) of this Subpart, receipt and disposition of untreatable and unauthorized waste, and other pertinent data;

(3) in addition to the quarterly reports, prepare and file with the department, an annual report on a form provided by, or acceptable to, the department by February 28 for the previous calendar year. The annual report must be sent to the individuals identified in subdivision (e) of this section. In addition, a copy of the annual report must be sent to the Director, Division of Hazardous Substance Regulation, New York State Department of Environmental Conservation, 625 Broadway, Albany, NY 12233-7250; and

(4) maintain for each RMW treatment unit and each destruction unit, a handwritten or computer-based log, recording as appropriate for each load: the date, time, name of operator, type (*i.e.,* sharps, standard load, no-sharps, etc.) and amount of RMW treated and RMW destroyed, the operating parameters, the post-treatment readings on all time/temperature-sensitive indicators, the condition of any temperature-sensitive tape, the use and results of challenge testing, the use of any other department approved operating parameter indicators, any post-destruction readings or measurements, and any unusual occurrences during the operation of the unit. Copies of such logs, readings, conditions and occurrences shall be submitted with each quarterly report during the first year of operation. Thereafter, this information must be maintained at the facility in accordance with section 360-1.14(i) of this Part.

(f) *Odor and volatile organic control.* The facility must control the emission of odors, volatile organic compounds, or other contaminants to the outside air which could threaten public health or the environment, or could unreasonably interfere with the comfortable enjoyment of life and property. Ventilation systems must be designed and operated to prevent the release of these contaminants, except through exhaust vents or stacks fitted with odor or other air pollution controls if required by the commissioner. This may include the maintenance of negative air pressure, as established by the applicant to be adequate for this purpose, inside the building areas in which treatment takes place. The means of instituting such control measures shall be described in the engineering report required under section 360-17.3(a)(4)(vi) of this Subpart.

(g) *Certification.* The facility operator must certify, on a form to be provided by the department, that each load of treated RMW, or each load of treated and destroyed medical waste, that is transported from the facility has been treated, or treated and destroyed, in accordance with the approved operation plan, the requirements of section 360-17.5 of this Part, and the facility permit to construct and operate. The certification form must be signed and dated by the shift supervisor or facility manager and, where appropriate, must be accompanied by a medical waste tracking form in accordance with section 364.9 of this Title. The original certification form must accompany the treated RMW, or the treated and destroyed medical waste, to the authorized solid waste incinerator or landfill facility. Copies of the certification form must be maintained at all solid waste management facilities which process, store or handle the treated RMW, or the treated and destroyed medical waste. The original and all copies of the certification form must be maintained at these solid waste management facilities in accordance with the provisions of section 360-1.14(i) of this Part. Transfer stations are not required to maintain copies of certification forms.

Historical Note

Sec. filed Nov. 26, 1991; renum. 360-17.3(f)-(m), new added by renum. and amd. 360-17.5, filed Aug. 5, 1993; amd. filed June 19, 2001 eff. July 3, 2001. Amended (e).

§ 360-17.5 Requirements for treatment of regulated medical waste.

(a) *Operating parameters for autoclaves.* An autoclave used to treat RMW shall be operated in accordance with the following minimum requirements:

(1) when operating a gravity flow autoclave, RMW shall be subjected to:

(i) a temperature of not less than 250°F and a pressure of 15 pounds per square inch gauge (psig) for an autoclave residence time of not less than 60 minutes; or

(ii) a temperature of not less than 275°F and a pressure of 31 psig for an autoclave residence time of not less than 45 minutes; or

(iii) a temperature of not less than 300°F and a pressure of 52 psig for an autoclave residence time of not less than 30 minutes;

(2) when operating a vacuum autoclave, RMW shall be subjected to a minimum of one pre-vacuum pulse to purge the autoclave of all air, and the following:

(i) a temperature of not less than 250°F and a pressure of 15 psig for an autoclave residence time of not less than 45 minutes; or

(ii) a temperature of not less than 275°F and a pressure of 31 psig for an autoclave residence time of not less than 30 minutes;

(3) the minimum operating parameters for temperature, pressure, and residence time proposed for each autoclave unit shall be determined during startup of the facility utilizing the approved validation testing program and standardized loads;

(4) notwithstanding paragraphs (1) and (2) of this subdivision, a different combination of operating parameters for time, temperature, and pressure may be used to autoclave RMW only if such combination is first proposed by the applicant, and approved in writing by the commissioner. The commissioner, in consultation with the commissioner of the New York State Department of Health, will not grant approval unless such combination is proven on the basis of validation testing, including testing of its ability to completely and consistently kill the approved biological indicator at the maximum design capacity of each autoclave unit. Biological indicators for autoclaves shall be *Bacillus stearothermophilus* spores using vials or spore strips with at least 1×10^4 spores per milliliter. Under no circumstances will an autoclave have minimum operating parameters less than a residence time of 30 minutes, regardless of temperature and pressure, a temperature less than 250°F, or a pressure less than 15 psig;

(5) RMW shall be autoclaved in the container which is received at the facility, unless reusable containers are utilized. Autoclave procedures shall be those described in the operation plan. Containers shall be placed in the autoclave in the same manner that was used during validation testing; and

(6) each autoclave shall have graphic or computer recording devices which will automatically and continuously monitor and record dates, time of day, load identification number, and operating parameters throughout the entire length of the autoclave cycle. Temperatures shall be determined by the use of thermocouples and probes placed at approved locations within each autoclave unit. Autoclave temperature-sensing devices and time/temperature-sensitive indicators shall be placed in the specific locations of each load, as identified in the approved operation plan. Also, before autoclaving, the operator of the autoclave shall affix temperature-sensitive tape to the containers, as identified in the approved operation plan. Such locations shall take into consideration the coldest points in each autoclave, and those areas where steam is least likely to penetrate. These time/temperature-sensitive indicators and temperature-sensitive tape must be capable of indicating that the minimum approved temperature and residence time, or temperature, has been reached. RMW shall not be considered properly treated unless all time/temperature-sensitive indicators or temperature-sensitive tapes indicate that the required time or temperature was reached during the autoclave process. If for any reason a time/temperature-sensitive indicator or a temperature-sensitive tape, does not indicate that the required temperature or residence time was reached, the entire load of RMW must be autoclaved again until the proper temperature, pressure, and residence time is achieved. If any load of RMW must be autoclaved again, a report on the incident must be received within 72 hours by the individuals identified in subdivision (e) of this section.

(b) *Validation testing program.* In addition to the requirements of subdivision (a) or (d) of this section, each RMW treatment unit shall successfully complete the approved validation testing program prior to commercial operation in accordance with the following requirements:

(1) No RMW will be considered treated by a RMW treatment unit until the results of validation testing conducted on each RMW treatment unit have been reviewed and approved, in writing, by the New York State Department of Health, in accordance with the approved validation testing program. Therefore, RMW treated during validation testing must be either transported to, and treated at, an approved facility prior to disposal, or stored onsite until the results of the validation testing program have been approved, in writing, by the New York State Department of Health.

(2) Validation testing and analysis procedures shall be contained in the validation testing program and shall be submitted to the department with the application for a permit to construct and operate in accordance with subdivision (e) of this section. Facility startup can not commence, until the validation testing program has been approved. The results of such validation testing must be approved, in writing, by the New York State Department of Health before commercial operation will be permitted. Based on the results of the validation testing program, minimum operating parameters will be established for each RMW treatment unit.

(3) Testing, and if necessary, retesting, shall be conducted on each RMW treatment unit to determine the required minimum operating parameters for proper treatment of RMW. Standardized loads will be developed for the maximum design capacity of each RMW treatment unit and used in the validation testing of each unit. Standardized loads, as described in the operating plan, must simulate anticipated worst case operating conditions and make use of actual RMW that is expected to be treated by the facility, including materials believed to be difficult to treat. No RMW shall be treated which has characteristics, such as a greater density or lower rate of steam penetration, different from that of the standardized load. During each validation test, each load of RMW shall contain at least one biological indicator sample per 100 pounds of RMW being processed, with a minimum of five samples per standardized load. There must be positive quality control when conducting validation testing (*i.e.,* a biological indicator sample not exposed to treatment). Temperature probes will also be placed at locations within the standardized load in accordance with the approved validation testing program.

(c) *Challenge testing.* Challenge testing shall include the following:

(1) Challenge testing shall be conducted to verify the effectiveness of each RMW treatment unit and the RMW treatment process, including tests of the ability of each RMW treatment unit to completely and consistently kill the approved biological indicator. Challenge testing, using the standardized load as approved in the operation plan, shall be conducted for each RMW treatment unit at least once every 40 hours of operation, and shall include a detailed visual inspection as described in the maintenance and monitoring plan. A separate and detailed log shall be maintained for each RMW treatment unit, recording the dates and results of each challenge test and visual inspection.

(2) During each challenge test, each load of RMW shall contain one biological indicator sample for every 200 pounds of RMW being processed, with a minimum of five biological indicator samples for each standardized load. The operation plan must completely describe the methods of challenge testing, sampling, handling, and the biological indicator sample culturing procedures. Each biological indicator sample shall be placed in the center of an approved, nonputrescible mateial that will simulate characteristics (*i.e.,* type, density, composition, moisture content, and rate of steam penetration) of the RMW expected to be treated at the facility. Each biological indicator sample must be placed so it will be easily and safely removed from the load of RMW after treatment. Biological indicator sample packaging materials, methods, and the standardized load must be approved, in writing, by the New York State Department of Health, and contained in the operation plan. There must be positive quality control when using these biological indicator samples (*i.e.,* biological indicator samples not exposed to treatment).

(3) The results of the challenge tests will be used to evaluate the working conditions of each RMW treatment unit. The cause of any positive biological indicator growth during challenge testing shall be used to determine what adjustments are necessary to the RMW treatment unit, its appurtenances, and the treatment process. Upon receipt of information indicating positive biological indicator growth, immediately notify by telephone, the regional solid waste engineer in the departmental region in which the facility is located. A written incident report on the positive biological indicator growth and the actions undertaken at the facility to correct the cause of such biological indicator growth must be received within 72 hours by the individuals identified in subdivision (e) of this section.

(d) *Operating parameters for other RMW treatment technologies.* Operating requirements for other RMW treatment technologies will be established by the department on a case-by-case

basis, in consultation with the New York State Department of Health, at the time of permit issuance.

Historical Note

Sec. filed Nov. 26, 1991; renum. 360-17.4, new added by renum. and amd. 360-17.6, filed Aug. 5, 1993 eff. Oct. 9, 1993.

§ 360=17.6

Historical Note

Sec. filed Nov. 26, 1991; renum. 360-17.5, filed Aug. 5, 1993 eff. Oct. 9, 1993.