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Indicate:
X Violations

Indicate:
X Satisfactory
NA Not Applicable

Company Name: New York State Department of Health: Wadsworth Center - David Axelrod Institute

EPA ID# No.: NYD148615263

Region/Inspector :

Inspection Date: 11/17/99

BRUCE KNAPP
7-9361

APPENDIX E

TANK SYSTEMS

1. General Information

A. 1. Existing Tank system — ____ YES — X NO
Installation date on age of tank system

2. New tank system (tank installed after July 14, 1986) — X YES — ____ NO
Installation date 1992

B. Type of tank and capacity (e.g. stainless steel, fiberglass)
double-walled stainless 5,000g

2. Assessment of Existing Tank System's Integrity - 373-3.10(b)

A. ____ For each existing tank system that does not have secondary containment meeting the requirements of subdivision 373-3.10(d), the owner or operator must determine that the tank system is not leaking or is unfit for use. Except as provided in 373-3.10(d)(3) of this subdivision, the owner or operator must obtain and keep on file at the facility a written assessment reviewed and certified by an independent, qualified, professional engineer registered in New York that attests to the tank system's integrity by December 25, 1989. The certification is consistent with the applicable provisions of 373-1.4(a)(5)(iv) - 373-3.10(b)(1). — NA

B. The assessment must determine that the tank system is adequately designed and has sufficient structural strength and compatibility with the wastes to be stored or treated to ensure that it will not collapse, rupture, or fail. At a minimum, the assessment considers the following - 373-3.10(b)(1):

1. ____ design standards, if available, according to which the tank and ancillary equipment were constructed - 373-3.10(b)(2)(i); — NA

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2. _____ hazardous characteristics of the wastes that have been or will be handled - 373-3.10(b)(2)(ii); NA

3. _____ existing corrosion protection measures - 373-3.10(b)(2)(iii); NA

4. _____ documented age of the tank system, if available (otherwise, an estimate of the age) - 73-3.10(b)(2)(iv); and NA

5. results of a leak test, internal inspections or other tank integrity examination such that:

(a) _____ for non-enterable underground tanks, this assessment must consist of a leak test that is capable of taking into account the effects of temperature variations, tank defection, vapor pockets and high water table effects - 373-3.10(b)(2)(v)(a); and NA

(b) _____ for other than non-enterable underground tanks and for ancillary equipment, the assessment is either a leak test (as described above) or an internal inspection and/or tank integrity examination certified by an independent P.E. that addresses cracks, leaks, corrosion, and erosion - 373-3.10(b)(2)(v)(b). NA

C. _____ Tank systems that store or treat materials that become hazardous wastes after December 25, 1988, must conduct this assessment within 12 months after the date that the waste becomes a hazardous waste - 373-3.10(b)(3). NA

D. _____ If, as a result of the assessment, a tank system is found to be leaking or unfit for use, the owner or operator has complied with the requirements of 373-3.10(g) - 373-3.10(b)(4). [Complete Item 8.] NA

3. Assessment of New Tank Systems or Components - 373-3.10(c)

A. X The owner or operator has obtained a written assessment reviewed and certified by an independent P.E. attesting that the system has sufficient structural integrity and is acceptable for the storing and treating of hazardous waste - 373-3.10(c)(1). _____

B. This assessment includes, at a minimum, the following information:

1. X design standards according to which the system is or will be constructed - 373-3.10(c)(1)(i); _____

2. X hazardous characteristics of the wastes to be handled - 373-3.10(c)(1)(ii); _____

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3.		for new tank systems, or components in which the external shell of a metal tank or any external metal component of the tank system is or will be in contact with the soil or with water, a determination by a corrosion expert of - 373-3.10(c)(1)(iii):	
	(a)	_____ factors affecting the potential for corrosion, including but not limited to - 373-3.10(c)(1)(iii)(a).	NA
	(1)	_____ soil moisture content	NA
	(2)	_____ soil pH	NA
	(3)	_____ soil sulfides level	NA
	(4)	_____ soil resistivity	NA
	(5)	_____ structure to soil potential	NA
	(6)	_____ influence of nearby underground metal structures (e.g., piping)	NA
	(7)	_____ stray electric current	NA
	(8)	_____ existing corrosion - protection measures	NA
	(b)	_____ the type and degree of external corrosion protection that are needed to ensure the integrity of the tank system during the use of the tank system, consisting of one or more of the following - 373-3.10(c)(1)(iii)(b):	NA
	(1)	_____ corrosion-resistant material of construction - 373-3.10(c)(1)(iii)(b)(1);	NA
	(2)	_____ corrosion-resistant coating - 373-3.10(c)(1)(iii)(b)(2); and	NA
	(3)	_____ electrical isolation devices - 373-3.10(c)(1)(iii)(b)(3);	NA
4.		_____ for underground tank system components that are likely to be affected by vehicle traffic, a determination of design or operational measure that will protect the tank system against potential damage - 373-3.10(c)(1)(iv);	NA
5.		design considerations to ensure that - 373-3.10(c)(1)(v):	
	(a)	X tank foundations will maintain the load of a full tank - 373-3.10(c)(1)(v)(a);	_____
	(b)	X tank systems will be anchored to prevent flotation or dislodgement where the tank system is placed in a saturated zone or within a seismic fault zone - 373.10(c)(1)(v)(b); and	_____
	(c)	X tank system will withstand the effects of frost heave - 373-3.10(c)(1)(v)(c);	_____

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C. The owner or operator of a new tank system ensured that proper handling procedures were followed to prevent damage to the system during installation. Prior to covering, enclosing or placing a new tank system or component in use the system must be inspected for the presence of the following: 373-3.10(c)(2)

1. X weld breaks - 373-3.10(c)(2)(i);
2. X punctures - 373-3.10(c)(2)(ii);
3. X scrapes of protective coatings - 373-3.10(c)(2)(iii);
4. X cracks - 373-3.10(c)(2)(iv);
5. X corrosion - 373-3.10(c)(2)(v); and
6. X other structural damage or inadequate construction or installation - 373.10(c)(2)(vi).

D. X All discrepancies have been remedied before the tank system is covered, enclosed, or placed in use - 373-3.10(c)(2);

E. X New tank systems or components and piping that are put underground and that are backfilled have been provided with a backfill material that is a non-corrosive, porous, homogeneous substance and that is carefully installed so that the backfill is placed completely around the tank and compacted to ensure that the tank and piping are fully and uniformly supported - 373-3.10(c)(3);

F. X All new tanks and ancillary equipment have been tested for tightness prior to being covered, enclosed, or placed in use. If a tank system was found not to be tight, all repairs necessary to remedy the leaks in the system were performed prior to the tank system being covered, enclosed, or placed in use - 373-3.10(c)(4);

G. X Ancillary equipment has been supported and protected against physical damage and excessive stress due to settlement, vibration, expansion or contraction - 373-3.10(c)(5);

H. ___ The owner or operator has provided the type and degree of corrosion protection necessary, based on the information checked in items 3B3(a) through (b), to ensure the integrity of the tank system during use of the tank system. The installation of a corrosion protection system that is field fabricated must be supervised by an independent corrosion expert to ensure proper installation - 373-3.10(c)(6); NA

I. X The owner or operator has obtained and kept on file at the facility written statements by those persons required to certify the design of the tank system and supervise the installation of the tank system in accordance with items (C) through (H) above to attest that - 373-3.10(c)(7):

1. X the tank system was properly designed and installed; and
2. X any necessary repairs were performed; and

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J. X The written statements include the certification signed by the professional engineer as required by 373-1.4(a)(5)(iv) - 373-3.10(c)(1) & (7)/373-1.4(a)(5)(iv). ____

4. Secondary Containment Requirements - 373-3.10(d)

A. ____ Secondary containment systems must be designed, installed and operated to prevent any migration of wastes or accumulated liquids out of the system to the soil, groundwater or surface water at any time during the use of tank system - 373-3.10(d)(2)(i). X

B. ____ Secondary containment systems must be capable of detecting and collecting releases of accumulated liquids until the collected material is removed - 373-3.10(d)(2)(ii). X

C. At a minimum, the containment system is:

1. ____ constructed of or lined with materials that are compatible with the wastes to be placed in the tank system and must have sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrological forces), physical contact with the waste to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation (including stresses from nearby vehicular traffic) - 373-3.10(d)(3)(i); X

2. ____ placed on a foundation or base capable of providing support to the secondary containment system, providing resistance to pressure gradients above and below the system, and preventing failure due to settlement, compression, or uplift - 373-3.10(d)(3)(ii); X

3. ____ provided with a leak detection system that is designed and operated so that it will detect the failure of either the primary and secondary containment structure or any release of hazardous waste or accumulated liquid in the secondary containment system with 24 hours, or at the earliest practicable time if the existing detection technology or site conditions will not allow detection of a release within 24 hours - 373-3.10(d)(3)(iii); and X

4. ____ sloped or otherwise designed or operated to drain and remove liquids resulting from leaks, spills, or precipitation. Spilled or leaked waste and accumulated precipitation must be removed from the secondary containment system within 24 hours, or in as timely a manner as is possible to prevent harm to human health or the environment, if removal of the released waste or accumulated precipitation cannot be accomplished within 24 hours - 373-3.10(d)(3)(iv). X

(Note: If the collected material is a hazardous waste under Part 371 of this title, it is subject to management as a

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hazardous waste in accordance with all applicable requirements of Parts 372 through 374 of this Title. If the collected material is discharged through a point source to waters of the United States, it is subject to the requirements of Parts 700, 701, and 750 of this Title. If discharged to Publicly Owned Treatment Works (POTW's), it is subject to the requirements of Section 307 of the Clean Water Act, as amended. If the collected material is released to the environment, it may be subject to the reporting requirements of 40 CFR Part 302).

D. ____ Secondary containment for tanks includes one or more of the following devices: 373-3.10(d)(4). — X

	YES		NO
1.	____	a liner (external to the tank) [Complete Item E1];	X
2.	____	a vault [Complete Item E2];	X
3.	X	a double-walled tank [Complete Item E3]; or	
4.	____	an equivalent device as approved by the Commissioner.	X

E. In addition to Items A through D above, secondary containment systems must meet the following requirements:

1. External liner systems must be - 373-3.10(d)(5)(i):

(a) ____ designed or operated to contain 100 percent of the capacity of the largest tank or the volume of all interconnected tanks, whichever is greater, within its boundary - 373-3.10(d)(5)(i)(a); — NA

(b) ____ designed or operated to prevent run-on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run-on or infiltration. Such additional capacity must be sufficient to contain precipitation from a 25-year, 24-hour rainfall event - 373-3.10(d)(5)(i)(b); — NA

(c) ____ free of cracks or gaps - 373-3.10(d)(5)(i)(c). — NA

(d) ____ designed and installed to completely surround the tank and to cover all surrounding earth likely to come into contact with the waste if released from the tanks (i.e. capable of preventing lateral as well as vertical migration of the waste. For onground tanks, the external liner system must also encompass the bottom of the tank) - 373-3.10(d)(5)(i)(d); — NA

(e) ____ external concrete liners must be constructed with chemical-resistant water stops in place at all joints (if any) - 373-3.10(d)(5)(i)(e); and — NA

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(f) _____ external concrete liners must be provided with an impermeable interior coating that is compatible with the stored waste and that will prevent migration of waste into the concrete - 373-3.10(d)(5)(i)(f). **NA**

2. Vault systems must be - 373-3.10(d)(5)(ii):

(a) _____ designed or operated to contain 100 percent of the capacity of the largest tank or the volume of all interconnected tanks, whichever is greater, within its boundary - 373-3.10(d)(5)(ii)(a); **NA**

(b) _____ designed or operated to prevent run-on or infiltration or precipitation into the secondary containment system unless the collection system has sufficient capacity to contain run-on or infiltration. Such additional capacity must be sufficient to contain precipitation from a 25-year, 24-hour rainfall event - 373-3.10(d)(5)(ii)(b); **NA**

(c) _____ constructed with chemical-resistant water stops in place at all joints (if any) - 373-3.10(d)(5)(ii)(c); **NA**

(d) _____ provided with an impermeable interior coating or lining that is compatible with the stored waste and that will prevent migration of waste into the concrete - 373-3.10(d)(5)(ii)(d). **NA**

(e) _____ provided with an exterior moisture barrier or be otherwise designed or operated to prevent migration of moisture into the vault, if the vault is subject to hydraulic pressure - 373-3.10(d)(5)(ii)(f); and **NA**

(f) _____ provided with a means to protect against the formation of and ignition of vapors within the vault, if the waste being stored or treated - 373-3.10(d)(5)(ii)(e): **NA**

(1) meets the definition of ignitable waste under section 371.3(b); or

(2) meets the definition of reactive waste under section 371.3(d) and may form an ignitable or explosive vapor.

3. Double-walled tanks must be - 373-3.10(d)(5)(iii):

(a) _____ designed as an integral structure (i.e., an inner tank within an outer shell) so that any release from the inner tank is contained by the outer shell - 373-3.10(d)(5)(iii)(a); **X**

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(b) ____ protected, if constructed of metal, from both corrosion of the primary tank interior and the external surface of the outer shell - 373-3.10(d)(5)(iii)(b); and — X

(c) ____ provided with a built-in, continuous leak detection system capable of detecting a release within 24 hours or at the earliest practicable time, if the owner or operator can demonstrate to the commissioner, and the commissioner concurs, that the existing leak detection technology or site conditions will not allow detection of a release within 24 hours - 373-3.10(d)(5)(iii)(c). — X

F. Ancillary Equipment - 373-3.10(d)(6).

1. X Ancillary equipment must be provided with full secondary containment (e.g., trench, jacketing, double-walled piping) that meets the requirements of Items 4 A-C except for: 373-3.10(d)(6) — ____

YES NO

(a) ____ aboveground piping (exclusive of flanges, joints, valves and connections) that are visually inspected for leaks on a daily basis; 373-3.10(d)(6)(i) — X

(b) ____ welded flanges, welded joints, and welded connections that are visually inspected for leaks on a daily basis; 373-3.10(d)(6)(ii) — X

(c) ____ sealless or magnetic coupling pumps and sealless valves that are visually inspected for leaks on a daily basis; and - 373-3.10(d)(6)(iii) — X

(d) ____ pressurized aboveground piping systems with automatic shut-off devices (e.g., excess flow check valves, flow metering shutdown devices, loss of pressure actuated shut-off devices) that are visually inspected for leaks on a daily basis - 373-3.10(d)(6)(iv). — X

5. Annual Leak Test or Tank Integrity Examination - 373-3.10(d)(9).

A. ____ For non-enterable underground tanks without secondary containment, a leak test that meets the requirements of 373-3.10(b)(2)(v) must be conducted at least annually [Complete Item 2 B5] - 373-3.10(d)(9)(i). — NA

B. X For other than non-enterable underground tanks and for all ancillary equipment without secondary containment, an annual leak test, as required in 373-3.10(b)(2)(v), or an internal inspection or other tank integrity examination by an independent, qualified, professional engineer registered in New York that addresses cracks, leaks, corrosion and erosion is conducted at least annually. The owner or operator must remove the stored waste from the tank, if — ____

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necessary, to allow the condition of all internal tank surfaces to be assessed - 373-3.10(d)(9)(ii).

C. X The owner or operator must maintain on file at the facility a record of the results of the assessments conducted in accordance with Items 7A and 7B above - 373-3.10(d)(9)(iii). ____

D. ____ If a tank system or component is found to be leaking or unfit-for-use as a result of the leak test or assessment required, the owner or operator must comply with the requirements of 373-3.10(g). [Complete Item 8.] - 373-3.10(d)(9)(iv). NA

6. General Operating Requirements - 373-3.10(e)

A. ____ Hazardous wastes or treatment reagents must not be placed in a tank system if they could cause the tank, its ancillary equipment, or the secondary containment system to rupture, leak, corrode, or otherwise fail - 373-3.10(e)(1). NA

B. The owner or operator must use appropriate controls and practices to prevent spills and overflows from tank or secondary containment systems. These include at a minimum - 373-3.10(e)(2):

1. ____ spill prevention controls (e.g., check valves, dry discount couplings) - 373-3.10(e)(2)(i); X

2. ____ overfill prevention controls (e.g., level sensing devices, high level alarms, automatic feed cutoff, or bypass to a standby tank) - 373-3.10(e)(2)(ii); and X

3. ____ maintenance of sufficient freeboard in uncovered tanks to prevent overtopping by wave or wind action or by precipitation - 373-3.10(e)(2)(iii). NA

C. ____ The owner or operator must comply with the requirements of 373-3.10(g) if a leak or spill occurs in the tank system [Complete Item 8.] - 373-3.10(e)(3). NA

D. X The owner or operator must mark all tanks with the words "Hazardous Waste" and with other words that identify the contents of the tanks. For underground tanks, the markings must be placed on a sign in the area above the tank - 373-3.10(e)(4). ____

7. Inspections: - 373-3.10(f)

A. The owner or operator must inspect, where present, at least once each operating day - 373-3.10(f)(1):

1. X overfill/spill control equipment (e.g., waste-feed cutoff systems, bypass systems, and drainage systems) to ensure that it is in good working order - 373-3.10(f)(1)(i); ____

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2. X the above ground portions of the system, if any, to detect corrosion or releases of waste - 373-3.10(f)(1)(ii); ____

3. X data gathered from monitoring equipment and leak-detection, equipment, (e.g., pressure and temperature gauges, monitoring wells) to ensure that the tank system is being operated according to its design - 373-3.10(f)(1)(iii); and ____

4. X the construction materials and the area immediately surrounding the externally accessible portion of the tank system including secondary containment structures (e.g., dikes) to detect erosion or signs of releases of hazardous waste (e.g., wet spots, dead vegetation) - 373-3.10(f)(1)(iv). ____

(Note: Section 373-2.2(g)(3) of this Subpart requires the owner or operator to remedy any deterioration or malfunction he finds. Subdivisions (g) of this section requires the owner or operator to notify the commissioner within 24 hours of confirming a release. Also, 40 CFR Part 302 may require the owner or operator to notify the National Response Center of a release.)

B. The owner or operator must inspect cathodic protection systems, if present, according to, at a minimum, the following schedule to ensure that they are functioning properly - 373-3.10(f)(2):

1. ____ the proper operation of the cathodic protection system must be confirmed within six months after initial installation, and annually thereafter - 373-3.10(f)(2)(i); and NA

2. ____ all sources of impressed current must be inspected and/or tested, as appropriate, at least bimonthly (i.e. every other month) - 373-3.10(f)(2)(ii). NA

C. X The owner or operator must document in the operating record of the facility the inspections required in Items 7A and 7B above - 373-3.10(f)(3). ____

8. Response to leaks or spills and disposition of leaking or unfit-for-use tank systems - 373-3.10(g)

A. ____ A tank system or secondary containment system from which there has been a leak or spill, or which is unfit for use, has been removed from service immediately. NA

B. The owner or operator has satisfied the following requirements:

1. ____ Cessation of use; prevent flow or addition of wastes. The owner or operator immediately stopped the flow of hazardous waste into the tank system or secondary NA