NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

DEC PERMIT NUMBER		EFFECTIVE DATE
9-1464-00044/00001-0		June 1, 1996
FACILITY/PROGRAM NUMBER(S)		EXPIRATION DATE(S)
NYD 067539940		June 1, 2006

PERMIT

Under the Environmental Conservation Law

NEW

TYPE OF PERMIT: **Article 27, Title 9; 6NYCRR 373 Hazardous Waste Management**

PERMIT ISSUED TO			TELEPHONE NUMBER
General Electric Company			**716/876-1200**
ADDRESS OF PERMITTEE			
175 Milens Road, Tonawanda, NY 14150			
CONTACT PERSON FOR PERMITTED WORK			TELEPHONE NUMBER
Mr. Anthony Hejmanowski			**716/876-1200**
NAME AND ADDRESS OF PROJECT/FACILITY			
General Electric Co. -- Buffalo Service Shop			
COUNTY	TOWN	WATERCOURSE	NYTM COORDINATES
Erie	**Tonawanda**		**E 182.9 N 4767.1**

DESCRIPTION OF AUTHORIZED ACTIVITY

Operation of a hazardous waste storage facility consisting of two container storage areas for ignitable, corrosive, EP Toxic, and PCB wastes. A maximum of 28,900 gallons is authorized to be stored in containers.

By acceptance of this permit, the permittee agrees that the permit is contingent upon strict compliance with the ECL, all applicable regulations, the General Conditions specified **(see page 2)** and any Special Conditions included as part of this permit.

DEPUTY PERMIT ADMINISTRATOR	DIVISION OF REGULATORY SERVICES, 270 MICHIGAN AVE.,	
Paul D. Eismann	BUFFALO, NY 14203-2999, (716) 851-7165	
AUTHORIZED SIGNATURE	DATE	PAGE 1 OF
Paul Eismann	May 31, 1996	

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

DEC PERMIT NUMBER	EFFECTIVE DATE
9-1464-00044/00001-0	
FACILITY/PROGRAM NUMBER(S)	EXPIRATION DATE(S)
NYD 067539940	12/13/95

RECEIVED
NYSDEC
DEC 14 1995

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AUTHORIZED SIGNATURE	DATE	PAGE 1 OF

GENERAL CONDITIONS

Inspections

1. The permitted site or facility, including relevant records, is subject to inspection at reasonable hours and intervals by an authorized representative of the Department of Environmental Conservation (the Department) to determine whether the permittee is complying with this permit and the ECL. Such representative may order the work suspended pursuant to ECL 71-0301 and SAPA 401(3). A copy of this permit, including all referenced maps, drawings and special conditions, must be available for inspection by the Department at all times at the project site. Failure to produce a copy of the permit upon request by a Department representative is a violation of this permit.

Permit Changes and Renewals

2. The Department reserves the right to modify, suspend or revoke this permit when:
   a) the scope of the permitted activity is exceeded or a violation of any condition of the permit or provisions of the ECL and pertinent regulations is found;
   b) the permit was obtained by misrepresentation or failure to disclose relevant facts;
   c) new material information is discovered; or
   d) environmental conditions, relevant technology, or applicable law or regulation have materially changed since the permit was issued.

3. The permittee must submit a separate written application to the Department for renewal, modification or transfer of this permit. Such application must include any forms, fees or supplemental information the Department requires. Any renewal, modification or transfer granted by the Department must be in writing.

4. The permittee must submit a renewal application at least:
   a) 180 days before expiration of permits for State Pollutant Discharge Elimination System (SPDES), Hazardous Waste Management Facilities (HWMF), major Air Pollution Control (APC) and Solid Waste Management Facilities (SWMF); and
   b) 30 days before expiration of all other permit types.

5. Unless expressly provided for by the Department, issuance of this permit does not modify, supersede or rescind any order or determination previously issued by the Department or any of the terms, conditions or requirements contained in such order or determination.

Other Legal Obligations of Permittee

6. The permittee has accepted expressly, by the execution of the application, the full legal responsibility for all damages, direct or indirect, of whatever nature and by whomever suffered, arising out of the project described in this permit and has agreed to indemnify and save harmless the State from suits, actions, damages and costs of every name and description resulting from this project.

7. This permit does not convey to the permittee any right to trespass upon the lands or interfere with the riparian rights of others in order to perform the permitted work nor does it authorize the impairment of any rights, title, or interest in real or personal property held or vested in a person not a party to the permit.

8. The permittee is responsible for obtaining any other permits, approvals, lands, easements and rights-of-way that may be required for this project.

SPECIAL CONDITIONS

9. This permit is based on the information submitted in the permit application received by NYSDEC on April 28, 1986 as modified by subsequent amendments dated November 23, 1986, April 1, 1987, October 8, 1987, January 22, 1988, March 1988, June 16, 1988, July 20, 1988, September 16, 1988, September 30, 1988, October 24, 1988, March 31, 1989, June 26, 1989, June 28, 1989, September 29, 1989, September 3, 1992, May 31, 1994, April 18, 1995 and April 25, 1995 (thereafter referred to as the application) is complete and accurate and that the facility will be operated as specified in the application. Any inaccuracies or incompleteness found in the information may be grounds for the termination or modification of this permit and potential enforcement action.

10. The Permittee must operate the facility in strict accordance with the modules and attachments to this permit specified below:

Module I:	Standard Conditions
Module II:	General Facility Conditions
Module III:	Corrective Action Requirements For Solid Waste Management Unit
Module IV:	Waste Minimization Requirements
Module V:	Land Disposal Restrictions
Module VI:	Storage in Containers
Attachment I:	Waste Analysis Plan
Attachment II:	Security
Attachment III:	Inspections
Attachment IV:	Personnel Training
Attachment V:	Preparedness and Prevention, General Requirements for Ignitable, Reactive or Incompatible Waste
Attachment VI:	Contingency Plan
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STATE 6 NYCRR PART 373 AND FEDERAL EPA HSWA PERMIT
FACT SHEET
FOR
GENERAL ELECTRIC COMPANY
BUFFALO SERVICE SHOP
175 MILENS ROAD
TONAWANDA, NEW YORK 14150

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
AND
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

This fact sheet has been developed for the New York State Department of Environmental Conservation (NYSDEC) draft Part 373 Permit and the United States Environmental Protection Agency (USEPA) Hazardous and Solid Waste Amendments (HSWA) draft permit which the NYSDEC and USEPA intend to issue to General Electric for its hazardous waste management facility located at 175 Milens Road, Tonawanda. This fact sheet was prepared in accordance with the requirements of 6 NYCRR Part 373-1.4(f) and 40 CFR §124.8.

A. PURPOSE OF THE PERMITTING PROCESS

The purpose of the permitting process is to allow the NYSDEC and USEPA, interested citizens and other governmental agencies the opportunity to evaluate the ability of the Permittee to comply with the applicable requirements promulgated under New York State and Federal Laws. NYSDEC and USEPA are required to prepare draft permits which set forth in concise documents all the applicable requirements with which the NYSDEC and USEPA intend to require the Permittee to comply during the duration of the permits. The public is given forty-five (45) days to review the application and comment on the draft permit prior to NYSDEC and USEPA taking any final permitting action on the application for a hazardous waste management permit.

B. PROCEDURE FOR REACHING A FINAL DECISION

Article 27 of the ECL, 6 NYCRR Part 621; as well as Section 7004(b) of RCRA 42 U.S.C. Section 6974, and 40 CFR §124.10 require that the public be given forty-five (45) days to comment on the permit application and each draft permit prepared. The comment period will begin on December 13, 1995 and will end on February 9, 1996. Any person interested in commenting on this draft permit must do so within this forty-five (45) day (plus) comment period.

All persons wishing to comment on the state Part 373 Permit should submit the comments in writing to Paul Eismann, Deputy Permit Administrator, NYSDEC Region 9 Office, 270 Michigan Avenue, Buffalo, New York 14203-2999 (phone number 716/851-7165). All persons wishing to comment on the

Federal HSWA Permit should submit the comments in writing to Mr. Andrew Bellina, Chief, Hazardous Waste Facilities Branch, USEPA Region II, 26 Federal Plaza, New York, NY 10278, (212)264-0504. Comments should include all reasonably available references, factual grounds and supporting material. In lieu of, or in addition to the submittal of written comments, any interested person may request a public hearing in writing, stating the nature of the proposed issues to be raised in the hearing, as per 6 NYCRR 621. Any hearing request also must be submitted within the above comment period.

NYSDEC and USEPA will consider all written comments received during the public comment period, oral or written statements received during a legislative public hearing (if any), requirements of the hazardous waste regulations including 6 NYCRR Part 370, Part 371, Part 372, Subpart 373-1, Subpart 373-2, NYSDEC"s permitting policies and USEPA's HSWA requirements and applicable regulations of 40 CFR Parts 124, 260-264, 268, and 270, in making a final permit decision.

When the NYSDEC and the USEPA make a final permit decision to either issue, deny or modify this permit, notice will be given to the applicant and each person who has submitted written comments or requested notice of the final decision. If the decision is to issue a final permit, this notice will include a summary of responses to comments, identifying the permit conditions in the final permit which are different from those in the draft permit and the reasons for the changes. The final permit becomes effective immediately on the date of issuance, unless a later date is specified.

C. FACILITY DESCRIPTION

The General Electric Buffalo Service Shop is a 69,000 square foot building located on 5.3 acres of land at 175 Milens Road, Tonawanda, New York. This service shop is involved in the repair of industrial equipment including electric motors, transformers, turbines, pumps, compressors, etc. The General Electric Buffalo Service Center also receives PCB articles from customers and other off-site General Electric facilities for repair. If these items become hazardous wastes, they are prepared for disposal by draining and storage prior to shipment to qualified sites for disposal or treatment. These hazardous waste are stored in drums in designated hazardous waste storage areas until arrangements for disposal or treatment at other authorized hazardous waste management facilities are made.

The hazardous wastes stored include ignitable wastes, corrosive EP toxic wastes and PCB wastes. The maximum volume of hazardous waste stored at the facility is 28,900 gallons in containers. Located within the facility's manufacturing/service area are the following designated

hazardous waste work and storage areas. The PCB work area is used for storage during receiving of PCB items, in-process storage of PCB items during repair operations, and storage of PCB items used for repair operations. A maximum of 26,900 gallons in electrical equipment and containers is stored in this area.

The RCRA Hazardous Waste Storage Area is an exterior (11 feet x 32 feet area with a 8 inch high x 6 inch wide concrete curb) for the storage of non-PCB waste prior to shipment to qualified treatment or disposal sites. Run on into the containment area is prevented by a roofing and sidewalls containment system design. Drums stored in this area will be put on steel drum dollies to protect drums from contact with accumulated liquids resulting from possible spills or leaks. The maximum capacity of this areas is thirty-six 55 gallons drums.

The Drum Storage Area (24 feet by 20 feet) enclosed by a 8 inch high x 6 inch wide concrete curb and the PCB Work Area (22.5 feet x 75 feet) enclosed by a 8 inch high x 9 inch wide concrete curb have been decontaminated and these deactivated areas shall not be used for storage of PCB waste.

D. NEW YORK STATE AND FEDERAL REQUIREMENTS FOR CORRECTIVE ACTION AT PERMITTED FACILITIES

Corrective action implementation authorized by 6 NYCRR 373-2.6 includes: (a) the RCRA Facility Assessment ("RFA"); (b) the RCRA Facility Investigation ("RFI"); and (c) Corrective Measures ("CM"). The RFA is a three phase process that includes: A Preliminary Review ("PR"); a Visual Site Inspection ("VSI"); and a Sampling Visit ("SV"). The PR is a review of all available information on the individual Solid Waste Management Units (SWMU(s)) and Areas of Concern (AOC(s)). During the PR, and in subsequent phases of the RFA, all of the media (i.e.; soil, groundwater, surface water/sediment, air and subsurface gas) that could potentially be impacted by release(s) of hazardous waste, including hazardous constituents, are evaluated. Based on this evaluation, the SWMU(s)/AOC(s) will be characterized as to release potentials.

Following the PR, a VSI is conducted during which all of the SWMU(s)/AOC(s) either previously or newly discovered, are observed. While performing this reconnaissance, any signs of spills or leakage, stained soil, stressed vegetation, unit deterioration, or any other conditions that may be indicative of a release are assessed. By means of these observations and the findings of the PR, the Commissioner may require the facility to conduct a Sampling Visit (SV) at the unit(s)/area(s) where the release(s) would be suspected.

The SV can involve any or all of the previously described media at any given SWMU and or AOC. For those units/areas where releases are clearly demonstrated in the PR and/or VSI, the SV can be avoided leaving the unit(s)/area(s) to be addressed in the RFI.

The RFA includes preparing the RFA report. This report includes the findings of the various RFA activities and recommendations for further action at those units and areas with demonstrated releases of hazardous wastes, including hazardous constituents. In some cases, where an immediate threat to human health or the environment exists, interim corrective measures may be required.

If the RFA concludes that there is a need for further investigative work the Permittee shall be required to pursue phase two of corrective action, an RFI. The purpose of the RFI is to determine the nature, extent, direction and rate of migration of hazardous wastes, including hazardous constituents, in soils, groundwater, surface water/sediment, subsurface gas and/or air. From these multimedia analyses, the types and concentrations of contaminants present, the boundaries of any contamination (e.g., plumes), and the rate and direction of contaminant movement should be determined in each of the impacted media. Sufficient data shall be generated during the RFI to allow proper assessment of corrective measure alternatives. This may require bench and/or pilot studies to be implemented as part of the RFI. Once all analyses are reviewed, a RFI report is prepared that provides a summation of the data and recommendations for any needed corrective measures.

The culmination of the Corrective Action Program is Corrective Measures ("CM"). The initial stage of the corrective measures phase is the preparation of a Corrective Measures Study ("CMS"). A CMS may be required if concentrations of hazardous constituents in an aquifer, in surface water/sediment, in soils, or in air exceed their corresponding action levels. Such a study may also be required if individual concentrations of hazardous constituents are at or below their action levels, but they still may pose a threat to human health or the environment due to site-specific exposure conditions. The CMS will address alternative corrective measure strategies that are technologically feasible and reliable and which effectively mitigate and minimize damage to, and provides adequate protection of human health and the environment. The Permittee will develop the site-specific CMS using target clean-up levels chosen by the Commissioner to be protective of human health and the environment. Where available, they may be promulgated standards. Where promulgated standards are not available, the Commissioner may use health-based levels, based on Risk-Specific Doses ("RSD") for carcinogens and Reference Doses ("RFD") for systemic toxicants, or

concentrations levels protective of the environment, that have undergone scientific review. The CMS report should discuss the alternative corrective measure strategies studied, addressing technical, institutional, public health, and environmental issues, and develop the conceptual engineering for the alternative action proposed by the facility. The CMS may not require extensive evaluation of a number of remedial alternatives where a solution is straight forward or only few solutions exist. Such situations could require the Permittee to submit a highly focused CMS.

Following completion of the CMS, the Commissioner will select the corrective measure(s) from the corrective measure alternatives evaluated in the CMS. The Commissioner will then initiate a permit modification for the selected corrective measure(s). Subsequent to the permit modification, the owner or operator of the facility will be required to demonstrate financial assurance for completing the approved corrective measure(s).

Permit modification for the approved corrective measure(s) will initiate the final stage of corrective measures, Corrective Measures Implementation ("CMI"). The CMI will address the final design, construction, operation, maintenance, and monitoring of the corrective measure or measures selected.

E. CURRENT STATUS OF CORRECTIVE ACTION AT THE FACILITY

The Preliminary review was prepared by the DEC in July 1987, and the Visual Site Inspection was carried out on July 8, 1987. The Sampling Visit was performed on September 8, 1988, according to a DEC approved work plan. The RFA report was written in December 1988. The draft permit lists 13 Solid Waste Management Units and/or Areas of Concern. The draft permit lists 5 of these units/areas as requiring no further corrective action and 8 of these units/areas as requiring a RCRA Facility Investigation (RFI). Also, the selection and implementation of corrective measures will be required. The purpose of the RFI is to determine the nature, extent, direction and rate of migration of hazardous wastes including water/sediment, sub surface gas and/or air. From these multi-media analyses, the types and concentrations of contaminants present, the boundaries of any contamination (e.g. plume), and the rate and direction of contaminant movement should be determined in each of the impacted media. Sufficient data shall be generated during the RFI to allow proper assessment of corrective measure alternatives.

F. PERMIT ORGANIZATION

1. The NYSDEC 6 NYCRR Part 373 Permit is divided into parts as outlined below:

Module I - Standard Conditions - Covers the conditions found in 6 NYCRR Subpart 373-1 and required to be included in all permits;

Module II - General Facility Conditions - Covers the conditions found in 6 NYCRR 373-2.2, 2.3, 2.4, 2.5, 2.7 and 2.8 and required to be included in all permits;

Module III - Corrective Action Requirements for Solid Waste Management Units - Covers all applicable conditions for continuing releases at permitted facilities found in 6 NYCRR 373-2.6(l);

Module IV - Waste Minimization Requirements - Covers the requirements found in 6 NYCRR Part 373-2.5(c)(2)(ix);

Module V - Land Disposal Restrictions - Covers the requirements of 6 NYCRR 376 for land disposal of hazardous wastes.

Module VI - Storage in Containers - Covers the conditions required by 6 NYCRR 373-2.9 for facilities that store hazardous wastes in containers.

2. The USEPA HSWA Permit is divided into parts as outlined below:

Module I - Standard Conditions;

Module II - Facility Description;

Module III - Boilers and Industrial Furnaces;

Module IV - Waste Minimization;

Module V - Land Disposal Restrictions;

Module VI - Minimum Technology Standards;

Module VII - Organic Air Emission Standards for Process Vents and Equipment Leaks; and

Module VIII - Storage of Toxicity Characteristic Waste in Containers

G. BASIS FOR PERMIT CONDITIONS

The permit conditions are based on the requirements of 6 NYCRR Part 370 (Hazardous Waste Management System: General), Part 371 (Identification and Listing of Hazardous Wastes), Part 372 (Hazardous Waste Manifest System an Related Standards for Generators, Transporters, and Facilities), Subpart 373-1 (Hazardous Waste Treatment,

Storage, and Disposal Facility Permitting Requirements), Subpart 372-2 (Final Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities), Part 374 (Standards for the Management of Specific Hazardous Wastes and Specific Types of Hazardous Waste Management Facilities), Part 376 (Land Disposal Restrictions) and USEPA's HSWA requirements and applicable regulations.

Some of the attachments to the permit were taken from the Part 373 Permit application submitted by the applicant and received by the NYSDEC on April 28, 1986 as modified by subsequent amendments dated November 23, 1986; April 1, 1987; October 8, 1987; January 22, 1988; March 1988; June 16, 1988; July 20, 1988; September 16, 1988; September 30, 1988; October 24, 1988; March 31, 1989; June 26, 1989; June 28, 1989; September 29, 1989; September 3, 1992; May 31, 1994; April 18, 1995 and April 25, 1995. It is the NYSDEC's tentative determination that these attachments are consistent with 6 NYCRR Parts 370 - 372, Subparts 373-1, and 373-2, Part 374 and Part 376.

The permit provisions are based on the applicable provisions of 40 C.F.R. Part 264 (Standards for Owners and Operators of Hazardous Waste Treatment, Storage and Disposal Facilities), 40 C.F.R. Part 124 (Procedures for Decision Making), and the statutory and regulatory provisions listed in 40 C.F.R. §6925(c)(3) and 40 C.F.R. §270.32(b)(2).

In addition, certain hazardous waste management activities which were not described in the application are prohibited by this Permit. For example, the Permittee is not authorized to treat or dispose of any hazardous waste on site.

H. LEGAL REFERENCES FOR THIS PROPOSAL

Permitting requirements for facilities that treat, store or dispose of hazardous waste are promulgated under the New York State Environmental Conservation Law pursuant to Article 19, Title 3; Article 23, Title 23; and Article 27, Titles 7 and 9, and at the Federal level, under the Solid Waste Disposal Act as amended by RCRA and HSWA, and implementing regulations 42 U.S.C. 6901 et. seq and 40 CFR Parts 124, 260-264, 266, 268 and 270.

HAZARDOUS AND SOLID WASTE AMENDMENTS OF 1984 PERMIT

Permittee:

General Electric Company
Buffalo Service Shop
175 Milens Road
Tonawanda, New York 14150

ID#: NYD067539940
Effective Date:
Expiration Date:

This Permit is issued by the United States Environmental Protection Agency ("EPA" or "Agency") under authority of the Resource Conservation and Recovery Act ("RCRA") of 1976, Subtitle C, 42 U.S.C. Sections 6921-6931, the Hazardous Solid Waste Amendments ("HSWA") of 1984, and EPA regulations promulgated pursuant thereto, to General Electric Company, Buffalo Service Shop (hereinafter "Permittee"), to operate a hazardous waste storage facility located on Milens in Tonawanda, New York.

In accordance with HSWA, this Permit requires the Permittee to:

1. Submit a Hazardous Waste Reduction Plan (HWRP) that describes the technical and administrative procedures and programs designed to minimize hazardous waste generation;

2. Comply with applicable land disposal restrictions;

3. Comply with all federal regulations that pertain to the management of Toxicity Characteristics (TC) wastes in tanks and containers;

4. Comply with organic air emissions requirements; and

5. Comply with any other applicable statutory or regulatory requirements imposed pursuant to RCRA and HSWA.

This Permit, in conjunction with the 6 NYCRR Part 373 Permit issued by the State of New York, constitutes the RCRA permit for this facility.

This Permittee must comply with all terms and conditions of this Permit. This Permit consists of the conditions contained herein (Module I pages I-1 to I-12, Module II page II-1, Module III page III-1, Module VI pages IV-1 to IV-2, Module V pages V-1 to V-2, Module VI page VI-1, Module VII-1, Module VIII pages VIII-1 to VIII-3, and the applicable regulations contained in 40 C.F.R. Parts 124, 260 through 264, 266, 268, and 270 as specified in this Permit.) Applicable regulations are those that are in effect on the date of issuance of this Permit, except as provided in 40 C.F.R. §124.86(c) for RCRA permits being processed under Subpart E or F of Part 124 (see 40 C.F.R. §270.32(c)). A permit may be modified, however, to incorporate new regulations pursuant to 40 C.F.R. §270.41(a)(3) and 40 C.F.R. §270.32(c).

This Permit is based on the assumption that the information provided in the Permittee's Part B application, submitted on April 30, 1986, and all succeeding revisions and data submissions are accurate. Further, this Permit is based, in part, on the provisions of Sections 206, 212, and 224 of HSWA, which modify Sections 3002, 3004 and 3005 of RCRA. The Permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts, or the Permittee's misrepresentation of any relevant facts at any time, may be grounds for the termination, revocation and reissuance, or modification, of this Permit (see 40 C.F.R. §270.41, 270.42 and 270.43) and potential enforcement action. The Permittee must inform EPA of any deviation from or changes in the information in the application which would affect the Permittee's ability to comply with the applicable regulations or permit conditions.

This Permit is effective as of _____, and shall remain in effect until _____unless revoked and reissued, modified or terminated in accordance with 40 C.F.R. §270.41, 270.42 or 270.43, or continued in accordance with 40 C.F.R. §270.51.(a).

_____ _____

Conrad Simon
Director
Air and Waste Management
United States Environmental
Protection Agency
Region II

Date

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MODULE I - STANDARD CONDITIONS

A. EFFECT OF PERMIT. This Permit authorizes only the management of hazardous waste expressly described in this Permit and does not authorize any other activities. Compliance with the terms of this Permit constitutes compliance, for purposes of enforcement with Subtitle C ("Hazardous Waste Management") of RCRA. Issuance of this Permit does not convey any property rights of any sort, or any exclusive privilege; nor does it authorize any injury to persons or property or invasion of other private rights, or any infringement of State or local laws or regulations. Compliance with the terms of this Permit does not constitute a defense to any action brought under Sections 3013, 3008(a) or (h) or 7003 of RCRA (42 U.S.C. Sections 6934, 6928(a) or (h), 6973), Sections 106(a), 104, 107 and/or 122 of the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA") of 1980 (42 U.S.C. Section 9601 et. seq.), as amended, or any other law and corresponding regulations governing protection of public health and the environment. (40 C.F.R. §§ 270.4, 270.30(g)).

B. PERMIT ACTIONS. This Permit may be modified, revoked and reissued, or terminated for cause, as specified in 40 C.F.R. §§ 270.41, 270.42 and 270.43. The filing of a request for a permit modification, revocation and reissuance, or termination, or the notification of planned changes, or anticipated noncompliance on the part of the Permittee does not stay the applicability or enforceability of any condition of this Permit. (40 C.F.R. § 270.30(f)). Review of any application for a permit renewal shall consider improvements in the state of control and measurement technology, as well as changes in applicable regulations.

C. PERMIT CONDITIONS. Pursuant to Section 3005(c)(3) of RCRA, 42 U.S.C. Section 6925(c)(3), (Section 212 of HSWA), promulgated as regulation 40 C.F.R. § 270.32(b), this Permit contains those terms and conditions the Division Director determines necessary to protect human health and the environment. If not otherwise specified or referenced in this Permit, all the requirements of 40 C.F.R. §§ 270.30, 270.31, 270.32 and 270.33 are hereby incorporated into this Permit by reference.

D. PERMIT SUBMITTALS.

1. Effect of Permit. All plans, reports and schedules required by the terms of this Permit are, upon approval by EPA, except as otherwise noted in this Permit where approval is not required, incorporated by reference into this Permit. Upon incorporation, the provisions of

each such document shall be binding upon Permittee and have the same legal force and effect as the requirements of this Permit.

2. Submittal Modifications. Permittee shall submit plans and reports required by this Permit to EPA for review and comment. Unless otherwise specified, EPA shall review any plan, report, specification or schedule submitted pursuant to, or required by this Permit, and provide its written approval/disapproval, comments and/or modifications to the Permittee. Unless otherwise specified by EPA, the Permittee shall submit a revised proposal within thirty (30) calendar days of its receipt of EPA's written comments and/or modifications. Any such revised proposal submitted by the Permittee shall incorporate EPA's comments and/or modifications. EPA will then approve the revised proposal or modify the proposal and approve it with any such modifications. The revised proposal, as approved by EPA, shall become final. All final approvals shall be given to the Permittee in writing.

E. SEVERABILITY. The provisions of this Permit are severable, and if any provision of this Permit or the application of any provision of this Permit to any circumstance is stayed or held invalid, the application of such provision to other circumstances and the remainder of this Permit shall not be affected thereby (40 C.F.R. § 124.16(a)).

F. DUTIES AND REQUIREMENTS.

1. Duty to Comply. The Permittee shall comply with all conditions of this Permit, except that the Permittee need not comply with the conditions of this Permit to the extent and for the duration such noncompliance is authorized in an emergency permit (see 40 C.F.R. § 270.61). Any noncompliance with this Permit, except under the terms of an emergency permit, constitutes a violation and is grounds for: 1) an enforcement action; 2) permit termination, revocation and reissuance, modification; and/or 3) denial of a permit renewal application (40 C.F.R. § 270.30(a)).

2. Duty to Reapply. If the Permittee wishes to continue an activity regulated by this Permit after the expiration date of this Permit, the Permittee shall submit a complete application for a new permit at least one hundred and eighty (180) days before this Permit expires, unless the Division Director grants permission for a later date which is not later than the expiration date of the existing permit (40 C.F.R. §§ 270.10(h) and 270.30(b)).

3. Permit Expiration and Continuation. This Permit will be in effect for the time period stated above, which must not exceed ten (10) years. Each permit for a land disposal facility shall be reviewed by the Division Director five (5) years after the date of permit issuance or reissuance and shall be modified as necessary, as provided in 40 C.F.R. § 270.41 (40 C.F.R. § 270.50). However, as set forth in 40 C.F.R. § 270.51, as long as EPA is the permit issuing authority for HSWA, this Permit and all conditions herein will remain in effect beyond this Permit's expiration date if the Permittee has submitted a timely, complete application (40 C.F.R. §§ 270.13 through 270.23 and 270.10) and, through no fault of the Permittee, the Division Director has not issued a new permit as set forth in 40 C.F.R. § 124.15.

   If the State, at the time of permit renewal, has permitting authority under 40 C.F.R. Part 271 for HSWA, and if the Permittee has submitted a timely and complete application under State law and regulations, the terms and conditions of this Permit continue in force beyond the expiration date of the Permit, but only until the effective date of the State's issuance or denial of a State permit which includes measures pursuant to HSWA.

4. Need to Halt or Reduce Activity Not a Defense. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Permit (40 C.F.R. § 270.30(c)).

5. Duty to Mitigate. In the event of noncompliance with this Permit, the Permittee shall take all reasonable steps to minimize releases to the environment, and shall carry out such measures as are reasonable to prevent significant adverse impacts on human health or the environment (40 C.F.R. § 270.30(d)).

6. Proper Operation and Maintenance. The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this Permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or

similar systems only when necessary to achieve compliance with the conditions of this Permit (40 C.F.R. § 270.30(e)).

7. Duty to Provide Information. The Permittee shall furnish to the Division Director, within a reasonable time, any relevant information which the Division Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Permit, or to determine compliance with this Permit. The Permittee shall also furnish to the Division Director, upon request, copies of records required to be kept by this Permit (40 C.F.R. §§ 270.30(h) and 264.74(a)).

8. Inspection and Entry. The Permittee shall allow the Division Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

   (a) Enter at reasonable times upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Permit;

   (b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Permit;

   (c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Permit; and

   (d) Sample or monitor, at reasonable times, for the purposes of assuring compliance with this Permit or as otherwise authorized, any substances or parameters at any location (40 C.F.R. §§ 270.30(i) and 264.74(a)).

9. Monitoring and Records.

   a) Representativeness of Samples and Measurements. Samples and measurements taken for the purpose of monitoring all media shall be representative of the monitored activity (40 C.F.R. § 270.30(j)). The method used to obtain a representative sample of the waste or environmental media to be analyzed must be the appropriate method from Appendix I of 40 C.F.R. Part 261 or an equivalent method approved by the Division Director (40 C.F.R.

§ 261.20(c)). Laboratory methods must be those specified in Test Methods for Evaluating Solid Waste: Physical/Chemical Methods (EPA Publication SW-846, as amended), or an equivalent method approved by the Division Director (40 C.F.R. § 270.6).

(b) Quality Assurance Program. The Permittee shall conduct a quality assurance program to ensure that the monitoring data are technically accurate and statistically valid. The quality assurance program shall be in accordance with Test Methods for Evaluating Solid Waste: Physical/Chemical Methods (EPA Publication SW-846, as amended) or other methods approved by the Division Director and other requirements specified in this Permit and approved by EPA (40 C.F.R. §§ 270.30(e) and 270.6).

(c) Minimum QA/QC Submittals. The minimum Quality Assurance/Quality Control data and information shall be delivered with all sample analyses.

(d) Retention of Records. The Permittee shall retain, for the effective term of this Permit, all records and data used to complete the application for this Permit.

The Permittee shall also retain records from all groundwater monitoring wells and associated groundwater surface elevations, for the active life of the facility, and for land disposal facilities, for the post-closure care period as well (40 C.F.R. § 270.30(j)).

In addition the Permittee shall also retain records of all other media monitoring, if required, including calibration and maintenance records and all original strip chart recordings for continuous air monitoring instrumentation, copies of all reports and records required by this Permit, and the certification required by 40 C.F.R. § 264.73(b)(9), for the life of the facility and/or post-closure care period.

(e) Contents of Monitoring Records. Records for monitoring information shall include:

(i) The date, exact place, and time of sampling or measurements;

(ii) The individual(s) who performed the sampling or measurements;

(iii) The date(s) analyses were performed;

(iv) The individual(s) who performed the analyses;

(v) The sampling techniques or methods used;

(vi) The analytical techniques or methods used; and

(vii) The results of such analyses (40 C.F.R. § 270.30(j)).

(f) Monitoring Reports. Monitoring results must be reported at the intervals specified elsewhere in this Permit (40 C.F.R. § 270.30(l)(4)).

10. Reporting Planned Changes. The Permittee shall give written notice to the Division Director as soon as possible of any planned physical alterations or additions to the permitted facility (40 C.F.R. § 270.30(l)(1)).

11. Anticipated Noncompliance. The Permittee shall give advance written notice to the Division Director of any planned changes in the permitted facility or activity which may result in noncompliance with this Permit's requirements. This notice must include a description of all incidents of noncompliance reasonably expected to result from the proposed changes (40 C.F.R. § 270.30(l)(2)).

12. Transfer of Permit. This Permit is not transferable to any person unless written notice has been given to the Division Director and this Permit has been modified, or revoked and reissued, or a minor modification made to identify the new permittee and to incorporate such other requirements as may be necessary (40 C.F.R. §§ 270.30(l)(3) and 270.40).

13. Compliance Schedules. Reports of compliance or noncompliance with interim and/or final requirements contained in any compliance schedule of this Permit shall be submitted no later than fourteen (14) calendar days following each schedule date (40 C.F.R. § 270.33).

14. Immediate Reporting of Releases.

(a) Whenever there is an imminent or actual emergency situation, the emergency coordinator as designated in the contingency plan (or a designee when the emergency coordinator is on call) must immediately:

(i) Activate internal facility alarms or communication systems, where applicable, to notify all facility personnel; and

(ii) Notify appropriate State or local agencies with designated response roles if their help is needed (40 C.F.R. § 264.56(a)(1) and (2)).

(b) If the emergency coordinator determines that the facility has had a release, fire, or explosion which could threaten human health or the environment outside the facility, the coordinator must report the findings as follows:

(i) If the coordinator's or the designee's assessment indicates that evacuation of local areas may be advisable, she/he must immediately notify appropriate local authorities. She/he must be available to help appropriate officials decide whether local areas should be evacuated; and

(ii) The coordinator or the designee must immediately notify either the government official designated as the on-scene coordinator for that geographical area in the applicable regional contingency plan or the National Response Center (using their 24-hour toll free number (800) 424-8802). The report must include:

(1) Name and telephone number of reporter;

(2) Name and address of facility;

(3) Time and type of incident (e.g., release, fire);

(4) Name and quantity of material(s) involved, to the extent known;

(5) The extent of injuries, if any; and

(6) The possible hazards to human health, or the environment, outside the facility (40 C.F.R. § 264.56(d)).

15. Twenty-four Hour Reporting.

(a) The Permittee shall orally report to the Division Director any noncompliance with this Permit which may endanger health or the environment within 24 hours from the time the Permittee becomes aware of the circumstances, including:

(i) Information concerning the release of any hazardous waste or hazardous constituent that may cause an endangerment to public drinking water supply sources;

(ii) Any information of a release or discharge of any hazardous waste or hazardous constituent, or a fire or explosion at the facility, which could threaten the environment or human health outside the facility. The description of the occurrence and its cause shall include:

(1) Name, address, and telephone number of the owner or operator;

(2) Name, address, and telephone number of the facility;

(3) Date, time, and type of incident;

(4) Name and quantity of material(s) involved;

(5) The extent of injuries, if any;

(6) An assessment of actual or potential hazards to the environment and human health outside the facility, where this is applicable; and

(7) Estimated quantity and disposition of recovered material that resulted from the incident (40 C.F.R. § 270.30(l)(6)).

(b) A written submission shall also be provided to the Division Director within five (5) calendar days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance including exact dates and times; and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. The Permittee need not comply with the 5-day written notice requirement if the Division Director waives that requirement in favor of a written report within fifteen (15) calendar days of the time the Permittee becomes aware of the circumstances (40 C.F.R. § 270.30(l)(6)).

16. Additional Noncompliance Reporting. The Permittee shall report all instances of noncompliance not required to be reported under Module I, Conditions F.13 or F.15. Such additional noncompliance shall be reported in writing, at the time monitoring and noncompliance reports are submitted. The reports shall contain the information listed in Module I, Condition F.15, and all other relevant information (40 C.F.R. § 270.30(1)(10)).

17. Other Information. Whenever the Permittee becomes aware that it failed to submit any relevant facts in the permit application, or submitted incorrect information in a permit application or in any report to the Division Director, the Permittee shall promptly submit such new or correct facts or information to the Division Director (40 C.F.R. § 270.30(1)(11)).

G. DOCUMENTS TO BE MAINTAINED AT THE FACILITY. The Permittee shall maintain at the facility, in one central location, all documents required by this Permit, and amendments, revisions and modifications to these documents.

H. REPORTS, NOTIFICATIONS AND SUBMISSIONS TO THE Division Director. All reports, notifications or other submittals required by this Permit are to be submitted to the Division Director unless otherwise directed in this Permit and sent certified mail or given to:

United States Environmental Protection Agency
Air and Waste Management Division
Hazardous Waste Facilities Branch
Region II
26 Federal Plaza
New York, New York 10278

Copies shall also be sent to the following addresses:

One (1) copy:

United States Environmental Protection Agency
Office of Policy and Management
Information Services Section
Region II
26 Federal Plaza
New York, New York 10278

Two (2) copies:

New York State Department of Environmental Conservation
Division of Hazardous Substances Regulation
Director, Bureau of Western Hazardous Waste Programs
50 Wolf Road
Albany, New York 12233-7251

One (1) copy:

New York State Department of Environmental Conservation
Division of Hazardous Substances Regulation
Region 9
270 Michigan Avenue
Buffalo, New York 14203-2999

I. SIGNATORY REQUIREMENTS. All reports, or information submitted to the Division Director shall be signed and certified in accordance with 40 C.F.R. §§ 270.11, and 270.30(k).

J. CONFIDENTIAL INFORMATION. The Permittee may claim confidential any information required to be submitted by this Permit in accordance with 40 C.F.R. § 270.12 and 40 C.F.R. Part 2, Subpart B.

K. PERMIT MODIFICATION. This Permit may be modified as allowed under 40 C.F.R. §§ 270.41 and 270.42. Modifications to this Permit may be made by the Division Director for cause in accordance with 40 C.F.R. § 270.41. Modifications to this Permit shall also be requested by the Permittee as required by 40 C.F.R. § 270.42.

L. DEFINITIONS. For the purpose of this Permit, terms used herein shall have the same meaning as those set forth in

40 C.F.R. Parts 260 through 270, unless this Permit specifically states otherwise; where terms are not otherwise defined, the meaning associated with such terms shall be defined by a standard dictionary reference or the generally accepted scientific or industrial meaning of the term.

1. EPA. The United States Environmental Protection Agency and, for the purposes of this permit, the New York State Department of Environmental Conservation ("NYSDEC") in those instances where New York is or will be, authorized by EPA to act in lieu of EPA.

2. Facility. For the purposes of implementing this permit, "Facility" means all contiguous land and structures, other appurtenances, and improvements on the land used for treating, storing, or disposing of hazardous waste. A facility may consist of several treatment, storage, or disposal operational units (e.g., one or more landfills, surface impoundments or combination of them).

3. Hazardous Constituents. Those constituents identified in Appendix VIII of 40 C.F.R. Part 261, or any constituent identified in Appendix IX of 40 C.F.R. Part 264.

4. Hazardous Waste. Hazardous waste means a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness; or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed. The term hazardous waste includes hazardous constituents as defined above and hazardous waste listed and identified in 40 C.F.R. § 261.3.

5. Division Director. The Division Director of the United States Environmental Protection Agency for Region II, his designee or authorized representative.

6. Release. A release includes, but is not limited to, any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment of any hazardous waste or hazardous constituent, unless expressly authorized under the terms of this Permit.

M. DISPUTE RESOLUTION. The Permittee shall use its best efforts to informally and in good faith resolve all disputes or differences of opinion. If, however, disputes arise concerning submissions required under this Permit, including, but not limited to, implementation of any plans, approval of documents, scheduling of any work, or any other obligation required under this Permit, the Permittee shall notify EPA immediately of any such disputes and, within thirty (30) calendar days of notification, the Permittee shall submit a written statement to the EPA. The written statement shall set forth the Permittee's specific points of contention; the Permittee's position and reason for its position; and any additional matters that the Permittee considers necessary or relevant for the EPA's determination. If the dispute cannot be resolved informally within sixty (60) calendar days of EPA receipt of the written argument, EPA will provide the Permittee its decision on the dispute which shall be incorporated into this Permit.

MODULE II - FACILITY DESCRIPTION

General Electric Company operates an apparatus service shop in Tonawanda, New York. The shop property is located on 5.3 acres of land and the facility consists of approximately 63,000 sq. ft. of one story manufacturing/service area and 6,000 sq. ft. of office area. To the west of the facility is a soft drink bottling plant and to the south is a cold storage warehouse. The Youngman Expressway borders the northern side of the facility, and the land is vacant on the east side.

Prior to development by General Electric in 1968, this site was vacant. In 1972, the office and an additional bay were added to the original structure. A second expansion on the south side of the original building was completed in 1978.

The facility repairs industrial equipment including electric motors, transformers, turbines, pumps, compressors, etc. Major operations entail machining, cleaning (solvent, alkaline, sand, and steam), assembly, baking, welding, winding, painting, and material (including waste oils) handling. The motor repair operations are centered in the southwest corner of the building. Transformer repair and decommissioning operations are in the southeast corner, and general machining is done in the northern half of the building.

In the performance of these repair activities, the facility generates hazardous wastes. The hazardous waste generated on-site include shop process waste, discarded stock materials (mostly paints and varnishes) that exhibit characteristics of hazardous waste as listed by state and federal regulations. The facility also receives PCB liquids, solids, and articles from customers and other off-site General Electric Repair facilities. These items are prepared for disposal by draining, flushing and storage prior to shipment to qualified sites.

The RCRA regulated units at the GE Buffalo Service Shop include a RCRA container storage area and a PCB Work Area.

The HSWA permit and the 6 NYCRR Part 373 permit issued by the New York State Department of Environmental Conservation, constitute the RCRA permit for this facility. The HSWA permit requires the Permittee to comply with federal requirements for waste minimization, land disposal restrictions, and air emission standards. In addition, the General Electric facility is subject to federal requirements applicable to the management of Toxicity Characteristic wastes in tanks and containers, and boilers and industrial furnaces should such units be added to the facility.

MODULE III - BOILERS AND INDUSTRIAL FURNACES

A. BACKGROUND.

Under the authority of Section 3004(u) of the HSWA on February 21, 1991, EPA promulgated controls on hazardous waste combustion to regulate air emissions from the burning of hazardous waste in boilers and industrial furnaces. These standards became effective August 21, 1991.

B. COMPLIANCE REQUIREMENTS.

As of the effective date of this permit, the Permittee does not operate a boiler or industrial furnace that is subject to EPA requirements. The EPA requirements for such boilers and industrial furnaces are set forth in 40 C.F.R. Part 266; additional EPA regulations that apply to such boilers and industrial furnaces are found in 40 C.F.R. Parts 260, 261, 264, 265, 270, and 271. A summary and discussion of the final rule relating to boilers and industrial furnaces is contained in 56 Federal Register p. 7134, dated February 21, 1991.

C. ADDITION OF BOILER(S) AND INDUSTRIAL FURNACE(S).

If the Permittee seeks to add a boiler(s) or industrial furnace(s) to the facility, the Permittee must comply with the permit modification procedures as set forth in 40 C.F.R. § 270.42(g) and the substantive permitting requirements of 40 C.F.R. § 270.66. The Permittee shall be permitted to continue to manage wastes otherwise authorized by this permit if it submits a permit modification request to EPA for such boiler(s) and industrial furnace(s) pursuant to 40 C.F.R. § 270.42(g) on or before such unit(s) become subject to EPA regulation.

MODULE IV - WASTE MINIMIZATION

A. SUBMITTAL REQUIREMENTS.

The Permittee must submit to the Division Director, a Hazardous Waste Reduction Plan (HWRP), that describes the technical and administrative procedures addressed below. The HWRP and all accompanying documentation shall be submitted by July 1 of each year after the effective date of this Permit.

B. HAZARDOUS WASTE REDUCTION PLAN.

The Permittee shall submit a HWRP by July 1 of the first year following permit issuance. The HWRP shall be updated at least biennially to reflect changes in the HWRP, and submitted by July 1 of that year. The HWRP shall, at a minimum:

(1) Identify amounts and types of all acute hazardous waste generated by waste stream;

(2) Identify amounts and types of non-acute hazardous waste by waste stream for streams greater than five (5) tons;

(3) Identify at least 90% of all non-acute hazardous waste generated at the facility;

(4) Describe source of generation and waste management method for each waste stream;

(5) Provide a list of technically feasible and economically practicable waste reduction measures; and,

(6) Provide a program plan and schedule for implementing technically feasible and economically practicable waste reduction over time.

The following guidance documents should be used in developing the HWRP:

Waste Minimization Opportunity Assessment Manual, EPA/625/7-88/003, July 1988. Available through: EPA, Office of Research and Development, Cincinnati, Ohio 45268, tel. 513/569-7562 or NTIS, 5285 Port Royal Road, Springfield, VA 22161, tel. 703/487-4600.

Region II HWRP Requirements.
Available through EPA Region II, Hazardous Waste Facilities Branch, Andrew Bellina, tel. (212) 637-4109.

New York State Waste Reduction Guidance Manual, March 1989, and New York State Waste Reduction Guidance Manual Supplement, December 1990. Available through the New York State Department of Environmental Conservation, Division of Hazardous Substances Regulation, 50 Wolf Road, Albany, New York 12233-7252, tel. (518) 457-9257.

C. RELATIONSHIP TO NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION REQUIREMENTS.

Submittal to EPA of a complete HWRP, as required by Article 27, Title 9, Section 27-0908 of the New York State Environmental Conservation Law, shall be considered as compliance with conditions A and B above.

D. IMPLEMENTATION OF WASTE REDUCTION TECHNIQUES.

The Permittee shall implement the feasible waste reduction techniques in accordance with the schedule in the HWRP.

MODULE V - LAND DISPOSAL RESTRICTIONS

A. BACKGROUND.

HSWA prohibits the continued land disposal of untreated hazardous wastes beyond specified dates, "unless the Administrator determines that the prohibition ... is not required in order to protect human health and the environment for as long as the wastes remain hazardous..." (RCRA Sections 3004(d)(1), (e)(1), (g)(5), 42 U.S.C. § 6924(d)(1), (e)(1), (g)(5).

Pursuant to 40 C.F.R. § 264.13(a)(1), before an owner or operator treats, stores, or disposes of any hazardous waste, he must obtain a detailed chemical and physical analysis of a representative sample of the waste. At a minimum, this analysis must contain all the information which must be known to treat, store or dispose of the waste in accordance with the requirements of 40 C.F.R. Parts 264 and 268 or with the conditions of a permit issued under 40 C.F.R. Parts 270 and 124.

The Permittee shall comply with the waste analysis, notification, certification, and recordkeeping requirements of 40 C.F.R. § 268.7 whenever generating, treating, or managing a restricted waste.

B. STORAGE OF RESTRICTED WASTES.

The Permittee may store such wastes to which the land disposal prohibition applies for up to one year unless the Agency can demonstrate that such storage was not solely for the purpose of accumulation of such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment, or disposal. (40 C.F.R. § 268.50(b))

The Permittee may store wastes to which the land disposal prohibition applies beyond one year; however, the Permittee bears the burden of proving that such storage was solely for the purpose of accumulation of such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment, or disposal. (40 C.F.R. § 268.50(c))

C. LAND DISPOSAL OF RESTRICTED WASTES.

The land disposal of restricted waste is prohibited unless the applicable treatment standard is met, or the waste is exempt under 40 C.F.R. § 268.1(c).

D. RESTRICTION DATES.

The above-cited regulations are effective for any hazardous wastes subject to Land Disposal Restrictions for which the New York State Department of Environmental Conservation was not authorized as of May 22, 1992.

The Permittee is required to comply with the restrictions and applicable dates which are specified in 40 C.F.R. Part 268 for all hazardous waste regulated under this Permit and the NYSDEC 6 NYCRR 373-2 Permit.

MODULE VI - MINIMUM TECHNOLOGY REQUIREMENTS

A. BACKGROUND.

In accordance with Sections 1003, 3005(c)(3), 3005(j)(1), and 3015 of RCRA, as amended by HSWA, all land disposal units must comply with the Minimum Technology Standards of RCRA for adequately designed liners, leachate collection systems, and cover systems.

B. COMPLIANCE REQUIREMENTS.

At present, the Permittee is not authorized to manage hazardous waste in a land disposal unit. EPA requirements for such units are set forth in 40 C.F.R. Part 264, Subpart K (Surface Impoundments), Subpart L (Waste Piles), and Subpart N (Landfills), as applicable. Certain of these and other applicable regulations impose requirements for which the New York State Department of Environmental Conservation (NYSDEC) was not authorized as of May 22, 1992.

C. ADDITION OF LAND DISPOSAL UNITS AND FUTURE REQUIREMENTS.

If the Permittee seeks to add a land disposal unit or units to the facility, the Permittee must comply with the permit modification procedures set forth at 40 C.F.R. § 270.42. The Permittee shall comply with all applicable, presently-existing requirements, as well as any future such requirements, for which NYSDEC is not authorized.

MODULE VII - ORGANIC AIR EMISSION STANDARDS FOR PROCESS VENTS AND EQUIPMENT LEAKS

A. BACKGROUND.

Under the authority of Section 3004(n) of the HSWA on June 21, 1990, EPA promulgated standards for the monitoring and control of organic air emissions from hazardous waste treatment, storage, and disposal facilities requiring a permit under Subtitle C of RCRA. These standards became effective on December 21, 1990.

B. COMPLIANCE.

The Permittee shall submit supporting documentation to the Division Director demonstrating compliance with 40 C.F.R. Part 264, Subpart AA (Air Emission Standards for Process Vents) and Subpart BB (Air Emission Standards for Equipment Leaks), as applicable. Such supporting documentation shall be submitted within thirty (30) days of the date these requirements become applicable to the Permittee, or within thirty (30) days of the effective date of this Permit, whichever is later.

C. NOTIFICATION OF REGULATED ACTIVITY.

The Permittee shall notify the Division Director of any waste management units which will become subject to the requirements of 40 C.F.R. Part 264, Subpart AA or Subpart BB, no less than sixty (60) days prior to the commencement of the regulated activity. If such regulated activity is not authorized by this Permit, the Permittee must comply with the permit modification procedures as set forth in 40 C.F.R. § 270.42

D. DUTY TO COMPLY WITH FUTURE REQUIREMENTS.

The Permittee shall comply with all self-implementing provisions of any future air regulations promulgated under the provisions of Section 3004(n) of RCRA, as amended by HSWA, and shall submit supporting documentation to the Division Director demonstrating compliance with such regulations within thirty (30) days of the effective date of such regulations.

MODULE VIII - STORAGE OF TOXICITY CHARACTERISTIC WASTE IN CONTAINERS

A. AUTHORIZED STORAGE AREA, WASTE TYPES AND STORAGE VOLUME

(1) The Permittee may store the following Toxicity Characteristic waste in containers at the facility, subject to the terms of this Permit Module:

Area	Maximum Allowable Capacity (gal)	EPA HAZARDOUS WASTE CODES[1]
Container Storage Area[2]	1980	D004 - D011

1 - The Container Storage Area is permitted to store the waste stipulated in Module VI of the 6 NYCRR Part 373 Permit.

2 - The total amount of waste in the Container Storage Area shall not exceed 1980 gallons for the Maximum Allowable Capacity for the waste stream stipulated in Module VIII of this Permit and Module VI of the 6 NYCRR Part 373 Permit.

(2) The Permittee is not authorized to exceed the hazardous waste storage limits for the container storage area set forth above or to store hazardous wastes that are not identified herein, without a permit modification. Permittee is not authorized to dispose or treat any hazardous waste on-site.

B. CONTAINMENT

The Permittee shall maintain the containment systems in accordance with the requirements of 40 C.F.R. §264.175 and as specified in Attachment VI (Management of Waste in Containers) of the 6 NYCRR Part 373 Permit.

C. CONDITION OF CONTAINERS.

If a container holding hazardous waste is in poor condition (e.g., severe rusting, apparent structural defects, deterioration of liner) or if it begins to leak, the Permittee shall transfer the hazardous waste from such container to a container that is in good condition or otherwise manage the waste in compliance with the conditions of this Permit. Each such occurrence shall be recorded in the inspection log and maintained as part of the operating record. If any leaking container threatens human health or the environment, it must be reported as specified in Module I, Condition F.14 and/or F.15, as appropriate.

D. COMPATIBILITY OF WASTE WITH CONTAINERS.

The Permittee shall assure that the ability of the container to contain or store the waste is not impaired, as required by 40 C.F.R. § 264.172 and in accordance with Attachment I (Waste Analysis Plan) and Attachment VI (Management of Waste in Containers) of the 6 NYCRR Part 373 Permit.

E. MANAGEMENT OF CONTAINERS.

The Permittee shall manage containers as required by 40 C.F.R. § 264.173.

F. SPECIAL REQUIREMENTS FOR IGNITABLE OR REACTIVE WASTE.

The Permittee shall locate containers holding ignitable (D001) or reactive (D003) waste within 15 meters (50 feet) from the facility's property line as required by 40 C.F.R. § 264.176.

G. SPECIAL REQUIREMENTS FOR INCOMPATIBLE WASTE.

(1) The Permittee shall not place incompatible wastes or materials in the same container.

(2) The Permittee shall not place hazardous waste in an unwashed container that previously held an incompatible waste or material.

(3) The Permittee shall separate containers of incompatible wastes as indicated in the attached plans of the 6 NYCRR Part 373 Permit, Attachment I (Waste Analysis Plan) and Attachment VI (Management of Waste in Containers), and as required by 40 C.F.R. § 264.177.

H. INSPECTION.

The Permittee shall at least weekly inspect areas where containers are stored, looking for leaking containers and for deterioration of containers and the containment system caused by corrosion or other factors as required by 40 C.F.R. § 264.174.

I. CLOSURE.

At closure, the Permittee shall remove all hazardous waste and hazardous waste residues from the containment system. Remaining containers, liners, bases, and soil containing or contaminated with hazardous waste or hazardous waste residues must be decontaminated or removed as required by 40 C.F.R. § 264.178.

6 NYCRR PART 373 HAZARDOUS WASTE MANAGEMENT PERMIT

GENERAL ELECTRIC COMPANY
BUFFALO SERVICE SHOP
TONAWANDA, NEW YORK
ERIE COUNTY

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MODULE I - STANDARD CONDITIONS

A. EFFECT OF PERMIT

The Permittee must comply with all terms and conditions of this permit. This permit consists of the conditions contained herein (including those in any attachments) and the applicable regulations contained in 6 NYCRR Parts 370 through 374, 376 and 621 and 624. Applicable regulations are those which are in effect on the date of issuance of this permit.

The Permittee is allowed to store hazardous waste in accordance with the conditions of this permit. Any storage, treatment, or disposal of hazardous waste not authorized in this permit is prohibited unless exempt from 6 NYCRR Part 373. Issuance of this permit does not convey property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of Federal, State or local laws or regulations. Compliance with the terms of this permit does not constitute a defense to any other law providing for protection of public health or the environment.

B. PERMIT ACTIONS

This permit may be modified, revoked, or suspended for cause as specified in 6 NYCRR 621.14. The filing of a request for a permit modification, revocation and reissuance, or suspension; or the notification of planned changes or anticipated noncompliance on the part of the Permittee does not stay the applicability or enforceability of any permit condition.

C. SEVERABILITY

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

D. DUTIES AND REQUIREMENTS

(1) Duty to Comply. The Permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the ECL Article 27, Title 9 and is grounds for enforcement action; permit suspension, revocation, or modification; or denial of a permit renewal application.

(2) Duty to Reapply. If the Permittee wishes to continue an activity allowed by this permit after the expiration date of this Permit, the permittee shall submit a complete application for a new permit at least 180 days before this permit expires and shall obtain a new permit.

(3) Need to Halt or Reduce Activity Not a Defense. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

(4) Duty to Mitigate. The Permittee shall take all steps to minimize or correct any adverse impact on human health or the environment resulting from noncompliance with this permit.

(5) Proper Operation and Maintenance. The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes, but is not limited to, effective performance, adequate funding, adequate operator staffing and training, and adequate process and laboratory controls, including appropriate quality assurance/quality control procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this permit.

(6) Inspection and Entry. The Permittee shall allow the Commissioner, or an authorized representative, including authorized EPA representatives, upon the presentation of credentials and other documents as may be required by law to:

(a) Enter at reasonable times upon the Permittee's premises where a regulated activity is located or conducted or areas subject to corrective action pursuant to Module III of this permit, or where records must be kept under the conditions of this permit;

(b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, including any and all confidential data;

(c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

(d) Sample or monitor, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the ECL, any substances or parameters at any location.

(7) Duty to Provide Information. The Permittee shall furnish to the Commissioner, within a reasonable time, any relevant information which the Commissioner may request to determine whether cause exists for modifying, revoking and reissuing, or suspending this permit, or to determine compliance with this permit. The Permittee shall also furnish to the Commissioner, upon request, copies of records required to be kept by this permit.

(8) Twenty-four Hour Reporting. The Permittee shall report to the Commissioner any non-compliance which may endanger human health or the environment. Any such information shall be reported orally within 24 hours from the time the Permittee becomes aware of the circumstances. This report shall include the following:

(a) Information concerning the release of any hazardous waste or constituent which may cause endangerment to public drinking water supplies.

(b) Any information of a release or discharge of hazardous waste or of a fire or explosion at the facility, which could threaten the environment or human health.

(c) (i) Name, address, and telephone number of the operator;

(ii) Name, address, and telephone number of the facility;

(iii) Date, time, and type of incident;

(iv) Name and quantity of materials involved;

(v) The extent of injuries, if any;

(vi) An assessment of actual or potential hazard to the environment and human health inside and outside the facility, where this is applicable; and

(vii) Estimated quantity and disposition of recovered material that resulted from the incident.

A written submission shall also be provided to the Commissioner within five days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the periods of noncompliance (including exact dates and times); whether the noncompliance has been corrected; and if not, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance (See Permit Condition D(4) of Module I). The Permittee need not comply with the five day written notice requirement if the Commissioner waives the requirement and the permittee submits a written report within 15 days of the time the permittee becomes aware of the circumstances.

The oral reports required above may be made by contacting the National Response Center 24-hour toll free number at (800) 424-8802 and the New York State 24-hour oil and hazardous material spill notification number,(800) 457-7362, or any designated telephone number which may subsequently replace the ones listed above.

(9) Unmanifested Waste Report. A report must be submitted to the Commissioner within 2 days of receipt of unmanifested waste and include the information listed in 6 NYCRR 372.4(c).

(10) Manifest Discrepancy Report. If a significant discrepancy (as defined by 6 NYCRR Part 372.4(b)(1)) in a manifest is discovered, the Permittee must attempt to reconcile the discrepancy. If not resolved within 15 days, the Permittee must submit a written report to the Commissioner. The report must include a copy of the manifest and must meet the information requirements of 6 NYCRR Part 372.4(b)(5).

(11) Additional Noncompliance Reporting. The Permittee shall report all instances of noncompliance (including release of hazardous waste, fire or explosion) not required to be reported under Module I, Condition D.(8) or (17). Such noncompliance shall be reported at the time monitoring reports are submitted. The reports shall contain the information listed in Module I, Condition D.(8)(c)(i-vii).

(12) Anticipated Noncompliance. The Permittee shall give advance notice to the Commissioner of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. Compliance with Permit Condition D(3) of Module I is still effective in this situation.

(13) Other Information. Whenever the Permittee becomes aware that he failed to submit any relevant facts in the permit application, or submitted incorrect information in a permit application or in any report to the Commissioner, the Permittee shall immediately submit such facts or information.

(14) Compliance Schedules. The Permittee must comply with the compliance schedules in this permit. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements (other than submission of specific documents) shall be submitted no later than 14 days following each schedule date.

(15) Annual Report. The Permittee shall submit an annual report covering facility activities during the calendar year in accordance with the requirements of 6 NYCRR 373-2.5(e).

(16) Monitoring and Records.

(a) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. The methods used to obtain a representative sample of the waste to be analyzed must be the appropriate method from Appendix 19 and Appendix 35 of 6 NYCRR Part 371 and 376 respectively or an equivalent method approved by the Commissioner. Laboratory Methods must be those specified in Test Methods for Evaluating Solid Waste: Physical & Chemical Methods, EPA Publication SW-846, Third Edition, First Update 1990 or later approved revisions, or an equivalent method, as specified in the Waste Analysis Plan (see **Attachment I**).

(b) The Permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original chart recordings for continuous monitoring instrumentation, copies of all reports and records required by this permit, certification required by 6 NYCRR Part 373-2.5(c)(2)(ix), and records of all data used to complete the application for this permit until closure certification of the facility is approved by DEC. For land disposal facilities,

the monitoring data required under 6 NYCRR Part 373-2.6 must be kept throughout the post-closure care period. (See also Module II, Condition L.2).

(c) Records of monitoring information shall specify:

(i) The dates, exact place, and times of sampling or measurements;

(ii) The individuals who performed the sampling or measurements;

(iii) The dates analyses were performed;

(iv) The individual(s) who performed the analyses;

(v) The sampling techniques or methods used;

(vi) The analytical techniques or methods used; and

(vii) The results of such analyses.

(d) The Permittee shall conduct a quality assurance program to ensure that the monitoring data are technically accurate and statistically valid. The quality assurance program shall be in accordance with Chapter One and applicable subsections of Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, EPA Publication SW-846, Third Edition, First Update 1990 or later approved revisions, or equivalent methods approved by the Department.

(17) Monitoring Reports. Monitoring results must be reported at the intervals specified elsewhere in this permit.

(18) Reporting Planned Changes. The Permittee shall give notice to the Commissioner as soon as possible of any planned physical alterations or additions to the permitted facility. See Module I Condition I.

(19) Certification of Construction or Modification. Not Applicable

(20) Transfer of Permits. This permit may be transferred to a new owner or operator only if it is modified or revoked and reissued pursuant to 6 NYCRR 373-1.6(a)(12)(iii) and 6 NYCRR 373-1.7(a). Before transferring ownership or operation of the facility during its operating life, the Permittee shall notify the new owner or operator in writing of the requirements of 6 NYCRR Part 373.

E. SIGNATORY REQUIREMENT

All reports or other information requested by the Commissioner shall be signed and certified as required by 6 NYCRR 373-1.4(a)(5).

F. CONFIDENTIAL INFORMATION

The permittee may claim confidential any information required to be submitted by this permit in accordance with 6 NYCRR 370.1(b). All documentation which the Permittee believes justifies its claim of confidentiality must be submitted in accordance with 6 NYCRR Part 616 with any such claim of confidentiality.

G. DOCUMENTS TO BE SUBMITTED PRIOR TO OPERATION

Not Applicable

H. DOCUMENTS TO BE MAINTAINED AT THE FACILITY

The Permittee shall maintain at the facility, until closure is completed and certified by an independent registered professional engineer, a copy of this permit and the following documents, amendments, revisions and modifications to these documents:

(1) Waste Analysis Plan as required by 6 NYCRR 373-2.2(e);

(2) Personnel training documents and records as required by 6 NYCRR 373-2.2(h)(4);

(3) Contingency plan as required by 6 NYCRR 373-2.4(d);

(4) Closure plan as required by 6 NYCRR 373-2.7(c);

(5) Annually adjusted cost estimate for facility closure as required by 6 NYCRR 373-2.8(c);

(6) Operating record as required by 6 NYCRR 373-2.5(c);

(7) Inspection schedules as required by 6 NYCRR 373-2.2(g)(2);

(8) Assessment of existing tank systems integrity as required by 6 NYCRR 373-2.10(b); and

(9) Groundwater monitoring, testing and analytical data as required by 6 NYCRR 373-2.6.

I. PERMIT MODIFICATIONS

The permit may be modified for cause as allowed under 6 NYCRR 373-1.7 and 621.14. Modifications shall be requested in writing as required by 6 NYCRR 621.13 and 621.14. Requests for modifications shall be submitted to the Regional Permit Administrator for approval and permit modification.

J. ALL REPORTS AND SUBMITTALS

(1) (a) All reports and submittals required by Module III, Corrective Action Requirements to be submitted to the Commissioner shall be sent to the following addressees:

New York State Department of Environmental Conservation
50 Wolf Road
Albany, New York 12233

Attention: Director, Bureau of Hazardous Compliance and Land Management
Division of Solid and Hazardous Materials

and

New York State Department of Environmental Conservation
Region 9
270 Michigan Avenue
Buffalo, New York 14203-2999

Attention: Regional Hazardous Materials Engineer

(b) All reports and submittals required by Module IV, Waste Minimization Requirements to be submitted to the Commissioner shall be sent to the following addressee:

Three (3) copies to:

New York State Department of Environmental Conservation
50 Wolf Road
Albany, New York 12233

Attention: Director, Bureau of Pollution Prevention
Division of Pollution Prevention and Waste Reduction

and

New York State Department of Environmental Conservation
Region 9
270 Michigan Avenue
Buffalo, New York 14203-2999

Attention: Regional Hazardous Materials Engineer

(c) All other reports and submittals required by the permit to be submitted to the Commissioner shall be sent to the following addressees:

New York State Department of Environmental Conservation
50 Wolf Road
Albany, New York 12233

Attention: Director, Bureau of Material Storage, Combustion and Regulation
Division of Solid and Hazardous Materials

and

New York State Department of Environmental Conservation
Region 9
270 Michigan Avenue
Buffalo, New York 14203-2999

Attention: Regional Hazardous Materials Engineer

(2) All plans, reports, and schedules required by the terms of this Permit are, upon approval by the Department, incorporated by reference into this Permit. Upon incorporation, the provisions of each such document shall be binding upon Permittee and have the same legal force and effect as the requirements of this Permit.

(3) Permittee shall submit plans and reports required by this Permit to the Department for review and comment. If the Department determines that any plan or report required by this Permit is deficient (in whole or in part), Permittee shall either promptly respond to the comments or make revisions to the submission consistent with the Department's comments. Within a reasonable time frame specified by the Department, a final plan or report shall be submitted to the Department for approval. Extensions of the due date for submittals may be granted by the Department based on the Permittee's documentation that sufficient justification for the extensions exists.

K. DEFINITIONS

For the purpose of this permit, terms used herein shall have the same meaning as those in 6 NYCRR 370-374 and 376, unless this permit specifically states otherwise. Where terms are not otherwise defined, the meaning associated with such terms shall be as defined by a standard dictionary reference or the generally accepted scientific or industrial meaning of the term.

(1) Action Levels. For purposes of this Permit action levels are hazardous constituent concentrations that are protective of human health or the environment. Where available, action levels are based on appropriate promulgated standards established for a specific environmental medium. When such promulgated standards are not available, action levels are media specific, hazardous constituent concentrations derived from non-promulgated human health-based levels or environmental health-based levels. The latter levels being protective of aquatic life or wildlife. An action level may be set at the background level for a hazardous constituent for which data are inadequate to set a human health or environmental health-based level.

(2) Areas of Concern (AOC). Pursuant to the authority granted by 6 NYCRR 373-1.6(c)(2), an area of concern has been defined for purposes of this Permit to mean an area at the facility, or an off-site area, which is not at this time known to be a solid waste management unit (SWMU), where hazardous waste and/or hazardous constituents are present, or are suspected to be present as a result of a release from the facility. The term shall include areas of potential or suspected contamination as well as actual contamination. Such area(s) may require study and a determination of what, if any, Corrective Action may be necessary. All permit references to and conditions for SWMUs shall apply to areas of concern.

(3) Commissioner. For purposes of this Permit "Commissioner" shall mean the Commissioner of the New York State Department of Environmental Conservation (Department), his designee or authorized representative.

(4) Environment. Pursuant to ECL Article 27, Title 9, Section 27.0901, environment means any water, water vapor, any land including land surface or subsurface, air, fish, wildlife, biota and all the natural resources.

(5) Facility. All contiguous land, structures, other appurtenances, and improvements on the land used for treating, storing, or disposing of hazardous waste. A facility may consist of several treatment, storage, or disposal operation units (e.g., one or more landfills, surface impoundments or combination of them). For the purpose of implementing corrective action, "facility" means all contiguous property under the control of the owner or operator seeking a 6 NYCRR Part 373 permit.

(6) Hazardous Constituents. Those constituents listed in Appendix 23 to 6 NYCRR 371 or any constituent listed in Appendix 33 to 6 NYCRR 373-2.

(7) Hazardous Waste. Pursuant to ECL Article 27, Title 9, Section 27.0901, hazardous waste means a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may: cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed. The term hazardous waste includes hazardous constituent as defined above and hazardous waste listed and identified in 6 NYCRR 371.

(8) Release. For purposes of this Permit release includes, but is not limited to, any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping or disposing into the environment of any hazardous waste, including hazardous constituents, unless expressly authorized under the terms of this Permit or otherwise permitted under law (e.g., SPDES permitted discharges).

(9) Solid Waste Management Unit (SWMU). For purposes of this permit includes any discernible waste management unit from which hazardous waste, including hazardous constituents, have migrated or may migrate, irrespective of whether the unit was intended for the management of hazardous or solid wastes as those terms are defined in 6 NYCRR Part 371 and 6 NYCRR Part 373-2. These units include, but are not limited to: landfills, surface impoundments, waste piles, land treatment units, tanks, elementary neutralization units, transfer stations, container storage areas, incinerators, injection wells, recycling units, and closed and abandoned units. Certain areas associated with production processes which have become contaminated as a result of routine and systematic releases of wastes or hazardous constituents from wastes, are also considered SWMU's.

MODULE II - GENERAL FACILITY CONDITIONS

A. DESIGN AND OPERATION OF FACILITY

The Permittee shall maintain and operate the facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface wate.

The Permittee is authorized to store only the hazardous wastes identified in Module VI, Condition A.

B. REQUIRED NOTICES

(1) The Permittee shall notify the Commissioner in writing at least four weeks in advance of the date the Permittee expects to receive hazardous waste from a foreign source, as required by 6 NYCRR 372.5(d). Notice of subsequent shipments of the same waste from the same source is not required.

(2) When the Permittee is to receive hazardous waste from an off-site source, (except when the generator is a subsidiary of a Permittee's parent company) he must inform the generator in writing that he has the appropriate permits for, and will accept, the waste the generator is shipping. The Permittee shall keep a copy of this written notice as part of the operating record [6 NYCRR 373-2.2(d)(2)].

C. GENERAL WASTE ANALYSIS

Except as specifically provided otherwise in Module III of this permit, the Permittee shall comply with 373-2.2(e), follow the procedures described in the waste analysis plan, **Attachment I**, and conduct a quality assurance program as specified in Module I, Condition D.(16)(d).

The Permittee shall verify its waste analysis as part of the quality assurance program. The quality assurance program will be in accordance with current EPA practices (Test Methods for Evaluating Solid Waste: Physical/Chemical Methods SW-846, Third Edition, First Update 1990 or later approved revisions) or equivalent methods approved by the Department, and ensure that the Permittee maintains proper functional instruments, uses approved sampling and analytical methods, as specified in 6 NYCRR Part 371, Appendices 19, 20 and 21, and 6 NYCRR Part 376 Appendix 35, assures the validity of sampling and analytical procedures and performs correct calculations. Any contract laboratory used by the Permittee to perform analyses pursuant to this permit must be

certified by the New York State Department of Health through the Environmental Laboratory Approval Program for the appropriate category of analysis and must be acceptable to the Department. If the Permittee uses such a contract laboratory to perform analyses, then the Permittee shall inform the laboratory in writing that it must operate under the waste analysis conditions set forth in this permit.

D. SECURITY

The Permittee shall comply with the security provisions of 6 NYCRR 373-2.2(f) and **Attachment II.**

E. GENERAL INSPECTION REQUIREMENTS

The Permittee shall comply with 373-2.2(g) and follow the inspection schedule, **Attachment III.** The Permittee shall remedy any deterioration or malfunction discovered by an inspection as required by 6 NYCRR 373-2.2(g)(3). Records of inspections shall be kept as required by 6 NYCRR 373-2.2(g)(4).

F. PERSONNEL TRAINING

The Permittee shall conduct personnel training as required by 6 NYCRR 373-2.2(h)(1), (2), and (3). This training program shall follow the attached outline, **Attachment IV.** The Permittee shall maintain training documents and records as required by 6 NYCRR 373-2.2(h)(4) and (5).

G. GENERAL REQUIREMENTS FOR IGNITABLE, REACTIVE, OR INCOMPATIBLE WASTE

The Permittee shall take precautions to prevent accidental ignition or reaction of ignitable or reactive waste as required by 6 NYCRR 373-2.2(i) and as described in **Attachment V.**

H. LOCATION STANDARDS

Not Applicable

I. PREPAREDNESS AND PREVENTION

(1) Required Equipment. At a minimum, the Permittee shall equip the facility with the equipment set forth in the contingency plan, **Attachment VI** and as required by 6 NYCRR 373-2.3(c).

(2) Testing and Maintenance of Equipment. The Permittee shall test and maintain the equipment specified in the previous permit condition as necessary to assure its proper operation in time of emergency, as set forth in the Inspection Schedule (**Attachment III**).

(3) Access to Communications or Alarm System. The Permittee shall maintain access to the communications or alarm system as required by 6 NYCRR 373-2.3(e), and in accordance with **Attachment V**.

(4) Required Aisle Space. At a minimum, the Permittee shall, in accordance with **Attachment V**, maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of the facility in an emergency as required by 6 NYCRR 373-2.3(f) and to provide access for inspections as required by 6 NYCRR 373-2.9(e). Aisle space in the container storage area shall be maintained in accordance with **Attachment VIII**.

(5) Arrangements with Local Authorities. The Permittee shall attempt to make arrangements with State and local authorities as required by 6 NYCRR 373-2.3(g). If State or local officials refuse to enter into preparedness and prevention arrangements with the Permittee, the Permittee must document this refusal in the operating record, and a copy of all correspondence sent to State and local authorities while attempting to meet this requirement should be included in the operating record.

J. CONTINGENCY PLAN

(1) Implementation of Plan. The Permittee shall comply with 6 NYCRR 373-2.4 and follow the contingency plan, **Attachment VI**. The Permittee shall immediately carry out the provisions of the contingency plan, **Attachment VI**, and follow the emergency procedures described by 6 NYCRR 373-2.4(g) whenever there is a fire, explosion, or release of hazardous waste or constituents.

(2) Resumption of Hazardous Waste Management Activities. After any event requiring implementation of the contingency plan, the Permittee shall not resume hazardous waste management in the affected area until all equipment used during the contingency has been cleaned, recharged or replaced, as appropriate.

(3) Copies of Plan. The Permittee shall comply with the requirements of 6 NYCRR 373-2.4(d).

(4) Amendments to Plan. The Permittee shall review and immediately amend, if necessary, the contingency plan as required by 6 NYCRR 373-2.4(e).

(5) Emergency Coordinator. The Permittee shall comply with the requirements of 6 NYCRR 373-2.4(f) concerning the emergency coordinator.

K. MANIFEST SYSTEM

The Permittee shall comply with the manifest requirements of 6 NYCRR Part 372.

L. RECORDKEEPING AND REPORTING

(1) Operating Record. The Permittee shall maintain a written operating record at the facility in accordance with the applicable portions of 6 NYCRR 373-2.5(c).

(2) Availability, Retention, and Disposition of Records. All records, including plans, must be made available to the DEC in accordance with 6 NYCRR 373-2.5(d)(1). The retention period for all records is extended automatically during any unresolved enforcement action regarding the facility or as requested by the Commissioner. A copy of records of waste disposal locations and quantities under 6 NYCRR 373-2.5(c)(2) must be submitted to the Commissioner and local land authority upon closure of the facility as required by 6 NYCRR 373-2.5(d)(3). See Module I, Condition D.16(b).

(3) Annual Report. See Permit Condition D(15) of Module I.

M. CLOSURE

(1) Performance Standard. The Permittee shall close the facility as required by 6 NYCRR 373-2.7(b) and in accordance with the closure plan, **Attachment VII**.

(2) Amendment to Closure Plan. The Permittee shall amend the closure plan whenever necessary in accordance with 6 NYCRR 373-2.7(c)(3).

(3) Notification of Closure and Partial Closure. The Permittee shall notify the Commissioner at least 60 days prior to the date he expects to begin closure or partial closure of any hazardous waste management unit or facility, as required by 6 NYCRR 373-2.7(c)(4)(i).

(4) Time Allowed for Closure. Within 90 days after receiving the final volume of hazardous waste, the Permittee shall treat or remove from the site all hazardous waste and shall complete closure activities in accordance with 6 NYCRR 373-2.7(d) and the schedule specified in the closure plan, **Attachment VII.**

(5) Disposal or Decontamination of Equipment, Structures and Soils. During the partial and final closure periods, all contaminated equipment, structures, and soils must be properly disposed of or decontaminated unless otherwise specified in 6 NYCRR 2.11(f), 373-2.12(h), 373-2.13(h), or 373-2.14(g). By removing any hazardous waste or hazardous constituents during partial and final closure, the Permittee may become a generator of hazardous waste and must handle that waste in accordance with all applicable requirements of 6 NYCRR Part 372.

(6) Certification of Closure and Partial Closure. Within 60 days of completion of final closure of the facility or within 60 days of partial closure of any hazardous waste management unit, the Permittee shall submit to the Commissioner certifications by the Permittee and by an independent New York State registered professional engineer that the facility (or the hazardous waste management unit) has been closed in accordance with the specifications in the approved closure plan as required by 6 NYCRR 373-2.7(f).

(7) Survey Plat. Within 60 days after certification of closure of each disposal unit, the Permittee shall submit to the local zoning authority or the authority with jurisdiction over land use, and to the County Clerk in the County in which the facility is located and to the Commissioner, a survey plat indicating the locations and dimensions of landfill cells or other disposal areas with respect to permanently surveyed benchmarks, as required by 6 NYCRR Part 373-2.7(f).

N. GENERAL POST-CLOSURE REQUIREMENTS

Not Applicable

O. COST ESTIMATE FOR FACILITY CLOSURE

The Permittee's most recent closure cost estimate, prepared in accordance with 6 NYCRR 373-2.8(c)(1) and (e)(1) is specified in **Attachment VII.**

(1) The Permittee must adjust the closure cost estimate for inflation within 30 days after the closure of the firm's fiscal year and before submission of updated information to the Commissioner, as specified in 6 NYCRR 373-2.8(d)(5).

(2) The Permittee must revise the closure cost estimate whenever there is a change in the facility's closure plan as required by 6 NYCRR 373-2.8(c)(3).

(3) The Permittee must keep at the facility the latest closure cost estimate as required by 6 NYCRR 373-2.8(c)(4).

P. FINANCIAL ASSURANCE FOR FACILITY CLOSURE

The Permittee shall demonstrate continuous compliance with 6 NYCRR 373-2.8(d) or, when applicable, with 6 NYCRR 373-2.8(f) or (g) by providing documentation of financial assurance to the Commissioner, in accordance with the wording in 6 NYCRR 373-2.8(j), in at least the amount of the cost estimates required by Module II, Condition O. Changes in financial assurance mechanisms must be approved by the Commissioner pursuant to 6 NYCRR 373-2.8(d).

Q. LIABILITY REQUIREMENTS

The Permittee shall demonstrate continuous compliance with the requirements of 6 NYCRR 373-2.8(h) and the documentation requirements of 6 NYCRR 373-2.8(j), including requirements to have and maintain liability coverage for sudden and accidental occurrences in the amount of at least $1 million per occurrence with an annual aggregate of at least $2 million, exclusive of legal defense costs, by providing documentation of the liability mechanisms to the Commissioner.

R. INCAPACITY OF OWNERS OR OPERATORS, GUARANTORS, OR FINANCIAL INSTITUTIONS

The Permittee shall comply with 6 NYCRR 373-2.8(i) whenever necessary.

S. ADDITIONAL REQUIREMENT

Within sixty (60) days of the effective date of this permit, the permittee shall submit revised financial assurance documents to cover the updated closure cost for the facility.

MODULE III - CORRECTIVE ACTION REQUIREMENTS FOR SOLID WASTE MANAGEMENT UNITS AND AREAS OF CONCERN

A. APPLICABILITY

1. Statute and Regulations. Article 27, Title 9, Section 27-0913, and 6 NYCRR 373-2.6(l) requires corrective action, including Corrective Action beyond the facility boundary where necessary to protect human health and the environment, for all releases of hazardous wastes, including hazardous constituents, from any solid waste management unit ("SWMU") at a storage, treatment or disposal facility seeking a 6 NYCRR Part 373 permit, regardless of the time at which waste was placed in such unit. Pursuant to 6 NYCRR 373-1.6(c)(2) the Commissioner may impose permit conditions as the Commissioner determines necessary to protect human health and the environment (i.e., Areas of Concern (AOC(s))).

2. Summary of Corrective Action Process. Corrective action implementation authorized by 6 NYCRR 373-2.6 includes: (a) the RCRA Facility Assessment ("RFA"); (b) the RCRA Facility Investigation ("RFI"); and (c) Corrective Measures ("CM"). The RFA is a three phase process that includes: a Preliminary Review ("PR"); a Visual Site Inspection ("VSI"); and a Sampling Visit ("SV"). The PR is a review of all available information on the individual SWMU(s) and AOC(s). During the PR, and in subsequent phases of the RFA, all of the media (i.e., soil, groundwater, surface water/sediment, air and subsurface gas) that could potentially be impacted by release(s) of hazardous waste, including hazardous constituents, are evaluated. Based on this evaluation, the SWMU(s)/AOC(s) will be characterized as to release potentials.

   Following the PR, a VSI is conducted during which all of the SWMU(s)/AOC(s) either previously or newly discovered, are observed. While performing this reconnaissance, any signs of spills or leakage, stained soil, stressed vegetation, unit deterioration, or any other conditions that may be indicative of a release are assessed. By means of these observations and the findings of the PR, the Commissioner may require the facility to conduct a Sampling Visit (SV) at the unit(s)/area(s) where the release(s) would be suspected.

The SV can involve any or all of the previously described media at any given SWMU and or Area of Concern (AOC). For those units/areas where releases are clearly demonstrated in the PR and/or VSI, the SV can be avoided leaving the unit(s)/area(s) to be addressed in the RFI.

The RFA includes preparing the RFA report. This report includes the findings of the various RFA activities and recommendations for further action at those units and areas with demonstrated releases of hazardous wastes, including hazardous constituents. In some cases, where an immediate threat to human health or the environment exists, interim corrective measures may be required.

If the RFA concludes that there is a need for further investigative work the Permittee shall be required to pursue phase two of corrective action, an RFI. The purpose of the RFI is to determine the nature, extent, direction and rate of migration of hazardous wastes, including hazardous constituents, in soils, groundwater, surface water/sediment, subsurface gas and/or air. From these multimedia analyses, the types and concentrations of contaminants present, the boundaries of any contamination (e.g., plumes), and the rate and direction of contaminant movement should be determined in each of the impacted media. Sufficient data shall be generated during the RFI to allow proper assessment of corrective measure alternatives. This may require bench and/or pilot studies to be implemented as part of the RFI. Once all analyses are reviewed, a RFI report is prepared that provides a summation of the data and recommendations for any needed corrective measures.

The culmination of the Corrective Action Program is Corrective Measures ("CM"). The initial stage of the corrective measures phase is the preparation of a Corrective Measures Study ("CMS"). A CMS may be required if concentrations of hazardous constituents in an aquifer, in surface water/sediment, in soils, or in air exceed their corresponding action levels. Such a study may also be required if individual concentrations of hazardous constituents are at or below their action

levels, but they still may pose a threat to human health or the environment due to site-specific exposure conditions. The CMS will address alternative corrective measure strategies that are technologically feasible and reliable and which effectively mitigate and minimize damage to, and provides adequate protection of human health and the environment. The Permittee will develop the site-specific CMS using target clean-up levels chosen by the Commissioner to be protective of human health and the environment. Where available, they may

be promulgated standards. Where promulgated standards are not available, the Commissioner may use health-based levels, based on Risk-Specific Doses ("RSD") for carcinogens and Reference Doses ("RFD") for systemic toxicants, or concentration levels protective of the environment, that have undergone scientific review. The CMS report should discuss the alternative corrective measure strategies studied, addressing technical, institutional, public health, and environmental issues, and develop the conceptual engineering for the alternative action proposed by the facility. The CMS may not require extensive evaluation of a number of remedial alternatives where a solution is straight forward or only few solutions exist. Such situations could require the Permittee to submit a highly focused CMS.

Following completion of the CMS, the Commissioner will select the corrective measure(s) from the corrective measure alternatives evaluated in the CMS. The Commissioner will then initiate a permit modification for the selected corrective measure(s). Subsequent to the permit modification, the owner or operator of the facility will be required to demonstrate financial assurance for completing the approved corrective measure(s).

Permit modification for the approved corrective measure(s) will initiate the final stage of corrective measures, Corrective Measures Implementation ("CMI"). The CMI will address the final design, construction, operation, maintenance, and monitoring of the corrective measure or measures selected.

3. Solid Waste Management Units and Areas of Concern. The conditions of this Module apply to:

   (a) All the SWMUs and AOCs listed in this Module individually or in combinations;

   (b) Any additional SWMU(s) and AOC(s) identified during the course of groundwater monitoring, field investigations, environmental audits or other means as described in Module Condition C. below; and

   (c) The following known SWMUs and AOCs located on-site and/or off-site:

Table III-1

Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs)

SWMU Class	SWMUs (Quantity
Container Storage Area	PCB Work Area PCB Storage Area RCRA Hazardous Waste Storage Area Waste Oil Storage Area Waste Accumulation Areas (2)
Storage/Treatment Tank	Rinse Water Tank Oil/Water Separators
Sewers	Floor Drains Sewers
Areas of Concern	
Virgin Oil Tank	
Fuel Oil Tank	
Rail Spur	

B. STANDARD CONDITIONS FOR CORRECTIVE ACTION

1. Work Plans. All work plans submitted pursuant to this Module shall include:

   (a) Quality Assurance/Quality Control protocols to ensure that data generated is valid and supported by documented procedures;

   (b) Other plans, specifications and protocols, as applicable;

   (c) A schedule for starting specific tasks, completing the work and submitting progress and final reports; and

   (d) Plans for the treatment, storage, discharge or disposal of wastes to be generated by activities described therein.

2. Quality Assurance/Quality Control

(a) Any laboratory to be used pursuant to such work plans required by this Module must be approved by the Commissioner prior to work plan implementation. Certification by the New York State Department of Health Environmental Laboratory Approval Program in the relevant analytical services is required.

(b) The minimum Quality Assurance/Quality Control data and information, that shall be delivered with all sample analyses required by this Module, are tabulated in **Appendix III-A** of this Permit Module.

3. Health/Safety Plans. The Permittee shall develop, according to applicable Federal, State and local requirements, and submit to the Commissioner, health and safety plans that will be implemented to ensure that the health and safety of project personnel, plant personnel and the general public are protected. These plans are not subject to approval by the Commissioner.

4. Guidance Documents. When preparing the submissions described in this Permit Module, the Permittee shall take account of applicable guidance documents issued by the U.S. Environmental protection Agency and the New York State Department of Environmental Conservation in a manner reflecting reasonable technical considerations.

5. Prior Submittals. The Permittee may have already submitted portions of information, plans, or reports required by this Permit Module and its Appendices to the Commissioner pursuant to the terms of previous applications, consent orders, or plans. For those items the Permittee contends were submitted to the Commissioner, the Permittee may cite the specific document(s) and page(s) it believes adequately addresses each of the individual items requested by this Permit Module and its Appendices. The references, by document(s) and page(s), shall be placed in the appropriate sections of the submittals that require the referenced information and data. If the Commissioner, after a file search, determines that it does not possess any of the referenced information, plans, or reports that the Permittee claims were previously submitted, the Commissioner will notify the Permittee and the Permittee shall submit the referenced documents within the time frame specified within the notification.

6. Compliance Schedule For Interim Corrective Measures.

(a) If at any time it is determined by the Commissioner that a release or, based on site-specific circumstances, a threatened release of hazardous wastes, including hazardous constituents from a SWMU, a combination of SWMUs, or an AOC poses a threat to human health or the environment, or that such condition jeopardizes the Permittee's ability to comply with any governmental permit, a draft interim corrective measures study shall be submitted to the Commissioner for approval within thirty (30) calendar days of notice of such a determination. This study shall consider, among other relevant factors, the character, the extent, direction, the rate of release, the proximity to population, the exposure pathways, the effects of delayed action, and the evaluations of appropriate interim corrective measures. Upon approval of the study by the Commissioner, the Permittee shall implement the required interim corrective measures as specified by the Commissioner. Nothing herein shall preclude the Permittee from taking immediate action to address the conditions described herein and promptly notifying the Commissioner.

(b) In the event the Permittee discovers, a release or, based on site-specific circumstances, a threatened release of hazardous waste, including hazardous constituents, from a SWMU, or a combination of SWMUs, that poses a threat to human health or the environment, the Permittee shall identify interim corrective measures to mitigate this threat. The Permittee shall immediately summarize the nature and magnitude of the actual or potential threat and nature of the interim measures being considered and notify the Commissioner. Within thirty (30) calendar days of notifying the Commissioner, the Permittee shall submit to the Commissioner, for approval, an interim corrective measures work plan for the interim measures. The Permittee shall implement the measures specified by the Commissioner. Nothing herein shall preclude the Permittee from taking immediate action to address the conditions described herein and promptly notifying the Commissioner.

(c) The following factors may be considered by the Commissioner or the Permittee in determining the need for interim corrective measures:

(i) Time required to develop and implement a final corrective measure;

(ii) Actual and potential exposure of human and environmental receptors;

(iii) Actual and potential contamination of drinking water supplies and sensitive ecosystems;

(iv) The potential for further degradation of any impacted medium;

(v) Presence of hazardous waste, including hazardous constituents, in containers that may pose a threat of release;

(vi) Presence and concentration of hazardous waste, including hazardous constituents, in soils that have the potential to migrate to groundwater or surface water;

(vii) Weather conditions that may affect the current levels of contamination;

(viii) Risks of fire, explosion, or potential for exposure to hazardous wastes, including hazardous constituents, as a result of an accident or failure of container or handling system; and

(ix) Other situations that may pose threats to human health and the environment.

7. Determination of No Further Action.

(a) Based on the results of an RFI for a particular SWMU, or combination of SWMUs, and/or AOC, and other relevant information, the Permittee may submit an application to the Commissioner for a permit modification under 6 NYCRR 373-1.7(b) and 621.13 to terminate the subsequent corrective action requirements of this Module. This permit modification application must contain information demonstrating no release(s) of hazardous wastes, including hazardous constituents, from the SWMU(s) and/or AOC(s) that pose a threat to human health or the environment, as well as information required in 6 NYCRR 373-1 and 621.4(n), which incorporates by reference 6 NYCRR 373-1 and 373-2.

If, based upon review of the Permittee's request for a permit modification, the results of the RFI, and other information, including comments received during the forty-five (45) calendar day public comment period required for permit modifications, the Commissioner determines that the release(s) or the suspected release(s) investigated either are non-existent or do not pose a threat to human health or the environment, the Commissioner may grant the requested modification.

(b) A determination of no further action shall not preclude the Commissioner from implementing the following actions:

(i) Modifying this Permit at a later date to require the Permittee to perform such investigations as necessary to comply with the requirements of this Permit Module and its Appendices if new information or subsequent analysis indicates that there are, or are likely to be, releases from SWMUs/AOCs that may pose a threat to human health or the environment; and

(ii) Requiring continual or periodic monitoring of air, soil, groundwater, or surface water/sediment or subsurface gas, if necessary, to protect human health and the environment, when site-specific circumstances indicate the release(s) of hazardous waste, including hazardous constituents, are likely to occur from any SWMU(s) and/or AOC(s).

8. Compliance Schedule For Reporting.

(a) The Permittee shall submit, to the Commissioner, signed progress reports, as specified in approved work plans pursuant to this Permit, of all activities (i.e., SWMU Assessment, Interim Measures, RCRA Facility Investigation, Corrective Measures Study) conducted pursuant to the provisions of the Corrective Action Compliance Schedules of this Permit Module, beginning no later than thirty (30) calendar days after the Permittee is first required to begin implementation of any requirement herein. These reports shall contain:

(i) A description of the work completed during the reporting periods

(ii) Summaries of all findings made during the reporting period, including summaries of laboratory data;

(iii) Summaries of all changes made during the reporting period;

(iv) Summaries of all contacts made with representatives of the local community and public interest groups during the reporting period;

(v) Summaries of all problems or potential problems encountered during the reporting period and actions taken to rectify problems;

(vi) Changes in personnel conducting or managing the corrective action activities during the reporting period;

(vii) Projected work for the next reporting period; and

(viii) Copies of daily reports, inspection reports, laboratory/monitoring data, etc., generated during the reporting period.

(b) Upon request, copies of other relevant reports and data not identified in Module Condition B.8.(a) shall be made available to the Commissioner.

(c) The Commissioner may require the Permittee to conduct new or more extensive assessments, investigations, or studies, based upon information provided in the progress reports referred to in Module Condition B.8(a) above, or upon other supporting information.

(d) All plans and schedules required by the conditions of this Permit Module and **Appendix III-D** are upon approval of the Commissioner, incorporated into this Permit by reference and become an enforceable part of this Permit. Any noncompliance with such approved plans and schedules shall constitute noncompliance with this Permit. Extensions of the due dates for submittals may be granted by the Commissioner in accordance with the permit modification processes stipulated in Module Condition E.14. of this Permit Module.

9. Compliance with Governmental Requirements. During investigative activities, interim corrective measures, and final corrective measures, (including, but not limited to, equipment decommissioning, excavation and unit demolition) required under this Module, the Permittee shall ensure that the transportation, treatment, storage, discharge, and disposal of all contaminated materials generated as a result of such activities (including, but not limited to, soils, sediments, liquids, tanks, pipes, pumps, rubble, debris, and structural materials) are performed in an environmentally sound manner pursuant to all applicable Federal, State and local requirements and that is protective of public health and the environment. Nothing in this Module shall be construed to require the Permittee to proceed in a manner which is in violation of any such requirements.

10. Notifications.

(a) Notification of groundwater contamination. If at any time the Permittee discovers that hazardous constituents in groundwater that may have been released from a solid waste management unit or area of concern at the facility have migrated beyond the facility boundary in concentrations that exceed action levels, the Permittee shall, within fifteen (15) calendar days of discovery, provide written notice to the Commissioner and any person who owns or resides on the land which overlies the contaminated groundwater.

(b) Notification of air contamination. If at any time the Permittee discovers that hazardous constituents in air that may have been released from a solid waste management unit or area of concern at the facility have or are migrating to areas beyond the facility boundary in concentrations that exceed action levels, and that residences or other places at which continuous, long-term exposure to such constituents might occur are located within such areas, the Permittee shall, within fifteen (15) calendar days of such discovery;

(i) Provide written notification to the Commissioner, and

(ii) Initiate any actions that may be necessary to provide notice to all individuals who have or may have been subject to such exposure.

(c) Notification of residual contamination. If hazardous wastes or hazardous constituents in solid waste management units or areas of concern, or which have been released from solid waste management units or areas of concern, will remain in or on the land, including groundwater, after the term of the permit has expired, the Commissioner may require the Permittee to record, in accordance with State law, a notation in the deed to the facility property or in some other instrument which is normally examined during title search that will, in perpetuity, notify any potential purchaser of the property of the types, concentrations, and locations of such hazardous wastes or hazardous constituents. The Commissioner may require such notice as part of the corrective measures selection process.

C. COMPLIANCE SCHEDULE FOR ASSESSMENT OF NEWLY IDENTIFIED SWMUs AND AOCs

1. Notification of Assessment. The Permittee shall notify the Commissioner, in writing, of any additional SWMU(s) and/or AOC(s) not listed in this Module, which are identified during the course of groundwater monitoring, field investigations, environmental audits, or other means within fifteen (15) calendar days after discovery.

2. SWMU/AOC Assessment Report. Within thirty (30) calendar days after notifying the Commissioner, the Permittee shall submit a SWMU/AOC Assessment Report. This Report must provide, at a minimum, the following information for each newly identified SWMU/AOC:

(a) Type of unit/area;

(b) Location of each unit/area on a topographic map of appropriate scale;

(c) Dimensions, capacities, and structural descriptions of the unit/area (supply available engineering drawings);

(d) Function of unit/area;

(e) Dates that the unit/area was operated;

(f) Description of the wastes that were placed or spilled at the unit/area;

(g) Description of any known releases from the unit/area (to include groundwater data, soil analyses, air monitoring data, and/or surface water/sediment data);

(h) The results of any sampling and analysis required for the purpose of determining whether releases of hazardous wastes, including hazardous constituents, have occurred, are occurring, or are likely to occur from the unit/area; and

(i) Whether this unit/areas, individually or in combination with other units/areas described in Module Condition A.3. is a significant source of contaminant release.

3. SWMU/AOC Sampling and Analysis Plan. Within thirty (30) calendar days after submittal of the SWMU/AOC Assessment Report required in Module Condition C.2., the Permittee shall submit to the Commissioner for approval a Plan in accordance with the most recent version of the NYS RCRA Quality Assurance Project Plan Guidance, for any sampling and analysis of groundwater, land surface and subsurface strata, surface water/sediment or air, as necessary to determine whether a release of hazardous waste, including hazardous constituents, from such unit(s) and/or area(s) has occurred, is likely to have occurred, or is likely to occur. The SWMU/AOC Sampling and Analysis Plan must demonstrate that the sampling and analyses program, if applicable, is capable of yielding representative samples and must include parameters sufficient to identify migration of hazardous waste, including hazardous constituents, from the newly-discovered SWMU(s) and/or AOC(s) to the environment.

4. Subsequent Assessment Actions. Following submission of the SWMU/AOC Assessment Sampling and Analysis Plan set forth in Module Condition C.3., subsequent activities for the Plan shall proceed in accordance with the following schedule:

(a) Meeting between the Permittee, the U.S. Environmental Protection Agency (Agency) and the New York State Department of Environmental Conservation (Department) to discuss Plan comments, as appropriate; and

(b) Submission of a revised Plan to the Commissioner for approval within thirty (30) calendar days of the above-described meeting. (If the above referenced meeting is determined not to be necessary, the Permittee shall submit a revised Plan to the Commissioner, according to a schedule specified by the Department, not to exceed forty-five (45) calendar days after Permittee's receipt of Plan comments from the Commissioner); and

(c) Begin implementation of the SWMU/AOC Sampling and Analysis Plan within thirty (30) calendar days following written approval from the Commissioner for the Plan.

5. SWMU/AOC Sampling and Analysis Report. Within thirty (30) calendar days of receipt by the Permittee of validated analytical data generated under the approved SWMU/AOC Sampling and Analysis Plan, the Permittee shall follow reporting requirements in the approved Plan and submit a SWMU/AOC Sampling and Analysis Report to the Commissioner. The Report shall describe all results obtained from the implementation of the approved Plan.

6. Assessment Conclusions. Based on the results of the SWMU/AOC Sampling and Analysis Report, the Commissioner shall determine the need for further investigations at the specific unit(s) covered in the SWMU/AOC Assessment Report. If the Commissioner determines that such investigations are needed, the Commissioner shall, by written notification, require the Permittee to prepare and submit for approval a RCRA Facility Investigation Work Plan in accordance with Module Condition E.5. et. seq..

D. COMPLIANCE SCHEDULE AND NOTIFICATION REQUIREMENTS FOR NEWLY-DISCOVERED RELEASES AT SWMUS AND AOCS

The Permittee shall notify the Commissioner, in writing, of any release(s) of hazardous wastes, including hazardous constituents, discovered during the course of groundwater monitoring, field investigation, environmental auditing, or other activities no later than fifteen (15) calendar days after discovery. Such newly-discovered release(s) may be from the newly-identified unit(s)/area(s), from the unit(s)/area(s) for which, based on the findings of the RFA, the Commissioner had previously determined that no further investigation was necessary, or from the unit(s)/area(s) investigated as part of an RFI. Based on the information provided in the notification, the Commissioner shall determine the need for further investigation of the release(s). If the Commissioner determines that such investigations are needed, the Commissioner shall, by written notification, require the Permittee to prepare a RCRA Facility Investigation Work Plan in accordance with Module Condition E.5. et. seq..

E. CORRECTIVE ACTION REQUIREMENTS

1. No Action Requirement.

(a) On the basis of the RCRA Facility Assessment Report dated December 1988, as revised, the Commissioner has determined that there is no evidence at this time of the release(s) of hazardous waste(s) and/or constituent(s) that threaten human health or the environment from the following SWMU(s) and/or AOC(s) identified in Module Condition A.3:

(i) Waste Oil Storage Area
(ii) Waste Accumulation Areas (2)
(iii) Virgin Oil Tank
(iv) Fuel Oil Tank

(b) The Permittee need not undertake corrective action at any aforementioned SWMU(s) and/or AOC(s) identified in Module Condition E.1.(a) as long as there is no evidence of the release(s) of hazardous waste(s) or constituent(s) from the SWMU(s) and/or AOC(s) threatening human health or the environment. This permit condition does not apply to any other stipulation specified in other Modules or Conditions of this Permit.

(c) A determination of no further action shall not preclude the Commissioner from modifying this Permit at a later date to require further investigations, studies, monitoring, or corrective measures, if new information or subsequent analysis indicates the release(s) or likelihood of release(s) from SWMU(s) and/or AOC(s) identified in Module Condition E.1.(a) that could pose a threat to human health or the environment.

2. Compliance Schedule For RCRA Facility Assessment ("RFA") Sampling Visit Work Plan .

Not Applicable

3. Compliance Schedule For RFA-SV Work Plan Implementation.

Not Applicable

4. Compliance Schedule For RFA-Sampling Visit Report.

Not Applicable

5. Compliance Schedule For RCRA Facility Investigation ("RFI") Work Plan.

(a) On the basis of the RCRA Facility Assessment Report dated December 1988, as revised, the Commissioner has determined that there has been a release of hazardous waste and/or constituents from the following SWMU(s), or combination of SWMU(s), and/or AOC(s) identified in Module Condition A.3. that require the implementation of an RFI:

(i) RCRA Hazardous Waste Storage Area
(ii) PCB Storage Area
(iii) PCB Work Area
(iv) Oil/Water Separators
(v) Rail Spur
(vi) Floor Drains
(vii) Sewers
(viii) Rinse Water Tank

(b) On the basis of the RCRA Facility Assessment Report dated December 1988, as revised, the Commissioner has determined that there has been a release of hazardous waste and/or constituents from the following inaccessible SWMU(s) and/or AOC(s) identified in Module Condition A.3.:

None Identified

(c) The Permittee shall submit to the Commissioner for approval a RCRA Facility Investigation Task I Report on Current Conditions, a Task II Report on Pre-Investigation Evaluation of Corrective Measures Technologies, and a Work Plan that meets the RFI Scope of Work included in Appendix III-B for the inaccessible SWMU(s) and/or AOC(s) identified in Module Condition E.5.(b)and/or identified pursuant to Module Condition C.6. no later than one-hundred and eighty (180) calendar days prior to the date when the SWMU(s) and/or AOC(s) become accessible for such an investigation. The RFI Work Plan shall be prepared in accordance with the provisions of Module Conditions E.5.(f)(i) through (iv). Accessibility to the SWMU(s) and/or AOC(s) shall be considered achievable when the impediment to the RFI (e.g. building, utilities) is demolished, abandoned, or to be altered in a manner that would allow access to the SWMU(s) and/or AOC(s).

(d) Within sixty (60) calendar days after the effective date of this Permit for the SWMU(s) and/or AOC(s) identified in Module Condition E.5.(a), the Permittee shall submit to the Commissioner for

approval a RCRA Facility Investigation Task I Report on Current Conditions required by the RFI Scope of Work included in Appendix III-B of this Permit Module. A Task I Report shall be submitted for approval within sixty (60) calendar days after the written notification by the Commissioner that an RFI is required pursuant to Module Conditions C.6., D. and/or E.4(b).

(e) Within ninety (90) calendar days of the effective date of this Permit for the SWMU(s) and/or AOC(s) identified in Module Condition E.5.(a), the Permittee shall submit to the Commissioner for approval a RCRA Facility Investigation Task II Report on the Pre-Investigation Evaluation of Corrective Measures Technologies required by the RFI Scope of Work included in Appendix III-B of this Permit Module. A Task II Report shall be submitted for approval within ninety (90) calendar days after the written notification by the Commissioner that an RFI is required pursuant to Module Conditions C.6, D. and/or E.4.(b).

(f) Within one-hundred and twenty (120) calendar days of the effective date of this Permit for the SWMU(s) and/or AOC(s) identified in Module Condition E.5.(a), the Permittee shall submit for approval a Work Plan to the Commissioner to address those units, releases of hazardous waste, including hazardous constituents, and media of concern which require the further investigations. A RFI Work Plan shall be submitted within ninety (90) calendar days after written notification by the Commissioner that an RFI is required pursuant to Module Conditions C.6., D., and/or E.4.(b).

(i) The Work Plan shall describe the objectives of the investigation and the overall technical and analytical approach to completing all actions necessary to characterize the nature, direction, rate, movement, and concentration of releases of hazardous waste, including hazardous constituents, from specific units or groups of units and areas, and their actual or potential receptors. The Work Plan shall detail all proposed activities and procedures to be conducted at the facility and/or off-site, the schedule for implementing and completing such investigations, the qualifications of personnel performing or directing the investigations, including contractor personnel, and the overall

management of the RFI.

(ii) The Work Plan shall discuss sampling and data collection quality assurance and data management procedures, including formats for documenting and tracking data and other results of investigations, and health and safety procedures.

(iii) The Work Plan must, at a minimum, address all necessary activities or include descriptions to meet the requirements specified in Tasks III through V of the Scope of Work for a RCRA Facility Investigation included in **Appendix III-B** and its attachments to this Permit Module.

(iv) The Permittee may determine that any of the items required by Tasks III through V of the Scope of Work in **Appendix III-B** of this Permit Module have already been submitted or completed, and therefore, the resubmittal of those items are not necessary for completing the RFI of this Permit. The Permittee shall request, within thirty (30) calendar days of the effective date of this Permit, and/or within thirty (30) calendar days of any notification by the Commissioner that an RFI is required that the Commissioner review for approval the Permittee's determination. At the time of the request, the Permittee must provide the following information: (1) description of the items and/or summary of findings; (2) description of investigations addressing the items, documents/reports of the investigations with dates, and summary of the findings; and (3) copies of the documents/reports.

Upon the Commissioner's approval of any previously performed items, the Permittee may delete these from the RFI Work Plan. However, upon disapproval of items, all activities necessary for the items must be included in the RFI Work Plan.

(g) Following submission of the RFI Work Plan set forth in Module Condition E.5.(f), subsequent activities for the Plan shall proceed in accordance with the following schedule:

(i) Meeting between the Permittee and the Department to discuss Plan comments, as appropriate; and

(ii) Submission of a revised Plan to the Commissioner for approval within thirty (30) calendar days of the above-described meeting. (If the above-referenced meeting is determined not to be necessary, the Permittee shall submit a revised Plan to the Commissioner, according to a schedule specified by the Department, not to exceed forty-five (45) calendar days after Permittee's receipt of Plan comments from the Commissioner).

(h) The Commissioner shall review, for approval as part of the RFI Work Plan, any plans developed pursuant to Module Condition C.6, addressing further investigations of newly-identified SWMUs and/or AOCs, or Module Condition D, addressing newly discovered releases from units and/or areas. The Commissioner shall modify the Compliance Schedule of this Permit Module according to the permit modification procedures stipulated in Module Condition E.14. of this Permit Module to incorporate these units and areas and releases into the RFI Work Plan.

6. Compliance Schedule For RCRA Facility Investigation Work Plan Implementation No later than thirty (30) calendar days after written notification by the Commissioner approving the RFI Work Plan, the Permittee shall begin implementation of the RFI according to the schedules specified in the RFI Work Plan. The RFI shall be conducted in accordance with the approved RFI Work Plan.

7. Compliance Schedule For RCRA Facility Investigation Final Report And Summary Report

(a) Within sixty (60) calendar days of receipt by the Permittee of validated analytical data generated under the approved RFI Work Plan, the Permittee shall submit to the Commissioner for approval the RFI Final and Summary Reports (Task VII of the Scope of Work for an RFI in **Appendix III-B** of this Permit Module). The RFI Final Report must contain adequate information to support further corrective action decisions at the facility and/or off-site, should such actions be necessary. The RFI Final Report shall describe the procedures, methods, and results of all facility investigations of SWMUs and AOCs and their releases, including information on the type and extent of contamination at the facility and/or off-site, sources and migration pathways, and actual or potential receptors. It shall present all information gathered under the approved RFI Work Plan. The RFI final report will include a

comparison of media specific hazardous constituents with their corresponding action levels. The Summary Report shall describe more briefly the procedures, methods, and results of the RFI.

(b) Following submission of the Reports set forth in Module Condition E.7.(a), subsequent activities for the Report shall proceed in accordance with the following schedule:

(i) Meeting between the Permittee and the Department to discuss Report comments, as appropriate; and

(ii) Submission of a revised Report to the Commissioner for approval within forty-five (45) calendar days of the above-described meeting. (If the above-referenced meeting is determined not to be necessary, the Permittee shall submit a revised Report to the Commissioner, according to a schedule specified by the Department, not to exceed forty-five (45) calendar days after Permittee's receipt of Report comments from the Commissioner).

(c) After the Commissioner approves the RFI Final Report and Summary Report, the Permittee shall mail the approved Summary Report to all individuals on the facility mailing list established by the Permittee, within thirty (30) calendar days of receipt of approval.

(d) A report summarizing the testing program required by Task VI of the Scope of Work for RFI in **Appendix III-B** of this Permit Module shall be submitted, as a separate document, at the same time as the RFI Final Report.

8. Compliance Schedule For Current Interim Corrective Measures

Not Applicable

9. Compliance Schedule For Corrective Measures Study ("CMS") Scope of Work.

(a) Should a CMS be required, the Commissioner shall notify the Permittee in writing. This notice shall identify the hazardous constituent(s) which have exceeded the action level(s) as well as those which have been determined to threaten human health and the environment given site-specific exposure

conditions or due to additive exposure risk. The notification shall specify target cleanup levels for hazardous constituents detected in each medium of concern, and may also specify corrective measure alternatives to be evaluated by the Permittee during the CMS.

(b) The Commissioner may require a Corrective Measures Study ("CMS") under the following conditions:

(i) If the concentrations of hazardous constituents in groundwater, surface water/sediment, soil, or air exceed their corresponding individual action levels; or

(ii) If the concentrations of hazardous constituents in groundwater, surface water/sediment, soil, or air do not exceed their corresponding individual action levels, but additive exposure risk due to the presence of multiple constituents is not protective of human health; or

(iii) If the concentrations of hazardous constituent in groundwater, surface water/sediment, soil, or air do not exceed corresponding individual action levels, but still pose a threat to human health or the environment, given site-specific exposure conditions.

(c) Not Applicable

(d) The CMS will be considered complete upon completion of Tasks I through IV required by the CMS Scope of Work included in **Appendix III-C** of this Permit Module. Within sixty (60) calendar days after a notification required by Module Condition E.9.(a), the Permittee shall complete Task I and submit to the Commissioner a Task I report and documents, if any, relevant to other Tasks.

(e) The Permittee shall submit for approval a CMS Plan to the Commissioner within sixty (60) calendar days after a notification required by Module Condition E.9.(b).

(i) The CMS Plan shall provide:

(1) A description of the general approach to investigating and evaluating potential corrective measure;

(2) A definition of the overall objectives of the study;

(3) The specific plans for evaluating corrective measure to ensure compliance with corrective measure standards;

(4) The schedules for conducting the study; and

(5) The proposed format for the presentation of information.

(ii) The CMS Plan must address, at a minimum, all necessary activities to complete Tasks II and III required by the CMS Scope of Work included in **Appendix III-C** of this Permit Module.

(f) Following submission of the CMS Plan set forth in Module Condition E.9.(e), subsequent activities for the Plan shall proceed in accordance with the following schedule:

(i) Meeting between the Permittee and the Department to discuss Plan comments, as appropriate; and

(ii) Submission of a revised Plan to the Commissioner for approval within thirty (30) calendar days of the above-described meeting. (If the above-referenced meeting is determined not to be necessary, the Permittee shall submit a revised Plan to the Commissioner, according to a schedule specified by the Department, not to exceed forty-five (45) calendar days after Permittee's receipt of Plan comments from the Commissioner).

10. Compliance Schedule For Corrective Measures Study Implementation. No later than thirty (30) calendar days after the Permittee has received written approval from the Commissioner for the CMS Plan, the Permittee shall begin to implement the CMS according to the schedules specified in the CMS Plan. The CMS shall be conducted in accordance with the approved Plan submitted pursuant to Module Condition E.9..

11. Compliance Schedule For Corrective Measures Study Final Report.

(a) Within forty-five (45) calendar days after the completion of the CMS, the Permittee shall submit for approval a CMS Final Report (Task IV) to the Commissioner. The CMS Final Report shall:

(i) Summarize the results of the investigations and, if applicable, of any bench-scale or pilot tests conducted;

(ii) Provide a detailed description of the corrective measures evaluated and include an evaluation of how each corrective measure alternative meets the standards set forth in Module Condition E.12(a).

(iii) Present all information gathered under the approved CMS Plan; and

(iv) Contain any additional information to support the Commissioner in the corrective measure selection decision-making process, described under Module Condition E.12.

(b) The CMS Final Report (Task IV) must address, at a minimum, all items necessary to demonstrate completion of Tasks II and III required by the CMS Scope of Work included in Appendix III-C of this Permit Module.

(c) Following submission of the CMS Report set forth in Module Condition E.11(a), subsequent activities for the Report shall proceed in accordance with the following schedule:

(i) Meeting between the Permittee and the Department to discuss the Report comments, as appropriate; and

(ii) Submission of a revised Report to the Commissioner for approval within thirty (30) calendar days of the above-described meeting. (If the above referenced meeting is determined not to be necessary the Permittee shall submit a revised Report to the Commissioner, according to a schedule specified by the Department, not to exceed forty-five (45) calendar days after Permittee's receipt of Report comments from the Commissioner.)

(d) As specified under Module Condition E.9.(a), based on preliminary results and the CMS Final Report, the Commissioner may require the Permittee to evaluate additional corrective measures or particular elements of one or more proposed corrective measures.

12. Corrective Measure(s) Selection.

(a) Based on the results of the documents submitted under Module Condition E.7. for the RFI, under Module Condition E.11. for the CMS, and any further evaluations of additional corrective measures under this study, the Commissioner shall select the corrective measure(s) that at a minimum will meet the following standards:

(i) Be protective of human health and the environment;

(ii) Attain media cleanup standards selected by the Commissioner during the corrective measures selection process;

(iii) Control the source(s) of release(s) so as to reduce or eliminate, to the maximum extent practicable, further releases of hazardous waste, including hazardous constituents, that might pose a threat to human health and the environment; and

(iv) Meet all applicable waste management requirements.

(b) In selecting the corrective measure(s) which meets the standards for corrective measures established under Module Condition E.12.(a), the Commissioner shall consider the following evaluation factors, as appropriate:

(i) Long-term reliability and effectiveness. Any potential corrective measure(s) may be assessed for the long-term reliability and effectiveness it affords, along with the degree of certainty that the corrective measure(s) will prove successful. Factors that shall be considered in this evaluation include:

(1) Magnitude of residual risks in terms of amounts and concentrations of hazardous waste, including hazardous constituents, remaining following implementation of the

corrective measure(s), considering the persistence, toxicity, mobility and propensity to bioaccumulate of such hazardous wastes, including hazardous constituents:

(2) The type and degree of long-term management required, including monitoring and operation and maintenance;

(3) Potential for exposure of humans and environmental receptors to remaining hazardous wastes, including hazardous constituents, considering the potential threat to human health and the environment associated with excavation, transportation, redisposal or containment;

(4) Long-term reliability of the engineering and institutional controls, including uncertainties associated with land disposal of untreated hazardous wastes, including hazardous constituents, and their residuals; and

(5) Potential need for replacement of the corrective measure(s).

(ii) Reduction of toxicity, mobility or volume. A potential corrective measure(s) may be assessed as to the degree to which it employs treatment that reduces toxicity, mobility or volume of hazardous wastes, including hazardous constituents. Factors that shall be considered in such assessments include:

(1) The treatment processes the corrective measure(s) employs and materials it would treat;

(2) The amount of hazardous wastes, including hazardous constituents, that would be destroyed or treated;

(3) The degree to which the treatment is irreversible;

(4) The residuals that will remain following treatment, considering the persistence, toxicity, mobility and propensity to bioaccumulate of such hazardous wastes, including hazardous constituents; and

(5) All concentration levels of hazardous waste, including hazardous constituents, in each medium that the corrective measure(s) must achieve to be protective of human health and the environment.

(iii) The short-term effectiveness of a potential corrective measure(s) may be assessed considering the following:

(1) Magnitude of reduction of existing risks;

(2) Short-term risks that might be posed to the community, workers, or the environment during implementation of such a corrective measure(s), including potential threats to human health and the environment associated with excavation, transportation, and redisposal or containment; and

(3) Time until full protection is achieved.

(iv) Implementability. The ease or difficulty of implementing a potential corrective measure(s) may be assessed by considering the following types of factors:

(1) Degree of difficulty associated with constructing the technology;

(2) Expected operational reliability of the technologies;

(3) Need to coordinate with and obtain necessary approvals and permits from other agencies;

(4) Availability of necessary equipment and specialists;

(5) Available capacity and location of needed treatment, storage and disposal services; and

(6) Requirements for removal, decontamination, closure, or post-closure of units, equipment, devices or structures that will be used to implement the corrective measure(s).

(v) Cost. The types of costs that may be assessed include the following:

(1) Capital costs;

(2) Operation and maintenance costs;

(3) Net present value of capital and operation and maintenance costs; and

(4) Potential future corrective measure costs.

13. Permit Modification for Corrective Measure(s).

(a) Based on information the Permittee submits in the RFI and Summary Reports, under Module Condition E.7, the CMS Final Report under Module Condition E.11., and other information, the Commissioner will select the corrective measure(s) and initiate a permit modification to this Permit, pursuant to 6 NYCRR 373-1.7(b) and 6 NYCRR 621.14. The modification will specify the selected corrective measure(s) and include, at a minimum the following:

(i) Description of all technical features of the corrective measure(s) that are necessary for achieving the standards for corrective measures established under Module Condition E.12.(a), including length of time for which compliance must be demonstrated at specified points of compliance;

(ii) All media cleanup standards for hazardous constituents, selected by the Commissioner, that the corrective measure(s) must achieve to be protective of human health and the environment;

(iii) All requirements for achieving compliance with these cleanup standards;

(iv) All requirements for complying with the standards for management of wastes;

(v) Requirements for removal, decontamination, closure or post-closure of units, equipment, devices or structures that will be used to implement the corrective measure(s);

(vi) A schedule for initiating and completing all major technical features and milestones of the corrective measure(s); and

(vii) Requirements for submission of reports and other information.

(b) Within thirty (30) calendar days after this Permit has been modified, the Permittee shall demonstrate in writing to the Commissioner financial assurance for completing the approved corrective measures.

14. Modification of the Compliance Schedules.

(a) If at any time the Permittee determines that modification of any Compliance Schedule of this Permit Module, including **Appendix III-D**, is necessary because such schedules cannot be met, the Permittee must:

(i) Notify the Commissioner in writing within fifteen (15) calendar days of such determination; and

(ii) Provide an explanation why the current schedule cannot be met.

(b) The Commissioner shall notify the Permittee in writing of the final decision regarding the Permittee's proposed modification to the Compliance Schedule.

(c) Compliance Schedule modifications finalized by the Commissioner according to this procedure shall not be subject to administrative appeal.

(d) Modifications to the Compliance Schedule pursuant to their procedure does not constitute a reissuance of this Permit.

(e) All other modifications to this Permit Module must be made in accordance with Module I, Condition I , of this Permit.

15. Corrective Action Through Post-Closure.

Not Applicable

16. Corrective Action Through Closure

Not Applicable

17. Corrective Action Through Orders-on-Consent

(a) Not Applicable

(b) Not Applicable

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APPENDIX III-A

COMPONENTS REQUIRED FOR RCRA ANALYTICAL DATA SUBMITTED TO
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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COMPONENTS REQUIRED FOR RCRA ANALYTICAL DATA SUBMITTED TO NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION*

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A Report Narrative should accompany each submission, summarizing the contents, data and QA/QC results and all relevant circumstances of the work.

A. Parameter requested.

B. Sample Number or Numbers, Matrix, and:

1. Date and time collected;
2. Date extracted and/or digested;
3. Date and time analyzed; and
4. Chain of custody report and/or form, including confirmation of unbroken chain of custody, intact sample packaging and container seals and adequate temperature and/or other preservation.

C. Results [b,e,f,]

1. Sample Results;
2. Duplicate;
3. Blanks[a];
4. Matrix Spike; matrix spike duplicate; blank spike; and
5. Surrogate recoveries, if applicable.

D. Supporting QA/QC[b]

1. Methodology;
2. Method detection limits, instrument detection limits[c];
3. Linear curves[d];
4. Percent solids for soils, sludges, sediments, and where otherwise applicable;
5. Calculations[d];
6. Cleanup procedures;
7. Data validation procedures, results, and completed data validation checklists; and
8. Documentation which illustrates how blank water is determined to be analyte-free.

In addition to submitting the above, all sample data and its QA/QC data as specified in SW-846, 3rd edition, Chapter 1, must be maintained accessible to NYSDEC either in hard copy or on magnetic tape or disk (computer data files). The data, if requested by NYSDEC, should be formatted as described in SW-846, 3rd edition, Chapter 1. This requirement may be changed in the future to mandate computer data files, accessible to NYSDEC on request.

This does not obviate the requirement to do the QA/QC specified in each individual EPA-approved method.

* Components for RCRA submissions for non-contract Lab Protocols.
If CLP, then CLP deliverables are required, unless otherwise stated in the approved plan.

[a] The data should include all blanks (trip, equipment rinse, method and instrument blanks) as specified in the sampling and analysis plan, guidance and regulation.

[b] Supporting QA/QC should be specific to the RCRA samples analyzed.

[c] Every effort practicable must be made to achieve detection limits below regulatory limits and comparable to or better than the Practical Quantification Limits specified in the EPA-approved methods. In no case, will reporting limits above the specified PQL's be accepted without extensive and complete documentation to the Department.

[d] These may not need to be submitted if adequate QA/QC summaries validating the data, including calibration control charts, correlation coefficients, etc., are submitted. The Report Narrative should describe the data validation and explain discrepancies. The supporting data should be provided to NYSDEC upon request, without restriction. Calibration data must include date and time of analysis.

[e] Frequencies of blanks, duplicates, spikes, surrogates, calibrations, standard reference materials, etc., should be as stated in the approved sampling and analysis plan, the approved analytical methods and the SW-846 3rd edition, Chapter 1, requirements. If there are any perceived conflicts, these should be resolved with NYSDEC in advance of sampling.

[f] Spiking for metals, organics or other parameters must be done before sample preparation (i.e. before digestions, extractions etc.) unless otherwise stated in the approved plan. Furnace analysis for metals will still require post-digestion spikes on all samples analyzed by this technique.

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APPENDIX III-B

SCOPE OF WORK FOR A
RCRA FACILITY INVESTIGATION

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Scope of Work For A
RCRA Facility Investigation

GENERAL ELECTRIC COMPANY
BUFFALO SERVICE SHOP

I. INTRODUCTION

The Permittee shall undertake a RCRA Facility Investigation ("RFI") that should include the development of several component plans and supporting reports relevant to the specific investigations to be undertaken pursuant to this Permit. Component plans and reports must be prepared and submitted in accordance with the Compliance Schedules in Module Condition III-E. and **Appendix III-D** of this Permit Module.

The purpose of this RFI is to characterize the nature, extent, direction, rate, movement and concentration of releases of hazardous waste and/or constituents from Solid Waste Management Units and Areas of Concern at the facility including areas off-site impacted by the release(s) from the facility and to gather all necessary data to support the Corrective Measures Study. The Permittee shall furnish all personnel, materials, and services necessary for, or incidental to, performing the RCRA Facility Investigation.

The RFI Scope of Work includes several tasks:

Task I: A report on the Description of Current Conditions.

Task II: A report on the Pre-Investigation Evaluation of Corrective Measures.

Task III: RFI Management Plans including:

A. The Project Management Plan;
B. The Data Management Plan;
C. The Quality Assurance Project Plan;
D. The Health and Safety Plan; and
E. The Community Relations Plan.

Task IV: The Facility Investigation.

Task V: Investigative Analysis.

Task VI: Laboratory, Bench Scale, and Pilot Studies.

Task VII: Reports.

The report on Description of Current Conditions should comprise all available and relevant information and data on the facility's background, SWMU(s) and AOC(s) characterization, nature and extent of contamination, potential receptors, and prevailing corrective action implementation. Data and information gathered during any previous investigations, remediations, or inspections and other relevant data should be included in the submittal. That information and data may then be used to focus subsequent field investigations and development of the respective work plans for the SWMU(s) and AOC(s) to be investigated as part of this Permit. If the Permittee maintains that relevant information and data has been submitted, the Permittee should cite such submittal(s). The Permittee shall refer to Module Condition III.B.5. on addressing prior submittals.

The report on Pre-Investigation Evaluation of Corrective Measures will identify potential technologies that may be considered by the Permittee for subsequent implementation. These alternative technologies will focus the RFI to collect the necessary data for their proper evaluation.

The RFI Management Plans shall provide the necessary information that will assure that the following objectives are met:

- Proper management of all aspects of the RFI project including tracking of project milestones. Schedules and tracking methods shall be established for RFI tasks and report submittals (Project Management Plan);

- Satisfactory presentation of data and results developed by the RFI. Data management procedures shall be established to effectively process data such that relevant data descriptions are readily accessible and accurately maintained (Data Management Plan);

- Generation of valid data during the RFI investigation. QA/QC procedures shall be established to describe and document data quality (Quality Assurance Project Plan);

- Implementation of appropriate health and safety measures during the RFI. Health and safety procedures shall be established to ensure the health and safety of the investigative team(s) and the general public during the RFI (Health and Safety Plan); and

- Provision for informing the community of the results of the RFI (Community Relations Plan).

The Facility Investigation shall focus on procedures and techniques that will be utilized during field investigations to characterize the environmental setting and the contaminant release(s) from the SWMU(s) and AOC(s). Characterization of the environmental setting will be necessary to determine monitoring locations and to aid in defining the boundaries of the contaminated unit(s) and area(s). The Permittee shall characterize each environmental media, as deemed necessary by the Department, to provide information that can be used to determine the rate and extent of the contaminant release(s). Characterization of the contaminant release(s) from the SWMU(s) and AOC(s) will be necessary to determine the nature, extent, direction, rate, movement and concentration of the contaminant plume(s).

Since a potentially broad spectrum of situations involving information on a specific release(s) may exist at the beginning of the RFI, a flexible, phased approach for the release investigation may be necessary. The Permittee may begin with an evaluation of existing data and propose the collection of additional data as necessary to characterize the release. The Permittee may consider incorporating appropriate screening techniques, i.e., soil gas, geophysical methods, as the initial phase of field investigation for the RFI.

Based on existing data and/or data collected by appropriate screening techniques, the Permittee may develop a conceptual model of the release. This model may then be used to plan and develop subsequent investigations. The Permittee shall then develop work plans for the subsequent investigative program(s), as deemed necessary by the Department, utilizing conventional monitoring techniques capable of release(s) verification and/or characterization.

An Investigative Analysis shall be carried-out on the data generated by the Facility Investigation. The analysis shall focus on the quality of data generated and on establishing the nature, extent, direction, rate, movement and concentration of contamination.

Laboratory and/or Bench Scale Studies shall be performed to assess corrective measure technologies that may be applicable for remediating the SWMU(s), the AOC(s), and the environmental contamination investigated by the Permittee. The information gathered from such studies will assist the Permittee in selecting the alternative technologies for evaluation during the Corrective Measures Study.

Progress reports on the Facility Investigation and Laboratory Bench Scale Studies shall be submitted quarterly in addition to a final RFI Report and Summary Report.

II. TASK I: DESCRIPTION OF CURRENT CONDITIONS

The Permittee shall submit a report for Task I containing available and relevant information and data on the facility's background, SWMU(s), AOC(s), contamination, receptors, and remediation undertaken pertinent to the specific SWMU(s) and AOC(s) to be investigated as part of this Permit.

A. Facility Background

The Permittee shall summarize the regional location, pertinent boundary features, general facility physiography, geology, hydrogeology, and historical use of the facility for the treatment, storage or disposal of solid and hazardous waste. The information shall include:

1. Map(s) depicting the following:

   (a) General geographic location;

   (b) Property lines, with the owners of all adjacent property clearly indicated;

   (c) Topography and surface drainage depicting all waterways, wetlands, floodplains, water features, drainage patterns, and surface-water containment areas;

   (d) All above and underground tanks, buildings, utilities, paved areas, easements, rights-of-way, and other features;

   (e) All known past and present solid or hazardous waste treatment, storage or disposal areas;

   (f) All process sewers;

   (g) Surrounding land uses (residential, commercial, agricultural, recreational); and

   (h) The locations of all production, withdrawal, and groundwater monitoring wells at the facility and within the vicinity of the facility. These wells shall be clearly labeled and ground and top of casing elevations and construction details included (these elevations and details may be included as an attachment).

All maps shall be consistent with the requirements set forth in 6NYCRR Subpart 373-1.5(a)(2)(xix) and be of sufficient detail and accuracy to locate and report all current and future work performed at the site.

2. A history and description of ownership and operation, solid and hazardous waste generation, treatment, storage and disposal activities at the facility.

3. Approximate dates or periods and description of past product, raw material, and waste spills; identification of the materials spilled; the amount spilled; the location where spilled; and a description of the response actions conducted (local, state, or federal response units or private parties), including any inspection reports or technical reports generated as a result of the response.

B. SWMU and AOC Characterization

The Permittee shall submit available and relevant information that will characterize the wastes, the SWMU(s) and the AOC(s) where wastes have been placed, collected or removed including: type; quantity; physical state; disposition (containment or nature of deposits); and facility characteristics affecting the release(s) (e.g., facility security, and engineered barriers). The information should include:

1. SWMU and AOC Characteristics:

   (a) Location of unit/area (located on facility map);
   (b) Type of unit/area;
   (c) Design features;
   (d) Operating practices (past and present);
   (e) Period of operation;
   (f) Age of unit/area; and
   (g) General physical conditions.

2. Waste Characteristics:

   (a) Type of waste placed in the unit/area:

      (i) Hazardous classification (e.g., flammable, reactive, corrosive, oxidizing or reducing agent);

      (ii) Quantity; and

(iii) Chemical composition (e.g., Appendix VIII hazardous constituents).

(b) Physical and chemical characteristics of waste and its constituents:

(i) Physical state (solid, liquid, gas);

(ii) Physical description (e.g., powder, oily sludge);

(iii) Temperature;

(iv) pH;

(v) General chemical class (e.g., acid, base, solvent);

(vi) Molecular weight;

(vii) Density;

(viii) Boiling point;

(ix) Viscosity;

(x) Solubility in water;

(xi) Cohesiveness of the waste;

(xii) Vapor pressure;

(xiii) Flash point; and

(xiv) Other relevant properties.

(c) Migration and dispersal characteristics of the waste constituents and procedures used in making the determination:

(i) Sorption;

(ii) Biodegradability, bioconcentration, biotransformation;

(iii) Photodegradation rates;

(iv) Hydrolysis rates;

(v) Chemical transformations; and

(vi) Volatilization rates.

C. Nature, Extent, Direction, Rate, Movement and Concentration of Contamination

The Permittee shall submit available and relevant information on the nature, extent, direction, rate, movement and concentration of the release(s) from the SWMU(s) and the AOC(s). This information and data should include:

1. Summary of available monitoring data and qualitative information on locations and levels of contamination at the facility and within the vicinity of the facility if contamination has migrated off-site.

2. Summary of all potential contaminant migration pathways including available information on geology, hydrogeology, physiography, hydrology, water quality, meteorology, and air quality.

D. Potential Receptors

The Permittee shall submit available and relevant information describing the human populations and environmental systems that are susceptible to exposure by the contaminant release(s) from the SWMU(s) and the AOC(s). Data on observable effects or bioassays for ecosystems should accompany this submittal if available. The information shall include:

1. Local uses and possible future uses of groundwater:

   (a) Type of use (e.g., drinking water source: municipal or residential, agricultural, domestic/non-potable, and industrial);

   (b) Location of groundwater users including wells and discharge areas (identify on a map); and

   (c) The well(s) pump rate(s) and the well(s) depth(s).

2. Local uses and possible future uses of surface waters draining from the facility:

   (a) Domestic and municipal (e.g. potable and lawn/gardening watering);

   (b) Recreational (e.g. swimming, fishing);

   (c) Agricultural;

   (d) Industrial; and

(e) Environmental (e.g. fish and wildlife propagation).

3. Human use of or access to the facility and adjacent lands, including, but not limited to:

(a) Recreation;

(b) Hunting;

(c) Residential;

(d) Commercial;

(e) Zoning; and

(f) Relationship between population locations and prevailing wind direction.

4. A description of the biota in surface water bodies on, adjacent to, or affected by the facility.

5. A description of the ecology overlying and adjacent to the facility.

6. A demographic profile of the people who use or have access to the facility and adjacent land, including, but not limited to: age; sex; and sensitive subgroups.

7. A description of any endangered or threatened species near the facility.

E. Corrective Action Implementation

The Permittee shall submit documentation on corrective measures (remedial measures) undertaken on-site or off-site at the facility. Remedial actions should include any interim corrective measures, RCRA closures, State or Federal Superfund activities. This documentation shall include:

1. Objectives of the remediation and how it is mitigating a potential threat to human health and the environment and/or is consistent with and integrated into any long term solution at the facility;

2. Design, construction, operation, and maintenance requirements;

3. Schedules for design, construction and monitoring; and

4. Schedule for progress reports.

III. TASK II: PRE-INVESTIGATION EVALUATION OF CORRECTIVE MEASURES

The Permittee shall submit a report for Task II that identifies the potential corrective measure technologies that may be used on-site or off-site for the containment, treatment, remediation, and/or disposal of contamination. This report shall also identify any field data that needs to be collected in the facility investigation to facilitate the evaluation and selection of the final corrective measure or measures (e.g., compatibility of waste and construction materials, information to evaluate effectiveness, treatability of wastes, etc.).

IV. TASK III: RFI MANAGEMENT PLANS

The Permittee shall submit RFI Management Plans as part of the RFI Work Plan. The Plans shall address the methods and procedures necessary to manage the RFI, to describe data developed by the RFI, to gather and ensure valid RFI data, to protect the health and safety of investigators and the general public, and to keep the community informed about the RFI.

A. Project Management Plan

The Permittee shall prepare a Project Management Plan that shall include a discussion of the management approach, schedules, and personnel utilized during the RFI. That Plan shall include a description of qualifications of personnel performing or directing the RFI, including contractor personnel. This Plan shall also document the overall management approach to the RCRA Facility Investigation that will assure adherence to tasks and reporting schedules. The schedule for completing the RFI should reflect the schedules set forth in Module Condition III-E. and **Appendix III-D.** The schedule shall reflect dates for submittal of various RFI Work Plan components, dates for starting and accomplishing specific tasks associated with the RFI, and dates for reporting information from specific tasks to the Department.

B. Data Management Plan

The Permittee shall prepare a Data Management Plan to document and track investigation data and results. This Plan shall identify and set up data documentation materials and procedures, project file requirements, and project-related progress reporting procedures and documents. The Plan shall also provide the format to be used to present the raw data and conclusions of the investigation.

1. Data Record

The data record shall include, but not be limited to the following:

(a) Unique sample or field measurement code;

(b) Sampling or field measurement location and sample or measurement type;

(c) Sampling or field measurement raw data;

(d) Laboratory analysis ID number;

(e) Property or component measured; and

(f) Result of analysis (e.g., concentration).

2. Tabular Displays

The following data shall be presented in tabular displays:

(a) Unsorted (raw) data;

(b) Results for each medium, or for each constituent monitored;

(c) Data reduction for statistical analysis;

(d) Sorting of data by potential stratification factors (e.g., location, soil layer, topography); and

(e) Summary data.

3. Graphical Displays

The following data shall be presented in graphical formats (e.g., bar graphs, line graphs, area or plan maps, isopleth plots, cross-sectional plots or transects, three dimensional graphs, etc.):

(a) Display sampling location and sampling grid;

(b) Indicated boundaries of sampling area, and areas where more data are required;

(c) Display levels of contamination at each sampling location;

(d) Display geographical extent of contamination;

(e) Display contamination levels, averages, and maxima;

(f) Illustrate changes in concentration in relation to distance from the source, time, depth or other parameters; and

(g) Indicate features affecting intramedia transport and show potential receptors.

C. Quality Assurance Project Plan (QAPjP)

The Permittee shall prepare a QAPjP to document each phase of investigative work and all sampling and monitoring procedures to be implemented during the RFI. The following activities shall be covered in the QAPjP: sampling, field measurements and sample analysis performed during the investigations. This Plan shall ensure that all information, data, and resulting decisions are technically sound, statistically valid, and properly documented. The QAPjP(s) shall be developed in accordance with the following guidance documents, "RCRA Quality Assurance Project Plan Guidance," "SW-846," and "Technical Enforcement Guidance Document." The Plan shall address all of the sixteen (16) essential QA/QC elements stipulated in the "RCRA Quality Assurance Project Plan Guidance." A summary of the QA/QC elements that shall be in the Plan is found in the subsequent paragraphs.

1. Data Quality Objectives

The QAPjP shall include, but not be limited to the following:

(a) Description of the intended uses for the data, and the necessary level of precision and accuracy for these intended uses;

(b) Description of methods and procedures to be used to assess the precision, accuracy and completeness of the measurement data;

(c) Description of the rational used to assure that the data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point, a process condition or an environmental condition; and

(d) Description of the measures to be taken to assure that data sets can be compared to each other.

2. Sampling and Field Measurements

The QAPjP shall include, but not be limited to the following:

(a) Sampling and field measurement locations, depths, etc.;

(b) Collecting all necessary ancillary data;

(c) Conditions under which sampling and field measurements should be conducted;

(d) Media to be sampled and addressed by field measurements (e.g., groundwater, air, soil, sediment, etc.);

(e) Parameters to be measured and where;

(f) The frequency of sampling and field measurements and length of sampling period;

(g) The types of sample (e.g., composites vs. grabs) and number of samples to be collected;

(h) Measures to be taken to prevent contamination of the sampling equipment and cross contamination between sampling points;

(i) Documenting field sampling and measurement operations and procedures, including;

(i) Documentation of procedures for preparation of reagents or supplies which become an integral part of the sample (e.g., filters, and adsorbing reagents);

(ii) Procedures and forms for recording raw data and the exact location, time, and specific considerations associated with sample and data acquisition;

(iii) Documentation of specific sample preservation method;

(iv) Calibration of field devices;

(v) Collection of replicate samples and measurements;

(vi) Submission of field-biased blanks, where appropriate;

(vii) Potential interferences present at the facility;

(viii) Construction materials and techniques, associated with monitoring wells and piezometers;

(ix) Field equipment listing and sample containers;

(x) Sampling and field measurement order; and

(xi) Decontamination procedures.

(j) Selecting appropriate sample containers;

(k) Sample preservation; and

(l) Chain-of-Custody, including:

(i) Standardized field tracking reporting forms to establish sample custody in the field prior to and during shipment; and

(ii) Pre-prepared sample labels containing all information necessary for effective sample tracking.

3. Sample Analysis

The QAPjP shall include, but not be limited to the following:

(a) Chain-of-custody procedures, including:

(i) Identification of a responsible party to act as sample custodian at the laboratory facility authorized to sign for incoming field samples, obtain documents of shipment, and verify the data entered onto the sample custody records;

(ii) Provision for a laboratory sample custody log consisting of serially numbered standard lab-tracking report sheets; and

(iii) Specification of laboratory sample custody procedures for sample handling, storage, and disbursement for analysis.

(b) Sample storage procedures and storage times;

(c) Sample preparation methods;

(d) Analytical procedures, including:

(i) Scope and application of the procedure;

(ii) Sample matrix;

(iii) Potential interferences;

(iv) Precision and accuracy of the methodology; and

(v) Method detection limits.

(e) Calibration procedures and frequency;

(f) Data reduction, validation and reporting;

(g) Internal quality control checks, laboratory performance and systems audits and frequency, including:

(i) Method blank(s);

(ii) Laboratory control sample(s);

(iii) Calibration check sample(s);

(iv) Replicate sample(s);

(v) Matrix-spikes sample(s);

(vi) "Blind" quality control sample(s);

(vii) Control charts;

(viii) Surrogate samples;

(ix) Zero and span gases; and

(x) Reagent quality control checks.

(h) Preventive maintenance procedures and schedules;

(i) Corrective action (for laboratory problems); and

(j) Turnaround time.

D. Health and Safety Plan

The Permittee shall prepare a Health and Safety Plan for the protection of the investigative team(s), workers, and general public which may be exposed to hazards.

1. The Health and Safety Plan shall include, but not be limited to the following:

   (a) Facility description including availability of resources such as roads, water supply, electricity and telephone service;

   (b) Describe the known hazards and evaluate the risks associated with the incident and with each activity conducted;

   (c) List key personnel and alternates responsible for site safety, response operations, and for protection of public health;

   (d) Delineate work areas;

   (e) Describe levels of protection to be worn by personnel in work areas;

   (f) Establish procedures to control site access;

   (g) Describe decontamination procedures for personnel and equipment;

   (h) Establish site emergency procedures;

   (i) Address emergency medical care for injuries and toxicological problems;

   (j) Describe requirements for an environmental surveillance program;

   (k) Specify any routine and special training required for responders; and

   (l) Establish procedures for protecting workers from weather-related problems.

2. The Facility Health and Safety Plan shall be consistent with:

   (a) NIOSH Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities (1985);

   (b) EPA Order 1440.1 - Respiratory Protection;

(c) EPA Order 1440.3 - Health and Safety Requirements for Employees engaged in Field Activities;

(d) Facility Contingency Plan;

(e) EPA Standard Operating Safety Guide (1984);

(f) OSHA regulations particularly in 29 CFR §§ 1910 and 1926;

(g) State, local, and other federal agency (e.g., DOD, DOE) regulations; and

(h) Other EPA guidance as provided.

E. Community Relations Plan

The Permittee shall prepare a plan on disseminating information to the public regarding investigation activities and results. The plan should identify who will be notified and will receive summary RFI reports.

V. TASK IV: THE FACILITY INVESTIGATION

The Permittee shall submit a workplan that shall address the techniques and procedures necessary to characterize the environmental setting at and within the vicinity of the facility and the media-specific contamination resulting from the release(s) by the SWMU(s) and the AOC(s). The part of the workplan that addresses field sampling and measurement activities shall meet the sampling plan requirements stipulated in the "RCRA Quality Assurance Project Plan Guidance."

A. Environmental Setting

The Permittee shall submit an appropriate plan on collecting information to supplement existing information on the environmental setting at the facility and in the vicinity of the facility. Sufficient information shall be collected by the Permittee to characterize only those environmental media impacted by the release(s) from the SWMU(s) and the AOC(s):

1. Hydrogeology

The Permittee shall conduct a program to characterize the hydrogeologic conditions at the facility and the off-site areas where contamination has migrated. The program shall provide relevant information on geology and hydrogeology that should include, but not be limited to the following facts:

(a) A description of the regional and facility specific geologic and hydrogeologic characteristics which affect groundwater flow both beneath and within the vicinity of the facility, including:

(i) Regional and facility specific geomorphology and stratigraphy: description of strata including strike and dip, identification of stratigraphic contacts;

(ii) Structural geology: description of local and regional structural features (e.g., folds, faults, joints, and fractures);

(iii) Identification and characterization of areas and amounts of recharge and discharge;

(iv) Regional and facility specific groundwater flow patterns; and

(v) Characterize seasonal variations in the groundwater flow regime.

(b) An analysis of any topographic features that might influence the groundwater flow system.

(c) Based on field data, tests, and cores, a representative and accurate classification and description of the hydrogeologic units which may be part of the migration pathways (i.e., the aquifers and any intervening saturated and unsaturated units), including:

(i) Hydraulic conductivity and porosity (total and effective);

(ii) Lithology, grain size, sorting, degree of cementation;

(iii) An interpretation of hydraulic interconnections between saturated zones; and

(iv) The attenuation capacity and mechanisms of the natural earth materials (e.g., ion exchange capacity, organic carbon content, mineral content etc.).

(d) Based on field studies and cores, structural geology and hydrogeologic cross sections, a description of the extent (depth, thickness, lateral extent) of hydrogeologic units which may be part of the migration pathways, including:

(i) Sand and gravel deposits in unconsolidated deposits;

(ii) Zones of fracturing or channeling in consolidated or unconsolidated deposits;

(iii) Zones of higher permeability or low permeability that might direct and restrict the flow of contaminants;

(iv) The uppermost aquifer: geologic formation, group of formations, or part of a formation capable of yielding a significant amount of groundwater to wells or springs; and

(v) Water-bearing zones above the first confining layer that may serve as a pathway for contaminant migration including perched zones of saturation.

(e) Based on data obtained from groundwater monitoring wells and piezometers installed upgradient and downgradient of the potential contaminant source, a representative description of water level or fluid pressure monitoring including:

(i) Water-level contour and/or potentiometric maps;

(ii) Hydrologic cross sections showing vertical gradients;

(iii) The flow system, including the vertical and horizontal components of flow; and

(iv) Any temporal changes in hydraulic gradients, for example, due to tidal or seasonal influences.

(f) A description of man-made influences that may affect the hydrogeology, identifying:

(i) Active and inactive local water-supply and production wells with an approximate schedule of pumping; and

(ii) Man-made hydraulic structures (sewers, pipelines, French drains, ditches, unlined ponds, septic tanks, outfalls, retention areas, etc.).

2. Soils

The Permittee shall conduct a program to characterize the soil and rock units above the water table in the vicinity of the contaminant release(s). The program shall provide relevant information on soil characterization that should include, but not be limited to the following facts:

(a) SCS soil classification;
(b) Surface soil distribution;
(c) Soil profile, including ASTM classification of soils;
(d) Transects of soil stratigraphy;
(e) Hydraulic conductivity (saturated and unsaturated);
(f) Relative permeability;
(g) Bulk density;
(h) Porosity;
(i) Soil sorptive capacity;
(j) Cation exchange capacity (CEC);
(k) Soil organic content;
(l) Soil pH;
(m) Particle size distribution;
(n) Depth of water table;
(o) Moisture content;
(p) Effect of stratification on unsaturated flow;
(q) Infiltration;
(r) Evapotranspiration;
(s) Storage capacity; and
(t) Mineral content.

3. Surface Water and Sediment

The Permittee shall conduct a program to characterize the surface-water bodies in the vicinity of the contaminant release(s). The program shall provide relevant information on surface water and sediment characterization that should include, but not be limited to the following facts:

(a) Description of the temporal and permanent surface-water bodies including:

(i) For lakes and estuaries: location, elevation, surface area, inflow-outflow characteristics, depth, temperature stratification, and volume;

(ii) For impoundments: location, elevation, surface area, depth, volume, inflow-outflow characteristics, freeboard, and purpose of impoundment;

(iii) For rivers, streams, ditches, drains, swamps and channels: location, elevation, flow, velocity, depth, width, inflow-outflow characteristics, seasonal fluctuations, and flooding tendencies (i.e., 100 year event);

(iv) Drainage patterns; and

(v) Evapotranspiration.

(b) Description of the chemistry of the surface water. This includes determining the pH, total dissolved solids, total suspended solids, biological oxygen demand, alkalinity, conductivity, dissolved oxygen profiles, nutrients (NH_3, NO_3^-/NO_2, PO_4^{-3}), chemical oxygen demand, total organic carbon, and specific contaminant concentrations.

(c) Description of sediment characteristics including:

(i) Deposition area;

(ii) Thickness profile; and

(iii) Physical and chemical parameters (e.g., grain size, density, organic carbon content, ion exchange capacity, and pH).

4. Air

The Permittee shall conduct a program to characterize the climate at the facility and in the vicinity of the facility when contamination migrates off-site. The program shall provide relevant information on climatic conditions that should include, but not be limited to the following facts:

(a) A description of the following parameters:

(i) Annual and monthly rainfall averages;

(ii) Monthly temperature averages and extremes;

(iii) Wind speed and direction;

(iv) Relative humidity/dew point;

(v) Atmospheric pressure;

(vi) Evaporation data;

(vii) Development of inversions; and

(viii) Climate extremes that have been known to occur in the vicinity of the facility, including frequency of occurrence.

(b) A description of topographic and man-made features which affect air flow and emission patterns, including:

(i) Ridges, hills or mountain areas;

(ii) Canyons or valleys;

(iii) Surface-water bodies (e.g., rivers, lakes, bays, etc.);

(iv) Wind breaks and forests;

(v) Buildings; and

(vi) Existing man-made air emission sources (e.g., industrial processes, residences, etc.).

B. Contamination Characterization Plan

The Permittee shall submit a workplan on collecting analytical data to supplement existing data on groundwater, soils, surface water, sediment, air and subsurface gas contamination. This data shall be sufficient to define the nature, extent, origin, direction, and rate of movement of contaminant plume(s) in the environmental medium impacted by the release(s) from the SWMU(s) and AOC(s).

1. Groundwater Contamination

The Permittee shall conduct a program to characterize any plume(s) of contamination at the facility and any plume(s) that have migrated off-site. The program shall provide relevant information on groundwater contamination that should include, but not be limited to the following facts:

(a) A description of the horizontal and vertical extent of any immiscible or dissolved plume(s);

(b) The horizontal and vertical direction of contamination movement;

(c) The velocity of contaminant movement;

(d) The horizontal and vertical concentration profiles of contaminant constituents in the plume(s);

(e) An evaluation of factors influencing the plume movement, specific contaminant movement, and specific contaminant transformation (e.g., physical, chemical, biological, etc.); and

(f) An extrapolation of future contaminant movement.

2. Soil Contamination

The Permittee shall conduct a program to characterize the contamination of the soil and rock units above the water table in the vicinity of the contaminant release(s). The program shall provide relevant information on soil contamination that should include, but not be limited to the following facts:

(a) A description of the vertical and horizontal extent of contamination.

(b) A description of relevant contaminant chemical properties within the contaminant source area and plume. This includes contaminant solubility, speciation, adsorption, leachability, exchange capacity, biodegradability, hydrolysis, photolysis, oxidation and other factors that might affect contaminant migration and transformation.

(c) Specific contaminant concentrations.

(d) The velocity and direction of contaminant movement.

(e) An extrapolation of future contaminant movement.

3. Surface-Water and Sediment Contamination

The Permittee shall conduct a program to characterize the contamination in surface-water bodies resulting from the contaminant release(s) at the facility. The program shall provide relevant information on surface water and sediment contamination that shall include, but not be limited to the following facts:

(a) A description of the horizontal and vertical extent of any immiscible or dissolved plume(s) originating from the facility, and the extent of contamination in underlying sediments;

(b) The horizontal and vertical direction of contaminant movement;

(c) The contaminant velocity;

(d) An evaluation of the physical, biological and chemical factors influencing contaminant movement;

(e) An extrapolation of future contaminant movement; and

(f) The toxicity of the sediment and adjacent water column to aquatic life.

4. Air Contamination

The Permittee shall conduct a program to characterize the particulate and gaseous contaminants released into the atmosphere. The program shall provide relevant information on air emissions that should include, but not be limited to the following facts:

(a) A description of the horizontal and vertical direction and velocity of contaminant movement;

(b) The rate and amount of the release; and

(c) The chemical and physical composition of the contaminant(s) released, including horizontal and vertical concentration profiles.

5. Subsurface Gas Contamination

The Permittee shall conduct a program to characterize subsurface gas contamination in the soil. The program shall provide relevant information on subsurface gas contamination that should include, but not be limited to the following facts:

(a) A description of the horizontal and vertical extent of subsurface gas migration;

(b) The chemical composition of the gases being emitted;

(c) The rate, amount, and density of the gases being emitted; and

(d) Horizontal and vertical concentration profiles of the subsurface gases emitted.

VI. TASK V: INVESTIGATION ANALYSIS

The Permittee shall prepare an analysis and summary of all facility investigations and their results. The objective of this task shall be to ensure that the investigation data are sufficient in quality (e.g., quality assurance procedures have been followed) and quantity to describe the nature, rate, and extent of contamination, potential threat to human health and/or the environment, and to support the Corrective Measures Study.

A. Data Analysis

The Permittee shall analyze all facility investigation data outlined in Task IV and prepare a report on the nature, rate, and extent of contamination at the facility including sources and migration pathways. The report shall describe the nature and extent of contamination (qualitative/ quantitative) in relation to background levels indicative for the area.

B. Protection Standards

The Permittee shall identify all relevant and applicable standards and action levels (e.g., health based guidance values) for the protection of human health and the environment.

VII. TASK VI: LABORATORY AND BENCH SCALE STUDIES

The Permittee shall conduct laboratory and/or bench scale studies to determine the applicability of a corrective measure technology or technologies to facility conditions. The Permittee shall analyze the technologies, based on literature review, vendor contracts, and past experience to determine the testing requirements.

The Permittee shall develop a testing plan identifying the type(s) and goal(s) of the study(s), the level of effort needed, and the procedures to be used for data management and interpretation.

Upon completion of the testing, the Permittee shall evaluate the testing results to assess the technology or technologies with respect to the site-specific questions identified in the test plan.

The Permittee shall prepare a report summarizing the testing program and its results, both positive and negative.

VIII. TASK VII: REPORTS

A. Progress Reports

The Permittee shall provide signed progress reports as required by Condition B.8.(a) of Module III of this Permit.

B. Draft and Final Reports

The Permittee shall prepare a RCRA Facility Investigation ("RFI") Report as required by Condition E.7 of Module III of this Permit. The RFI Report shall present all information gathered under the approved RFI Workplan.

NYSDEC 373 PERMIT
FOR
GENERAL ELECTRIC COMPANY
BUFFALO SERVICE SHOP

APPENDIX III-C

SCOPE OF WORK FOR A
CORRECTIVE MEASURE STUDY

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SCOPE OF WORK FOR A CORRECTIVE MEASURE STUDY

GENERAL ELECTRIC COMPANY
BUFFALO SERVICE SHOP

I. PURPOSE

The purpose of this Corrective Measure Study (CMS) is to develop and evaluate the corrective action alternative or alternatives and to recommend the corrective measure or measures to be taken. The Permittee will furnish the personnel, materials, and services necessary to prepare the corrective measure study, except as otherwise specified.

II. SCOPE

The Corrective Measure Study consists of four tasks:

Task I: Identification and Development of the Corrective Measure Alternative or Alternatives

- A. Description of Current Situation
- B. Establishment of Corrective Action Objectives
- C. Screening of Corrective Measures Technologies
- D. Identification of the Corrective Measure Alternative or Alternatives

Task II: Evaluation of the Corrective Measure Alternative or Alternatives

- A. Technical/Environmental/Human Health/Institutional
- B. Cost Estimate

Task III: Justification and Recommendation of the Corrective Measure or Measures

- A. Technical
- B. Human Health
- C. Environmental

Task IV: Reports

- A. Progress
- B. Final

III. TASK I: IDENTIFICATION AND DEVELOPMENT OF THE CORRECTIVE ACTION ALTERNATIVE OR ALTERNATIVES

Based on the results of the RCRA Facility Investigation and consideration of the identified Preliminary Corrective Measure Technologies (Task II of **Appendix III-B**), the Permittee shall identify, screen, and develop the alternative or alternatives for removal, containment, treatment and/or other remediation of the contamination based on the objectives established for the corrective action.

A. Description of Current Situation

The Permittee shall submit an update to the information describing the current situation at the facility and the known nature and extent of the contamination as documented by the RCRA Facility Investigation Report. The Permittee shall provide an update to information presented in Task I of the RFI to the Commissioner regarding previous response activities and any interim measures which have or are being implemented at the facility. The Permittee shall also make a facility-specific statement of the purpose for the response, based on the results of the RCRA Facility Investigation ("RFI"). The statement of purpose should identify the actual or potential exposure pathways that should be addressed by corrective measures.

B. Establishment of Corrective Action Objectives

The Permittee, in conjunction with the Department, shall establish site specific objectives for the corrective action. These objectives shall be based on public health and environmental criteria, information gathered during the RFI, EPA and New York State guidance, and the requirements of any applicable federal and state statutes. At a minimum, all corrective actions concerning groundwater releases from regulated units must be consistent with, and as stringent as, those required under 6NYCRR 373-2.6.

C. Screening of Corrective Measure Technologies

The Permittee shall review the results of the RFI and reassess the technologies specified in Task II and identify additional technologies which are applicable at the facility. The Permittee shall screen the preliminary corrective measure technologies identified in Task II of the RFI and any supplemental technologies to eliminate those that may prove infeasible to implement, that rely on technologies unlikely to perform

satisfactorily or reliably, or that do not achieve the corrective measure objective within a reasonable time period. This screening process focuses on eliminating those technologies which have severe limitations for a given set of waste and site-specific conditions. The screening step may also eliminate technologies based on inherent technology limitations. Site, waste, and technology characteristics which are used to screen inapplicable technologies are described in more detail below:

1. Site Characteristics

   Site data should be reviewed to identify conditions that may limit or promote the use of certain technologies. Technologies whose use is clearly precluded by site characteristics should be eliminated from further consideration;

2. Waste Characteristics

   Identification of waste characteristics that limit the effectiveness or feasibility of technologies is an important part of the screening process. Technologies clearly limited by these waste characteristics should be eliminated from consideration. Waste characteristics particularly affect the feasibility of in-situ methods, direct treatment methods, and land disposal (on/off-site); and

3. Technology Limitations

   During the screening process, the level of technology development, performance record, and inherent construction, operation, and maintenance problems should be identified for each technology considered. Technologies that are unreliable, perform poorly, or are not fully demonstrated may be eliminated in the screening process. For example, certain treatment methods have been developed to a point where they can be implemented in the field without extensive technology transfer or development.

D. <u>Identification of the Corrective Measure Alternative or Alternatives</u>

The Permittee shall develop the corrective measure alternative or alternatives based on the corrective action objectives and analysis of the Preliminary Corrective Measure Technologies, as presented in Task II

of the RFI and as supplemented following the preparation of the RFI Final Report. The Permittee shall rely on engineering practice to determine which of the previously identified technologies appear most suitable. Technologies can be combined to form the overall corrective action alternative or alternatives. The alternative or alternatives developed should represent a workable number of option(s) that each appear to adequately address all problems and corrective action objectives. Each alternative may consist of an individual technology or a combination of technologies. The Permittee shall document the reasons for excluding technologies, identified in Task II, as supplemented in the development of the alternative or alternatives.

IV. TASK II: EVALUATION OF THE CORRECTIVE MEASURE ALTERNATIVE OR ALTERNATIVES

The Permittee shall describe each corrective measure alternative that passes through the Initial Screening in Task I of Appendix III-C and evaluate each corrective measure alternative and it's components. The evaluation shall be based on technical, environmental, human health and institutional concerns. The Permittee shall also develop cost estimates of each corrective measure.

A. Technical/Environmental/Human Health/Institutional

The Permittee shall provide a description of each corrective measure alternative which includes, but is not limited to the following: preliminary process flow sheets; preliminary sizing and type of construction for buildings and structures; and rough quantities of utilities required. The Permittee shall evaluate each alternative in the four following areas:

1. Technical

The Permittee shall evaluate each corrective measure alternative based on performance, reliability, implementability and safety.

(a) The Permittee shall evaluate performance based on the effectiveness and useful life of the corrective measure:

(i) Effectiveness shall be evaluated in terms of the ability to perform intended functions, such as containment, diversion, removal, destruction, or treatment. The effectiveness of each corrective measure shall be determined

either through design specifications or by performance evaluation. Any specific waste or site characteristics which could potentially impede effectiveness shall be considered. The evaluation should also consider the effectiveness of combinations of technologies; and

(ii) Useful life is defined as the length of time the level of effectiveness can be maintained. Most corrective measure technologies, with the exception of destruction, deteriorate with time. Often, deterioration can be slowed through proper system operation and maintenance, but the technology eventually may require replacement. Each corrective measure shall be evaluated in terms of the projected service lives of its component technologies. Resource availability in the future life of the technology, as well as appropriateness of the technologies, must be considered in estimating the useful life of the project.

(b) The Permittee shall provide information on the reliability of each corrective measure including their operation and maintenance requirements and their demonstrated reliability:

(i) Operation and maintenance requirements include the frequency and complexity of necessary operation and maintenance. Technologies requiring frequent or complex operation and maintenance activities should be regarded as less reliable than technologies requiring little or straight forward operation and maintenance. The availability of labor and materials to meet these requirements shall also be considered; and

(ii) Demonstrated and expected reliability is a way of measuring the risk and effect of failure. The Permittee should evaluate whether the technologies have been used effectively under analogous conditions; whether the combination of technologies have been used together

effectively; whether failure of any one technology has an immediate impact on receptors; and whether the corrective measure has the flexibility to deal with uncontrollable changes.

(c) The Permittee shall describe the implementability of each corrective measure including the relative ease of installation (constructability) and the time required to achieve a given level of response:

(i) Constructability is determined by conditions both internal and external to the facility conditions and include such items as location of underground utilities, depth of water table, heterogeneity of subsurface materials, and location of the facility (i.e., remote location vs. a congested urban area). The Permittee shall evaluate what measures can be taken to facilitate construction under these conditions. External factors which affect implementation include the need for special permits or agreements, equipment availability, and the location of suitable off-site treatment or disposal facilities; and

(ii) Time has two components that shall be addressed: (1) the time it takes to implement a corrective measure; and (2) the time it takes to actually see beneficial results. Beneficial results are defined as the reduction of contaminants to some acceptable, pre-established level.

(d) The Permittee shall evaluate each corrective measure alternative with regard to safety. This evaluation shall include threats to the safety of nearby communities and environments as well as those to workers during implementation. Among the factors to consider are fire, explosion, and exposure to hazardous substances.

2. Environmental

The Permittee shall perform an Environmental Assessment for each alternative. The Environmental Assessment shall focus on the facility conditions and pathways of contamination actually addressed by each alternative. The Environmental Assessment for each alternative will include, at a minimum, an evaluation of: the short and long term beneficial and adverse effects of the response alternative; any adverse effects on environmentally sensitive areas; and an analysis of measures to mitigate adverse effects.

3. Human Health

The Permittee shall assess each alternative in terms of the extent to which it mitigates short and long term potential exposure to any residual contamination and protects human health both during and after implementation of the corrective measure. The assessment will describe the levels and characterizations of contaminants on-site, potential exposure routes, and potentially affected populations. Each alternative will be evaluated to determine the level of exposure to contaminants and the reduction over time. For management of mitigation measures, the relative reduction of impact will be determined by comparing residual levels of each alternative with existing criteria, standards, or guidelines.

4. Institutional

The Permittee shall assess relevant institutional needs for each alternative. Specifically, the effects of Federal, State, and local environmental and public health standards, regulations, guidance, advisories, ordinances, or community relations on the design, operation, and timing of each alternative.

B. Cost Estimate

The Permittee shall develop an estimate of the cost of each corrective measure alternative (and for each phase or segment of the alternative). The cost estimate shall include both capital, operation and maintenance costs.

1. Capital costs consist of direct (construction) and indirect (nonconstruction and overhead) costs.

(a) Direct capital costs include:

(i) Construction costs: Costs of materials, labor (including fringe benefits and worker's compensation), and equipment required to install the corrective measure;

(ii) Equipment costs: Costs of treatment, containment, disposal and/or service equipment necessary to implement the action; these materials remain until the corrective action is complete;

(iii) Land and site-development costs: Expenses associated with purchase of land and development of existing property; and

(iv) Buildings and services costs: Costs of process and nonprocess buildings, utility connections, purchased services, and disposal costs.

(b) Indirect capital costs include:

(i) Engineering expenses: Costs of administration, design, construction supervision, drafting, and testing of corrective measure alternatives;

(ii) Legal fees and license or permit costs: Administrative and technical costs necessary to obtain licenses and permits for installation and operation;

(iii) Startup and shakedown costs: Costs incurred during corrective measure startup; and

(iv) Contingency allowances: Funds to cover costs resulting from unforeseen circumstances, such as adverse weather conditions, strikes, and inadequate facility characterization.

2. Operation and maintenance costs are post-construction costs necessary to ensure continued effectiveness of a corrective measure. The Permittee shall consider the following operation and maintenance cost components;

(a) Operating labor costs: Wages, salaries, training, overhead, and fringe benefits associated with the labor needed for post-construction operations;

(b) Maintenance materials and labor costs: Costs for labor, parts, and other resources required for routine maintenance of facilities and equipment;

(c) Auxiliary materials and energy: Costs of such items as chemicals and electricity for treatment plant operations, water and sewer service, and fuel;

(d) Purchased services: Sampling costs, laboratory fees, and professional fees for which the need can be predicted;

(e) Disposal and treatment costs: Costs of transporting, treating, and disposing of waste materials, such as treatment plant residues generated during operations;

(f) Administrative costs: Costs associated with administration of corrective measure operation and maintenance not included under other categories;

(g) Insurance, taxes, and licensing costs: Costs of such items as liability and sudden accidental insurance; real estate taxes on purchased land or rights-of-way; licensing fees for certain technologies; and permit renewal and reporting costs;

(h) Maintenance reserve and contingency funds: Annual payments into escrow funds to cover (1) costs of anticipated replacement or rebuilding of equipment and (2) any large unanticipated operation and maintenance costs; and

(i) Other costs: Items that do not fit any of the above categories.

V. TASK III: JUSTIFICATION AND RECOMMENDATION OF THE CORRECTIVE MEASURE OR MEASURES

The Permittee shall justify and recommend a corrective measure alternative using technical, human health, and environmental criteria. This recommendation shall include summary tables which allow the alternative or alternatives

to be understood easily. Tradeoffs among health risks, environmental effects, and other pertinent factors shall be highlighted. The Commissioner will select the corrective measure alternative or alternatives to be implemented based on the results of Tasks II and III of Appendix III-C. At a minimum, the following criteria will be used to justify the final corrective measure or measures.

A. Technical

1. Performance - corrective measure or measures which are most effective at performing their intended functions and maintaining the performance over extended periods of time will be given preference;

2. Reliability - corrective measure or measures which do not require frequent or complex operation and maintenance activities and that have proven effective under waste and facility conditions similar to those anticipated will be given preference;

3. Implementability - corrective measure or measures which can be constructed and operated to reduce levels of contamination to attain or exceed applicable standards in the shortest period of time will be preferred; and

4. Safety - corrective measure or measures which pose the least threat to the safety of nearby residents and environments as well as workers during implementation will be preferred.

B. Human Health

The corrective measure or measures must comply with existing EPA and/or State criteria, standards, or guidelines for the protection of human health. Corrective measures which provide the minimum level of exposure to contaminants and the maximum reduction in exposure with time are preferred.

C. Environmental

The corrective measure or measures posing the least adverse impact (or greatest improvement) over the shortest period of time on the environment will be favored.

VI. TASK IV: REPORTS

A. Progress Reports

The Permittee shall provide the Commissioner with signed progress reports as required by Condition B.8.(a) of Module III of this Permit.

B. Corrective Measures Study ("CMS") Final Report

The Permittee shall prepare a CMS Final Report as required by Condition E.11. of Module III of this Permit. The CMS Final Report shall include all information gathered under the approved CMS Workplan. The CMS Final Report shall at a minimum include:

1. A description of the facility;

   (a) Site topographic map and preliminary layouts.

2. A summary of the corrective measure or measures;

   (a) Description of the corrective measure or measures and rationale for selection;

   (b) Performance expectations;

   (c) Preliminary design criteria and rationale;

   (d) General operation and maintenance requirements; and

   (e) Long-term monitoring requirements.

3. A summary of the RCRA Facility Investigation and impact on the selected corrective measure or measures;

   (a) Field studies (groundwater, surface-water, soil, air); and

   (b) Laboratory studies (bench scale, pilot scale).

4. Design and Implementation Precautions;

   (a) Special technical problems;

   (b) Additional engineering data required;

   (c) Permits and regulatory requirements;

   (d) Access, easements, right-of-way;

(e) Health and safety requirements; and

(f) Community relations activities.

5. Cost Estimates and Schedules;

(a) Capital cost estimate;

(b) Operation and maintenance cost estimate; and

(c) Project schedule (design, construction, operation).

o

NYSDEC 373 PERMIT
FOR
GENERAL ELECTRIC COMPANY
BUFFALO SERVICE SHOP

APPENDIX III-D

COMPLIANCE SCHEDULE

373 Appendix III-D
Compliance Schedule

GENERAL ELECTRIC COMPANY
BUFFALO SERVICE SHOP

I. Compliance Schedule For Interim Corrective Measures.

A. Pursuant to Module Condition B.6.(a), Permittee shall submit for approval an interim corrective measures study within thirty (30) calendar days following the date of the notification by the Commissioner requiring implementation of interim corrective measures.

B. Pursuant to Module Condition B.6.(b), Permittee shall submit for approval an interim corrective measures work plan within thirty (30) calendar days after notifying the Commissioner of the actual or potential threat to human health or the environment.

II. Compliance Schedule For Reporting.

A. Pursuant to Module Condition B.8.(a), Permittee shall submit signed progress reports as specified in approved work plans of all activities conducted in accordance with the provisions of this Permit Module, beginning no later than thirty (30) calendar days after the Permittee is first required to begin implementation of any such requirement.

III. Compliance Schedule for Notification

A. Pursuant to Module III Condition B.10.(a), Permittee within fifteen (15) calendar days; after discovering facility releases of hazardous constituents in groundwater have migrated off-site, shall notify the Commissioner and off-site owners or residents on land overlying such contamination.

B. Pursuant to Module III Condition B.10.(b), Permittee within fifteen (15) calendar days; after discovering facility releases of hazardous constituents in air have or are migrated off-site, exceeding action levels, shall notify the Commissioner and off-site individuals subject to such long-term exposure.

IV. Compliance Schedule For Assessment of Newly Identified SWMUs and AOCs.

A. Pursuant to Module Condition C.1., Permittee shall notify the Commissioner, in writing, of any additional SWMU(s) and/or AOC(s) within fifteen (15) calendar days after discovery.

B. Pursuant to Module Condition C.2., Permittee shall submit a SWMU/AOC Assessment Report within thirty (30) calendar days after notifying the Commissioner of any additional SWMU(s) and/or AOC(s).

C. Pursuant to Module Condition C.3., Permittee shall submit for approval a SWMU/AOC Sampling and Analysis Plan within thirty (30) calendar days after submittal of the SWMU/AOC Assessment Report.

D. Pursuant to Module Condition C.4.(b), Permittee shall submit for approval revisions of the SWMU/AOC Sampling and Analysis Plan within thirty (30) calendar days after meeting with the Department to discuss Plan comments or within forty-five (45) calendar days after Permittee's receipt of Plan comments when no meeting is scheduled.

E. Pursuant to Module Condition C.4.(c), Permittee shall begin to implement the SWMU/AOC Sampling and Analysis Plan within thirty (30) calendar days following written approval of the Plan.

F. Pursuant to Module Condition C.5., Permittee shall submit a SWMU/AOC Sampling and Analysis Report within thirty (30) calendar days of receipt by the Permittee of validated analytical data generated under in the approved SWMU/AOC Sampling and Analysis Plan.

V. Compliance Schedule And Notification Requirements For Newly-Discovered Releases At SWMUs and AOCs.

A. Pursuant to Module Condition D., Permittee shall notify the Commissioner, in writing, of any newly-discovered releases at SWMUs and/or AOCs, no later than fifteen (15) calendar days after such discovery.

VI. Compliance Schedule For RFA-Sampling Visit (SV) Work Plan.

Not Applicable

VII. Compliance Schedule For RFA-SV Work Plan Implementation.

Not Applicable

VIII. Compliance Schedule For RFA-SV Report.

Not Applicable

IX. Compliance Schedule For RCRA Facility Investigation ("RFI") Work Plan.

A. Pursuant to Module Condition E.5.(c)., Permittee shall submit for approval a RFI Task I and II reports and a Work Plan for the inaccessible SWMU(s) identified in Module Condition E.5.(b) and/or Module Condition C.6. no later than one-hundred and eighty (180) calendar days prior to the date when the SWMU(s) become accessible for such an investigation.

B. Pursuant to Module Condition E.5.(d)., Permittee shall submit for approval a RFI Task I Report for the SWMU(s) identified in Module Condition E.5.(a) within sixty (60) calendar days after the effective date of this Permit, if applicable, and within sixty (60) calendar days after written notification by the Commissioner than an RFI is required pursuant to Module Condition C.6, D., and/or E.4(b).

C. Pursuant to Module Condition E.5.(e)., Permittee shall submit for approval a RFI Task II Report for the SWMU(s) identified in Module Condition E.5.(a) within ninety (90) calendar days after the effective date of this Permit, if applicable, and within ninety (90) days after written notification by the Commissioner than an RFI is required pursuant to Module Condition C.6., D., and/or E.4(b).

D. Pursuant to Module Condition E.5.(f)., Permittee shall submit for approval a RFI Work Plan for the SWMU(s) identified in Module Condition E.5.(a) within one-hundred and twenty (120) calendar days after the effective date of this Permit, if applicable, and within ninety (90) days after written notification by the Commissioner than an RFI is required pursuant to Module Condition C.6., D., and/or E.4(b).

E. Pursuant to Module Condition E.5(f)(iv), if the Permittee determines any items of Tasks III through V of the RFI Scope of Work have been submitted, the Permittee shall request within thirty (30) calendar days of the effective date of the Permit, and/or within thirty (30) calendar days of notification by the Commissioner, that the Commissioner review for approval the Permittee's determination.

F. Pursuant to Module Condition E.5.(g)(ii)., Permittee shall submit for approval revisions to the RFI Work Plan within thirty (30) calendar days after meeting with the Department to discuss Plan comments, or within forty-five (45) calendar days after Permittee's receipt of Plan comments when no meeting is scheduled.

X. Compliance Schedule For RFI Work Plan Implementation.

A. Pursuant to Module Condition E.6., Permittee shall begin to implement the RFI Work Plan within thirty (30) calendar days following written approval of the Plan.

XI. Compliance Schedule For RFI Final Report And Summary Report.

A. Pursuant to Module Condition E.7.(a)., Permittee shall submit for approval the RFI Final and Summary Reports within sixty (60) calendar days after receipt by the Permittee of validated analytical data generated under the approved work plan.

B. Pursuant to Module Condition E.7.(b)(ii), Permittee shall submit for approval revisions to the RFI Final and Summary Reports within forty-five (45) calendar days after meeting with the Department to discuss Report comments, or within forty-five (45) calendar days when no meeting is scheduled.

C. Pursuant to Module Condition E.7.(c), Permittee shall mail the approved Summary Report to all individuals on the facility mailing list within thirty (30) calendar days of receipt of Report approval.

XII. Compliance Schedule For Current Interim Corrective Measures.

Not Applicable

XIII. Compliance Schedule For Corrective Measures Study ("CMS") Scope of Work.

A. Pursuant to Module Condition E.9.(d), Permittee shall submit a Task I Report and documents within sixty (60) calendar days after the written notification by the Commissioner for a CMS.

B. Pursuant to Module Condition E.9.(e), Permittee shall submit for approval a CMS Plan within sixty (60) calendar days after the written notification by the Commissioner for a CMS.

C. Pursuant to Module Condition E.9.(f)(ii), Permittee shall submit for approval revisions to the CMS Plan within thirty (30) calendar days after meeting with the Department to discuss Plan comments, or within forty-five (45) calendar days when no meeting is scheduled.

XIV. Compliance Schedule For CMS Implementation.

A. Pursuant to Module Condition E.10., Permittee shall begin to implement the CMS Plan within thirty (30) calendar days following written approval of the Plan.

XV. Compliance Schedule For CMS Final Report.

A. Pursuant to Module Condition E.11.(a), Permittee shall submit for approval a CMS Final Report within forty-five (45) calendar days after completion of the CMS.

B. Pursuant to Module Condition E.11.(c)(ii), Permittee shall submit for approval revisions to the CMS Final Report within thirty (30) calendar days after meeting with the Department to discuss Report comments or within forty-five (45) calendar days when no meeting is scheduled.

XVI. Compliance Schedule For Financial Assurance for Corrective Measure(s)

A. Pursuant to Module Condition E.13.(b), Permittee shall demonstrate financial assurance for completing the approved corrective measure(s) within thirty (30) calendar days after this Permit has been modified.

XVII. Modification of the Compliance Schedules

A. Pursuant to Module Condition E.14.(a)(i), Permittee shall submit proposed modification of any Compliance Schedule within fifteen (15) calendar days of determining that a schedule cannot be met.

MODULE IV - WASTE REDUCTION REQUIREMENTS

The Permittee shall comply with the requirements of Article 27, Title 9, Section 27-0908 of the New York State Environmental Conservation Law.

All reports and submittals required by Section 27-0908 to be submitted to the Commissioner shall be sent to the following addresses:

Three (3) copies to:

New York State Department of Environmental Conservation
50 Wolf Road
Albany, NY 12233

Attention: Director, Bureau of Pollution Prevention
Division of Pollution Prevention and Waste Reduction

and

One (1) copy to:

New York State Department of Environmental Conservation
Region 9
270 Michigan Avenue
Buffalo, New York 14203-2999

Attention: Regional Hazardous Materials Engineer

MODULE V - LAND DISPOSAL RESTRICTIONS *

A. BACKGROUND: 6 NYCRR Part 376 (Land Disposal Restrictions) prohibits the continued land disposal of untreated hazardous wastes beyond specified dates, unless the Commissioner authorizes an exemption from or extension to an effective date of an applicable restriction established under section 376.3 of this part, under the provisions of 6 NYCRR Parts 376.1(a)(4), 376.1(a)(5), 376.1(e) or 376.1(f).

Pursuant to 6 NYCRR Part 373-2.2(e) before an operator treats, stores or dispose of any hazardous waste, he must obtain a detailed chemical and physical analysis of a representative sample of the waste. At a minimum this analysis must contain all the information which must be known to treat store or dispose of the waste in accordance with the requirements of 6 NYCRR Part 373-2 and 376 or the conditions of a permit issued under 6 NYCRR Part 373-1 and 621.

The Permittee shall comply with the waste analysis, notification, certification and record keeping requirements of 6 NYCRR Part 376.1(g) whenever generating, treating or managing a restricted waste.

B. STORAGE OF RESTRICTED WASTES: The Permittee may store such wastes to which the land disposal prohibition applies for up to one year unless the Department can demonstrate that such storage was not solely for the purpose of a accumulation of such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment or disposal [6 NYCRR Part 376.5(a)2].

The Permittee may store wastes to which the land disposal prohibition applies beyond one year; however, the Permittee bears the burden of proving that such storage was solely for the purpose of accumulation of such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment or disposal [6 NYCRR Part 376.5(b)(3)].

C. LAND DISPOSAL OF RESTRICTED WASTES: The land disposal of restricted waste is prohibited unless the applicable treatment standard is met, or the waste is exempt under 6 NYCRR Part 376.1(a)(3).

D. THE RESTRICTION DATES: The above restrictions become effective only from as specified under 6 NYCRR Part 376.3.

The Permittee is required to comply with the restrictions and applicable dates which are specified in

6 NYCRR Part 376 for all hazardous waste managed by the Permittee.

* 6 NYCRR Part 376 (Land Disposal Restrictions) is effective from January 31, 1995.

MODULE VI - STORAGE IN CONTAINERS

A. AUTHORIZED STORAGE AREA, WASTE TYPES AND STORAGE VOLUME.

The Permittee may store the following wastes in containers at the facility, subject to the terms of this permit:

AREA	WASTE MATERIAL	HAZARDOUS WASTE NO.	CONTAINER VOLUME	NUMBER OF CONTAINERS
PCB Work Area E	PCB Contaminated Oils (from draining and/or flushing PCB Contaminated Transformers	B001, B002, B003	Various size electrical equipment & containers	Up to 26,900 gallons in various size containers and equipment, maximum container volume is 3,362 gallons
	PCB Contaminated Solids (Generated During PCB Related Work Activities)	B004-B007		
RCRA Hazardous Waste Storage Area	Sludge (Oil\Water Separator, Cleaning Pits)	(Varies) D001, D002, D004-D011	55-Gallon DOT Approved Containers	36
	Abrasive Blasting Fines	(Varies) D004-D011		
	Waste Oil (Motor\ Lubricating Oil)	(Varies) D004-D011		
	Rags, Used Brushes, Other Debris soaked with Flammable Solvent and Thinners	F001, F003, F005		
	Scrap Paint and Varnish Residue	D001		
	Flammable Solvent & Thinners	D001,D002 F001,F003, F005		

B. CONTAINMENT

The Permittee shall maintain the containment systems in accordance with the requirements of 6 NYCRR 373-2.9(f) and as specified in the attached plans and specifications, **Attachment VIII.**

C. CONDITION OF CONTAINERS

If a container holding hazardous waste is not in good condition (e.g., severe rusting, apparent structural defects, deterioration of liner) or if it begins to leak, the Permittee shall transfer the hazardous waste from such container to a container that is in good condition or otherwise manage the waste in compliance with the conditions of this permit. Each such occurrence shall be recorded in the inspection log and maintained as part of the operating record as described in Module I, Condition H.(6). If any leaking container threatens human health or the environment, it must be reported as specified in Module I, Condition D.(8), (i.e., 24-hour reporting).

D. COMPATIBILITY OF WASTE WITH CONTAINERS

The Permittee shall assure that the ability of the container to contain or store the waste is not impaired as required by 6 NYCRR 373-2.9(c) and in accordance with **Attachment VIII.**

E. MANAGEMENT OF CONTAINERS

The Permittee shall manage containers as required by 6 NYCRR 373-2.9(d).

F. SPECIAL REQUIREMENTS FOR IGNITABLE OR REACTIVE WASTE

The Permittee shall not locate containers holding ignitable or reactive waste within 15 meters (50 feet) of the facility's property line.

G. SPECIAL REQUIREMENTS FOR INCOMPATIBLE WASTE

(1) The Permittee shall not place incompatible wastes or incompatible wastes and materials in the same container.

(2) The Permittee shall not place hazardous waste in an unwashed container that previously held an incompatible waste or material.

(3) The Permittee shall separate containers of incompatible wastes as indicated in the attached plans, **Attachment VIII**, and as required by 6 NYCRR 373-2.9(h)(3).

H. ADDITIONAL REQUIREMENTS

(1) All containers managed at the container management pads must be labelled.

(2) Within ninety (90) calendar days of the effective date of this permit and annually thereafter, the Containment Areas of the Hazardous Waste Storage Pads shall be inspected by an independant NYS registered professional engineer who is qualified to evaluate the condition of the concrete. All surfaces must be completely exposed where possible and inspected for cracks, failed joint filler or sealant, differential settlement, and any other defects which may decrease the relative impermeability of the containment areas or reduce the effectiveness of collecting spilled waste or stormwater. The engineer must prepare a detailed report which specifies the nature and content of the inspection, observations made, details of any defects found (including photographs, if needed to fully describe the defect), evaluates the adequacy of any repairs made during the year, provides details of any remedial action taken (including methods, procedures, and materials specifications) and certifies that all repairs made in response to the inspection were made in accordance with the descriptions contained within the report. This report must be submitted to the NYSDEC.

(3) If the inspection required as part of condition (2) above reveals that the concrete containment system needs to be resealed, it shall be done within thirty (30) days of the inspection. The containment system shall then be reinspected by an independant NYS regsistered professional engineer. A certification report shall be completed and submitted to the NYSDEC.

FINAL STATUS APPLICATION

CERTIFICATION

"I certify under penalty of law that this document and all attachments are prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

Date: 8/27/92

By: R. J. Brudath

General Manager

Appraisal Service Department

Please print or type in the unshaded areas only.
(Each shaded area is spaced for one character per box.)

Form Approved. OMB No. 158-S80004

FORM 3 RCRA

U.S. ENVIRONMENTAL PROTECTION AGENCY

HAZARDOUS WASTE PERMIT APPLICATION

Consolidated Permits Program

(This information is required under Section 3005 of RCRA.)

I. EPA I.D. NUMBER: F N Y D 0 6 7 5 3 9 9 4 0

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below *(mark one box only)* to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION *(place an "X" below and provide the appropriate date)*

[X] 1. EXISTING FACILITY *(See instructions for definition of "existing" facility. Complete item below.)*

FOR EXISTING FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED *(use the boxes to the left)*

YR.	MO.	DAY
6 9	1 1	0 3

[ ] 2. NEW FACILITY *(Complete item below.)*

FOR NEW FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR IS EXPECTED TO BEGIN

YR.	MO.	DAY

B. REVISED APPLICATION *(place an "X" below and complete Item I above)*

[ ] 1. FACILITY HAS INTERIM STATUS

[ ] 2. FACILITY HAS A RCRA PERMIT

III. PROCESSES – CODES AND DESIGN CAPACITIES

A. PROCESS CODE – Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not instructed in the list of codes below, then describe the process *(including its design capacity)* in the space provided on the form *(Item III-C)*.

B. PROCESS DESIGN CAPACITY – For each code entered in column A enter the capacity of the process.

1. AMOUNT – Enter the amount.
2. UNIT OF MEASURE – For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER *(barrel, drum, etc.)*	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET *(the volume that would cover one acre to a depth of one foot)* OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS
Treatment:		
TANK	T80	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T81	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T82	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)*	T84	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G
LITERS	L
CUBIC YARDS	Y
CUBIC METERS	C
GALLONS PER DAY	U
LITERS PER DAY	V
TONS PER HOUR	D
METRIC TONS PER HOUR	W
GALLONS PER HOUR	E
LITERS PER HOUR	H
ACRE-FEET	A
HECTARE-METER	F
ACRES	B
HECTARES	Q

EXAMPLE FOR COMPLETING ITEM III *(shown in line numbers X-1 and X-2 below)*: A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S 0 2	600	G	
X-2	T 0 3	20	E	
1	S 0 1	2,000	G	
2				
3				
4				

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
5				
6				
7				
8				
9				
10				

C DUP 1

Continued from page-2.
NOTE Photocopy this page before completing if you have more than 26 wastes to list.

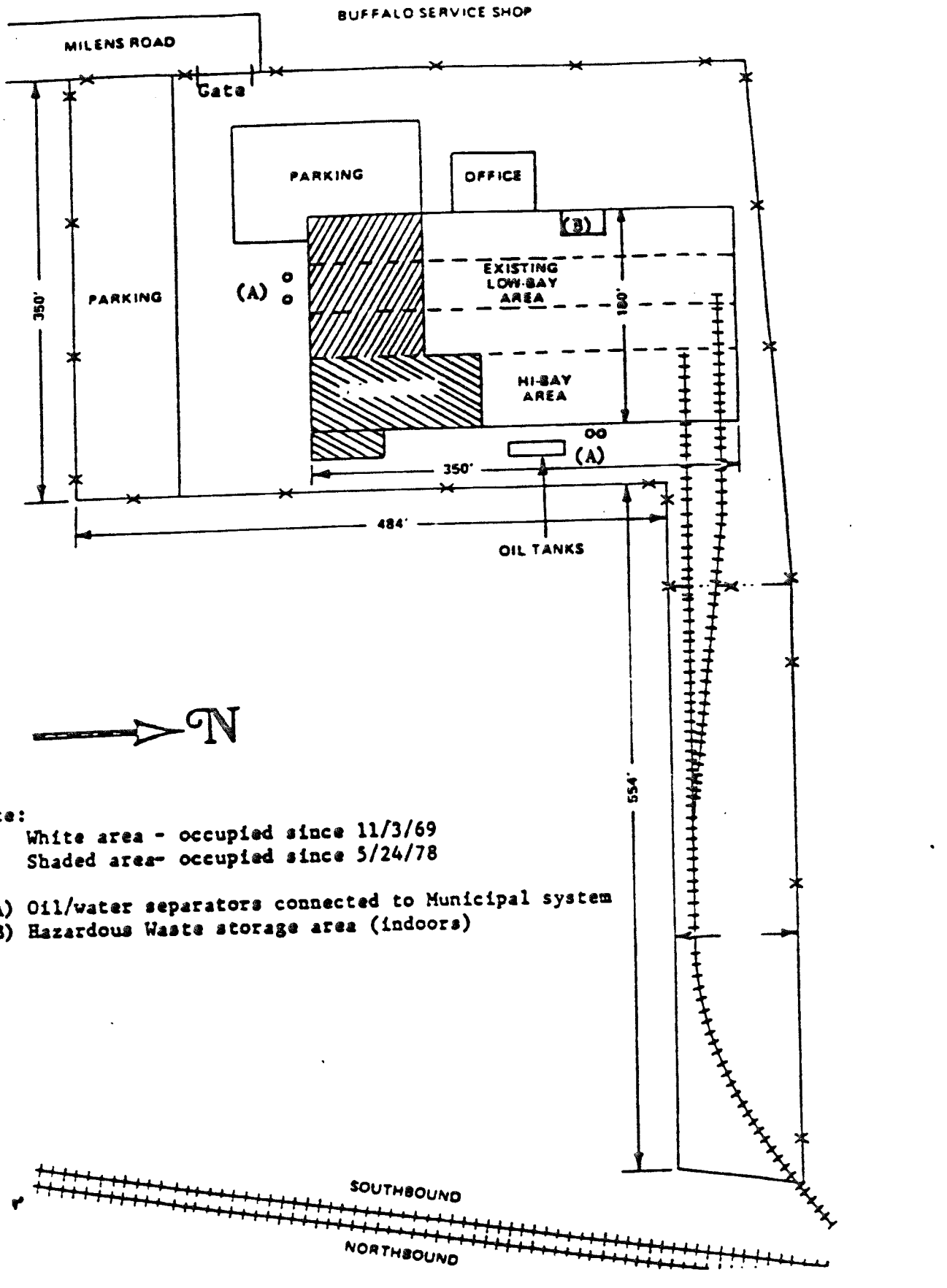
Form Approved OMB No. 158-S80004

EPA I.D. NUMBER (enter from page 1)		FOR OFFICIAL USE ONLY	
N Y D 0 6 7 5 3 9 9 4 0		W DUP	DUP

DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	D 0 0 1	4000	P	S 0 1	
2	D 0 0 2	1500	P	S 0 1	
3	D 0 0 6	2000	P	S 0 1	
4	D 0 0 7	Included in above			
5	D 0 0 8	Included in above			
6	F 0 0 1	1000	P	S 0 1	
7	B 0 0 1	737,800			
8	B 0 0 2	Included in above			
9	B 0 0 3	Included in above			
10	B 0 0 4	1374500	P	S 0 1	
11	B 0 0 5	Included in above			
12	B 0 0 6	Included in above			
13	B 0 0 7	Included in above			
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
25					
26					

V. FACILITY DRAWING See page 4



Note:
White area - occupied since 11/3/69
Shaded area- occupied since 5/24/78

(A) Oil/water separators connected to Municipal system
(B) Hazardous Waste storage area (indoors)

GENERAL ELECTRIC
175 Milens Road
Tonawanda, NY 14150

AIR EMISSIONS

9-016325

Please print or type in the unshaded areas only.
(If — areas are spaced for elite type, i.e., 12 characters/inch.

Form Approved OMB No. 158-R0115

FORM 1 GENERAL

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER

F N Y D 0 6 7 5 3 9 9 4 2 D

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully, if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent *(the area to the left of the label space lists the information that should appear)*, please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete Items I, III, V, and VI *(except VI-B which must be completed regardless)*. Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

LABEL ITEMS

I. EPA I.D. NUMBER

II. FACILITY NAME

III. FACILITY MAILING ADDRESS

IV. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

II. FACILITY CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you may need to submit [illegible] forms and the supplemental forms listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.

SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)		X	
B. Is this facility currently operating or proposed to operate any industrial waste treating, disposal or other waste-handling operation which results in a discharge to waters of the U.S.? (FORM 2B)		X	
C. Is this facility which currently results in discharges to waters of the U.S. other than those described in A or B above a concentrated animal feeding operation or aquatic animal production facility? (FORM 2C)		X	
D. Is this a proposed facility (other than those described in A or B above) which will result in a discharge to waters of the U.S.? (FORM 2D)		X	
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)	X	X	
F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X	
H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area?		X	
J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area?		X	

III. NAME OF FACILITY

1 SKIP: GENERAL ELECTRIC COMPANY

IV. FACILITY CONTACT

A. NAME & TITLE (last, first, & title)	B. PHONE (area code & no.)
3 CONWAY RICHARD M SHOP MANAGER	716 876 1200

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

3 175 MILENS ROAD

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 TONAWANDA	NY	14150

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

5 175 MILENS ROAD

B. COUNTY NAME

ERIE

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE (if known)
6 TONAWANDA	NY	14150	

CONTINUE ON REVERSE

ENVIRONMENTAL ASSESSMENT FORM

GENERAL ELECTRIC COMPANY
175 Milens Road
Tonawanda, New York 14150

ENVIRONMENTAL ASSESSMENT FORM

Purpose: The EAF is designed to help applicants and agencies determine, in an orderly manner, whether a project or action is likely to be significant. The question of whether an action is significant is not always easy to answer. Frequently, there are aspects of a project that are subjective or unmeasurable. It is also understood that those who will need to determine significance will range from those with little or no formal knowledge of the environment to those who are technically expert in environmental analysis. In addition, many who have knowledge in one particular area may not be aware of the broader concerns affecting the question of significance.

The EAF is intended to provide a method whereby the preparer can be assured that the determination process has been orderly, comprehensive in nature, and yet flexible to allow the introduction of information to fit a project or action.

EAF COMPONENTS: The EAF is comprised of three parts:

Part 1: Provides objective data and information about a given project and its site. By identifying basic project data, it assists a reviewer in the analysis that takes place in Parts 2 and 3.

Part 2: This phase of the evaluation focuses on identifying the range of possible impacts that may occur from a project or action. It provides guidance as to whether an impact is likely to be considered small to moderate or whether it is a potentially-large impact. The form also identifies whether an impact can be mitigated or reduced.

Part 3: Only if any impact in Part 2 is identified as potentially-large, then Part 3 is used to evaluate whether or not the impact is actually important to the municipality in which the project is located.

Determination of Significance

If you find that one (or more) impact is both large and its consequence is important, then the project is likely to be significant, and a draft environmental impact statement should be prepared.

Scoping

If a draft EIS is needed, the Environmental Assessment Form will be a valuable tool in determining the scope of the issues to be covered by the draft EIS.

The following is to update information in the Environmental Assessment Form, PART I, current to August 31, 1992:

B. PROJECT DESCRIPTION

1.	Physical dimensions and scale of project - 1,870 proposed expansion completed
15.c.	Name of solid waste disposal facilities used: Chemical Waste Management, Model City, New York Envirosafe Services of Idaho, INC., Grandview, Idaho
26.a.	Is any Federal permit required? - YES Submittal Date: 8/1/90, Approval Date: Pending

APPENDIX A

EAF

ENVIRONMENTAL ASSESSMENT - PART 1

Project Information

NOTICE: This document is designed to assist in determining whether the action proposed may have a significant effect on the environment. Please complete the entire Data Sheet. Answers to these questions will be considered as part of the application for approval and may be subject to further verification and public review. Provide any additional information you believe will be needed to complete PARTS 2 and 3.

It is expected that completion of the EAF will be dependent on information currently available and will not involve new studies, research or investigation. If information requiring such additional work is unavailable, so indicate and specify each instance.

NAME OF PROJECT:

Hazardous Waste Storage

ADDRESS AND NAME OF APPLICANT:

General Electric Company
(Name)

175 Milens Road
(Street)

Tonawanda, N.Y. 14150
(P.O.) (State) (Zip)

NAME AND ADDRESS OF OWNER (If Different)

(Name)

(Street)

(P.O.) (State) (Zip)

BUSINESS PHONE:

DESCRIPTION OF PROJECT: (Briefly describe type of project or action)

Storage of RCRA hazardous wastes and PCB's
DEC hazardous wastes B001 thru B007.

(PLEASE COMPLETE EACH QUESTION - Indicate N.A. if not applicable)

A. SITE DESCRIPTION

(Physical setting of overall project, both developed and undeveloped areas)

1. General character of the land: Generally uniform slope ✓ Generally uneven and rolling or irregular ____.

2. Present land use: Urban ____, Industrial ✓, Commercial ____, Suburban ____, Rural ____, Forest ____, Agriculture ____, Other ____.

3. Total acreage of project area: 5.3 acres.

Approximate acreage:	Presently	After Completion
Meadow or Brushland	____acres	____acres
Forested	____acres	____acres
Agricultural	____acres	____acres
Wetland (Freshwater or Tidal as per Articles 24, 25 or F.C.L.)	____acres	____acres
Water Surface Area	____acres	____acres
Unvegetated (rock, earth or fill)	____acres	____acres
Roads, buildings and other paved surfaces	4.3 acres	4.3 acres
Other (indicate type)	1 acres	1 acres

4. What is predominant soil type(s) on project site? Compact grass clayey silt

5. a. Are there bedrock outcroppings on project site? ____ Yes ✓ No

b. What is depth to bedrock? Unknown (in feet)

Test borings to 56 ft. did not encounter refusal.

6. Approximate percentage of proposed project site with slopes: 0-10% ✓ %; 10-15% ____%; 15% or greater ____%.

7. Is project contiguous to, or contain a building or site listed on the National Register of Historic Places? ____Yes ✓No

9. What is the depth to the water table? 22 feet

9. Do hunting or fishing opportunities presently exist in the project area? ____Yes ✓No

10. Does project site contain any species of plant or animal life that is identified as threatened or endangered - ____Yes ✓No, according to - Identify each species _____

_____

11. Are there any unique or unusual land forms on the project site? (i.e. cliffs, dunes, other geological formations - ____Yes ✓No. (Describe _____)

12. Is the project site presently used by the community or neighborhood as an open space or recreation area - ____Yes ✓No.

13. Does the present site offer or include scenic views or vistas known to be important to the community? ____Yes ✓No

14. Streams within or contiguous to project area: None

a. Name of stream and name of river to which it is tributary _____

_____

15. Lakes, Ponds, Wetland areas within or contiguous to project area: None

a. Name _____; b. Size (in acres) _____

16. What is the dominant land use and zoning classification within a 1/4 mile radius of the project (e.g. single family residential, R-2) and the scale of development (e.g. 2 story). Industrial

B. PROJECT DESCRIPTION

1. Physical dimensions and scale of project (fill in dimensions as appropriate) 2,000 square feet (existing). 1,870 square feet (proposed expansion of existing storage).

a. Total contiguous acreage owned by project sponsor 5.3 acres.

b. Project acreage developed: 0.05 acres initially; 0.09 acres ultimately.

c. Project acreage to remain undeveloped -.

d. Length of project, in miles: - (if appropriate)

e. If project is an expansion of existing, indicate percent of expansion proposed: building square footage _____; developed acreage _____.

f. Number of off-street parking spaces existing 150; proposed 150.

g. Maximum vehicular trips generated per hour N/A (upon completion of project)

h. If residential: Number and type of housing units:

	One Family	Two Family	Multiple Family	Condominium
Initial				
Ultimate				

i. If:

	Orientation Neighborhood-City-Regional	Estimated Employment
Commercial		
Industrial		

j. Total height of tallest proposed structure N/A feet.

2. How much natural material (i.e. rock, earth, etc.) will be removed from the site - None tons
_____ cubic yards.

3. How many acres of vegetation (trees, shrubs, ground covers) will be removed from site None acres.

4. Will any mature forest (over 100 years old) or other locally-important vegetation be removed by this project? ____Yes ✓No

5. Are there any plans for re-vegetation to replace that removed during construction? ____Yes ____No N/A

6. If single phase project: Anticipated period of construction 1 months, (including demolition).

7. If multi-phased project: a. Total number of phases anticipated ____No. N/A

b. Anticipated date of commencement phase 1 ____month ____year (including demolition)

c. Approximate completion date final phase _____month ____year.

d. Is phase 1 financially dependent on subsequent phases? ____Yes ____No

8. Will blasting occur during construction? ____Yes ✓No

9. Number of jobs generated: during construction ____; after project is complete ___. N/A

10. Number of jobs eliminated by this project ____. N/A

11. Will project require relocation of any projects or facilities? ____Yes ✓No. If yes, explain:
_____.

12. a. Is surface or subsurface liquid waste disposal involved? ____Yes ✓No.

b. If yes, indicate type of waste (sewage, industrial, etc.) _____.

c. If surface disposal name of stream into which effluent will be discharged _____.

13. Will surface area of existing lakes, ponds, streams, bays or other surface waterways be increased or decreased by proposal? ____Yes ✓No.

14. Is project or any portion of project located in the 100 year flood plain? ____Yes ✓No

15. a. Does project involve disposal of solid waste? ✓Yes ____No

b. If yes, will an existing solid waste disposal facility be used? ✓Yes ____No

c. If yes, give name: Cecos Chemical Waste Management; location Niagara Falls, N.Y. Model City, N.Y.

d. Will any wastes not go into a sewage disposal system or into a sanitary landfill? ✓Yes ____No

16. Will project use herbicides or pesticides? ____Yes ✓No

17. Will project routinely produce odors (more than one hour per day)? ____Yes ✓No

18. Will project produce operating noise exceeding the local ambience noise levels? ____Yes ✓No

19. Will project result in an increase in energy use? ____Yes ✓No. If yes, indicate type(s) _____
_____.

20. If water supply is from wells indicate pumping capacity _____ gals/minute. N/A

21. Total anticipated water usage per day _____gals/day. N/A

22. Zoning: a. What is dominant zoning classification of site? Industrial.

b. Current specific zoning classification of site Industrial.

c. Is proposed use consistent with present zoning? Yes

d. If no, indicate desired zoning _____.

26. Approvals: a. Is any Federal permit required? ____Yes ✓No

b. Does project involve State or Federal funding or financing? ____Yes ✓No

c. Local and Regional approvals:

	Approval Required (Yes, No)	(Type)	Submittal (Date)	Approval (Date)
City, Town, Village Board	No			
City, Town, Village Planning Board	No			
City, Town, Zoning Board	No			
City, County Health Department	No			
Other local agencies	No			
Other regional agencies	No			
State Agencies	Yes		11/80	11/80
Federal Agencies	Yes			

C. INFORMATIONAL DETAILS

Attach any additional information as may be needed to clarify your project. If there are or may be any adverse impacts associated with the proposal, please discuss such impacts and the measures which can be taken to mitigate or avoid them.

PREPARER'S SIGNATURE: R Ulgo

TITLE: MFG. ENGINEER

REPRESENTING: GENERAL ELECTRIC CO.

DATE: 4/25/86

EAF

ENVIRONMENTAL ASSESSMENT - PART II

Project Impacts and Their Magnitude

General Information (Read Carefully)

- In completing the form the reviewer should be guided by the question: Have my decisions and determinations been reasonable? The reviewer is not expected to be an expert environmental analyst.
- Identifying that an effect will be potentially large (column 2) does not mean that it is also necessarily significant. Any large effect must be evaluated in PART 3 to determine significance. By identifying an effect in column 2 simply asks that it be looked at further.
- The Examples provided are to assist the reviewer by showing types of effects and wherever possible the threshold of magnitude that would trigger a response in column 2. The examples are generally applicable throughout the State and for most situations. But, for any specific project or site other examples and/or lower thresholds may be more appropriate for a Potential Large Impact rating.
- Each project, on each site, in each locality, will vary. Therefore, the examples have been offered as guidance. They do not constitute an exhaustive list of impacts and thresholds to answer each question.
- The number of examples per question does not indicate the importance of each question.

INSTRUCTIONS (Read Carefully)

a. Answer each of the 18 questions in PART 2. Answer Yes if there will be any effect.

b. Maybe answers should be considered as Yes answers.

c. If answering Yes to a question then check the appropriate box (column 1 or 2) to indicate the potential size of the impact. If impact threshold equals or exceeds any example provided, check column 2. If impact will occur but threshold is lower than example, check column 1.

d. If reviewer has doubt about the size of the impact then consider the impact as potentially large and proceed to PART 3.

e. If a potentially large impact or effect can be reduced by a change in the project to a less than large magnitude, place a Yes in column 3. A No response indicates that such a reduction is not possible.

	NO	YES	1. SMALL TO MODERATE IMPACT	2. POTENTIAL LARGE IMPACT	3. CAN IMPACT BE REDUCED BY PROJECT CHANGE
IMPACT ON LAND					
1. WILL THERE BE AN EFFECT AS A RESULT OF A PHYSICAL CHANGE TO PROJECT SITE?	⊗	○			
Examples that Would Apply to Column 2					
___ Any construction on slopes of 15% or greater, (15 foot rise per 100 foot of length), or where the general slopes in the project area exceed 10%.			___	___	___
___ Construction on Land where the depth to the water table is less than 3 feet.			___	___	___
___ Construction of paved parking area for 1,000 or more vehicles.			___	___	___
___ Construction on land where bedrock is exposed or generally within 3 feet of existing ground surface.			___	___	___
___ Construction that will continue for more than 1 year or involve more than one phase or stage.			___	___	___
___ Excavation for mining purposes that would remove more than 1,000 tons of natural material (i.e. rock or soil) per year.			___	___	___
___ Construction of any new sanitary landfill.			___	___	___

		1. SMALL TO MODERATE IMPACT	2. POTENTIAL LARGE IMPACT	3. CAN IMPACT BE REDUCED BY PROJECT CHANGE
___	Construction in a designated floodway.	___	___	___
___	Other impacts: _____	___	___	___
	_____	___	___	___
2.	WILL THERE BE AN EFFECT TO ANY UNIQUE OR UNUSUAL LAND FORMS FOUND ON THE SITE? (i.e. cliffs, dunes, geological formations, etc.) NO ⊗ YES ○			
___	Specific land forms: _____	___	___	___
	_____	___	___	___
	IMPACT ON WATER			
3.	WILL PROJECT AFFECT ANY WATER BODY DESIGNATED AS PROTECTED? (Under Articles 15, 24, 25 of the Environmental Conservation Law, E.C.L.) NO ⊗ YES ○			
	Examples that Would Apply to Column 2			
___	Dredging more than 100 cubic yards of material from channel of a protected stream.	___	___	___
___	Construction in a designated freshwater or tidal wetland.	___	___	___
___	Other impacts: _____	___	___	___
	_____	___	___	___
4.	WILL PROJECT AFFECT ANY NON-PROTECTED EXISTING OR NEW BODY OF WATER? NO ⊗ YES ○			
	Examples that Would Apply to Column 2			
___	A 10% increase or decrease in the surface area of any body of water or more than a 10 acre increase or decrease.	___	___	___
___	Construction of a body of water that exceeds 10 acres of surface area.	___	___	___
___	Other impacts: _____	___	___	___
	_____	___	___	___
5.	WILL PROJECT AFFECT SURFACE OR GROUNDWATER QUALITY? NO ⊗ YES ○			
	Examples that Would Apply to Column 2			
___	Project will require a discharge permit.	___	___	___
___	Project requires use of a source of water that does not have approval to serve proposed project.	___	___	___
___	Project requires water supply from wells with greater than 45 gallons per minute pumping capacity.	___	___	___
___	Construction or operation causing any contamination of a public water supply system.	___	___	___
___	Project will adversely affect groundwater.	___	___	___
___	Liquid effluent will be conveyed off the site to facilities which presently do not exist or have inadequate capacity.	___	___	___
___	Project requiring a facility that would use water in excess of 20,000 gallons per day.	___	___	___
___	Project will likely cause siltation or other discharge into an existing body of water to the extent that there will be an obvious visual contrast to natural conditions.	___	___	___

		1. SMALL TO MODERATE IMPACT	2. POTENTIAL LARGE IMPACT	3. CAN IMPACT BE REDUCED BY PROJECT CHANGE
___	Other Impacts: _____	___	___	___
	_____	___	___	___
6.	WILL PROJECT ALTER DRAINAGE FLOW, PATTERNS OR SURFACE WATER RUNOFF? ..... NO ⊗ YES ○			
	Example that Would Apply to Column 2			
___	Project would impede flood water flows.	___	___	___
___	Project is likely to cause substantial erosion.	___	___	___
___	Project is incompatible with existing drainage patterns.	___	___	___
___	Other impacts: _____	___	___	___
	IMPACT ON AIR			
7.	WILL PROJECT AFFECT AIR QUALITY?..... NO ⊗ YES ○			
	Examples that Would Apply to Column 2			
___	Project will induce 1,000 or more vehicle trips in any given hour.	___	___	___
___	Project will result in the incineration of more than 1 ton of refuse per hour.	___	___	___
___	Project emission rate of all contaminants will exceed 5 lbs. per hour or a heat source producing more than 10 million BTU's per hour.	___	___	___
___	Other impacts: _____	___	___	___
	_____	___	___	___
	IMPACT ON PLANTS AND ANIMALS			
8.	WILL PROJECT AFFECT ANY THREATENED OR ENDANGERED SPECIES? NO ⊗ YES ○			
	Examples that Would Apply to Column 2			
___	Reduction of one or more species listed on the New York or Federal list, using the site, over or near site or found on the site.	___	___	___
___	Removal of any portion of a critical or significant wildlife habitat.	___	___	___
___	Application of Pesticide or herbicide over more than twice a year other than for agricultural purposes.	___	___	___
___	Other impacts: _____	___	___	___
	_____	___	___	___
9.	WILL PROJECT SUBSTANTIALLY AFFECT NON-THREATENED OR ENDANGERED SPECIES? ..... NO ⊗ YES ○			
	Example that Would Apply to Column 2			
___	Project would substantially interfere with any resident or migratory fish or wildlife species.	___	___	___
___	Project requires the removal of more than 10 acres of mature forest (over 100 years in age) or other locally important vegetation.	___	___	___

			1. SMALL TO MODERATE IMPACT	2. POTENTIAL LARGE IMPACT	3. CAN IMPACT BE REDUCED BY PROJECT CHANGE
IMPACT ON VISUAL RESOURCE					
10.	WILL THE PROJECT AFFECT VIEWS, VISTAS OR THE VISUAL CHARACTER OF THE NEIGHBORHOOD OR COMMUNITY?	NO ⊗ YES ○			
	Examples that Would Apply to Column 2				
___	An incompatible visual affect caused by the introduction of new materials, colors and/or forms in contrast to the surrounding landscape.		___	___	___
___	A project easily visible, not easily screened, that is obviously different from others around it.		___	___	___
___	Project will result in the elimination or major screening of scenic views or vistas known to be important to the area.		___	___	___
___	Other impacts: _____		___	___	___
	_____.		___	___	___
IMPACT ON HISTORIC RESOURCES					
11.	WILL PROJECT IMPACT ANY SITE OR STRUCTURE OF HISTORIC, PRE-HISTORIC OR PALEONTOGICAL IMPORTANCE?	NO ⊗ YES ○			
	Examples that Would Apply to Column 2				
___	Project occuring wholly or partially within or contiguous to any facility or site listed on the National Register of historic places.		___	___	___
___	Any impact to an archeological site or fossil bed located within the project site.		___	___	___
___	Other impacts: _____		___	___	___
	_____.		___	___	___
IMPACT ON OPEN SPACE & RECREATION					
12.	WILL THE PROJECT AFFECT THE QUANTITY OR QUALITY OF EXISTING OR FUTURE OPEN SPACES OR RECREATIONAL OPPORTUNITIES?.....	NO ⊗ YES ○			
	Examples that Would Apply to Column 2				
___	The permanent foreclosure of a future recreational opportunity.		___	___	___
___	A major reduction of an open space important to the community.		___	___	___
___	Other impacts: _____		___	___	___
	_____.		___	___	___
IMPACT ON TRANSPORTATION					
13.	WILL THERE BE AN EFFECT TO EXISTING TRANSPORTATION SYSTEMS?	NO ⊗ YES ○			
	Examples that Would Apply to Column 2				
___	Alteration of present patterns of movement of people and/or goods.		___	___	___
___	Project will result in severe traffic problems.		___	___	___
___	Other impacts: _____		___	___	___
	_____.		___	___	___

		NO	YES	1 SMALL TO MODERATE IMPACT	2 POTENTIAL LARGE IMPACT	3. CAN IMPACT BE REDUCED BY PROJECT CHANGE
	IMPACT ON ENERGY					
14.	WILL PROJECT AFFECT THE COMMUNITIES SOURCES OF FUEL OR ENERGY SUPPLY?	⊗	○			
	Examples that Would Apply to Column 2					
___	Project causing greater than 5% increase in any form of energy used in municipality.			___	___	___
___	Project requiring the creation or extension of an energy transmission or supply system to serve more than 50 single or two family residences.			___	___	___
___	Other impacts: _____			___	___	___
	_____			___	___	___
	IMPACT ON NOISE					
15.	WILL THERE BE OBJECTIONABLE ODORS, NOISE, GLARE, VIBRATION or ELECTRICAL DISTURBANCE AS A RESULT OF THIS PROJECT?	⊗	○			
	Examples that Would Apply to Column 2					
___	Blasting within 1,500 feet of a hospital, school or other sensitive facility.			___	___	___
___	Odors will occur routinely (more than one hour per day).			___	___	___
	Project will produce operating noise exceeding the local ambient noise levels for noise outside of structures.			___	___	___
___	Project will remove natural barriers that would act as a noise screen.			___	___	___
___	Other impacts: _____			___	___	___
	_____			___	___	___
	IMPACT ON HEALTH & HAZARDS					
16.	WILL PROJECT AFFECT PUBLIC HEALTH AND SAFETY?	○	⊗			
	Examples that Would Apply to Column 2					
✓	Project will cause a risk of explosion or release of hazardous substances (i.e. oil, pesticides, chemicals, radiation, etc.) in the event of accident or upset conditions, or there will be a chronic low level discharge or emission.			✓	___	___
___	Project that will result in the burial of "hazardous wastes" (i.e. toxic, poisonous, highly reactive, radioactive, irritating, infectious, etc., including wastes that are solid, semi-solid, liquid or contain gases.)			___	___	___
___	Storage facilities for one million or more gallons of liquified natural gas or other liquids.			___	___	___
___	Other impacts: _____			___	___	___
	_____			___	___	___

IMPACT ON GROWTH AND CHARACTER OF COMMUNITY OR NEIGHBORHOOD

	NO	YES	SMALL TO MODERATE IMPACT	POTENTIAL LARGE IMPACT	CAN IMPACT BE REDUCED BY PROJECT CHANGE
17. WILL PROJECT AFFECT THE CHARACTER OF THE EXISTING COMMUNITY?	⊗	○			
Example that Would Apply to Column 2					
___ The population of the City, Town or Village in which the project is located is likely to grow by more than 5% of resident human population.			___	___	___
___ The municipal budgets for capital expenditures or operating services will increase by more than 5% per year as a result of this project.			___	___	___
___ Will involve any permanent facility of a non-agricultural use in an agricultural district or remove prime agricultural lands from cultivation.			___	___	___
___ The project will replace or eliminate existing facilities, structures or areas of historic importance to the community.			___	___	___
___ Development will induce an influx of a particular age group with special needs.			___	___	___
___ Project will set an important precedent for future projects.			___	___	___
___ Project will relocate 15 or more employees in one or more businesses.			___	___	___
___ Other impacts: _____			___	___	___
_____			___	___	___
18. IS THERE PUBLIC CONTROVERSY CONCERNING THE PROJECT?	⊗	○			
Examples that Would Apply to Column 2					
___ Either government or citizens of adjacent communities have expressed opposition or rejected the project or have not been contacted.			___	___	___
___ Objections to the project from within the community.			___	___	___

IF ANY ACTION IN PART 2 IS IDENTIFIED AS A POTENTIAL LARGE IMPACT OR IF YOU CANNOT DETERMINE THE MAGNITUDE OF IMPACT, PROCEED TO PART 3.

DETERMINATION

PORTIONS OF EAF COMPLETED FOR THIS PROJECT:

PART I ____ PART II ____ PART 3 ____

Upon review of the information recorded on this EAF (Parts 1, 2 and 3) and considering both the magnitude and importance of each impact, it is reasonably determined that:

A. ✓ The project will result in no major impacts and, therefore, is one which may not cause significant damage to the environment. — PREPARE A NEGATIVE DECLARATION ○

B. Although the project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described in PART 3 have been included as part of the proposed project. — PREPARE A NEGATIVE DECLARATION ○

C. The project will result in one or more major adverse impacts that cannot be reduced and may cause significant damage to the environment. — PREPARE POSITIVE DECLARATION PROCEED WITH EIS ○

4/25/86
Date

R. Mlgo
Signature of Preparer (if different from responsible officer)

Signature of Responsible Official in Lead Agency

Print or type name of responsible official in Lead Agency

ENVIRONMENTAL ASSESSMENT - PART III

EVALUATION OF THE IMPORTANCE OF IMPACTS

INFORMATION

- Part 3 is prepared if one or more impact or effect is considered to be potentially large.
- The amount of writing necessary to answer Part 3 may be determined by answering the question: In briefly completing the instructions below have I placed in this record sufficient information to indicate the reasonableness of my decisions?

INSTRUCTIONS

Complete the following for each impact or effect identified in Column 2 of Part 2:

1. Briefly describe the impact.
2. Describe (if applicable) how the impact might be mitigated or reduced to a less than large impact by a project change.
3. Based on the information available, decide if it is reasonable to conclude that this impact is important to the municipality (city, town or village) in which the project is located.

   To answer the question of importance, consider:

   - The probability of the impact or effect occurring
   - The duration of the impact or effect
   - Its irreversibility, including permanently lost resources or values
   - Whether the impact or effect can be controlled
   - The regional consequence of the impact or effect
   - Its potential divergence from local needs and goals
   - Whether known objections to the project apply to this impact or effect.

DETERMINATION OF SIGNIFICANCE

An action is considered to be significant if:

One (or more) impact is determined to both large and its (their) consequence, based on the review above, is important.

PART III STATEMENTS

(Continue on Attachments, as needed)

ENVIRONMENTAL ASSESSMENT FORM

Purpose: The EAF is designed to help applicants and agencies determine, in an orderly manner, whether a project or action is likely to be significant. The question of whether an action is significant is not always easy to answer. Frequently, there are aspects of a project that are subjective or unmeasurable. It is also understood that those who will need to determine significance will range from those with little or no formal knowledge of the environment to those who are technically expert in environmental analysis. In addition, many who have knowledge in one particular area may not be aware of the broader concerns affecting the question of significance.

The EAF is intended to provide a method whereby the preparer can be assured that the determination process has been orderly, comprehensive in nature, and yet flexible to allow the introduction of information to fit a project or action.

EAF COMPONENTS: The EAF is comprised of three parts:

Part 1: Provides objective data and information about a given project and its site. By identifying basic project data, it assists a reviewer in the analysis that takes place in Parts 2 and 3.

Part 2: This phase of the evaluation focuses on identifying the range of possible impacts that may occur from a project or action. It provides guidance as to whether an impact is likely to be considered small to moderate or whether it is a potentially-large impact. The form also identifies whether an impact can be mitigated or reduced.

Part 3: Only if any impact in Part 2 is identified as potentially-large, then Part 3 is used to evaluate whether or not the impact is actually important to the municipality in which the project is located.

Determination of Significance

If you find that one (or more) impact is both large and its consequence is important, then the project is likely to be significant, and a draft environmental impact statement should be prepared.

Scoping

If a draft EIS is needed, the Environmental Assessment Form will be a valuable tool in determining the scope of the issues to be covered by the draft EIS.

APPENDIX B

SHORT ENVIRONMENTAL ASSESSMENT FORM

INSTRUCTIONS:

(a) In order to answer the questions in this short EAF is is assumed that the preparer will use currently available information concerning the project and the likely impacts of the action. It is not expected that additional studies, research or other investigations will be undertaken.

(b) If any question has been answered Yes the project may be significant and a completed Environmental Assessment Form is necessary.

(c) If all questions have been answered No it is likely that this project is not significant.

(d) Environmental Assessment

1. Will project result in a large physical change to the project site or physically alter more than 10 acres of land? . . . . . ___ Yes ___ No
2. Will there be a major change to any unique or unusual land form found on the site? . . . . . ___ Yes ___ No
3. Will project alter or have a large effect on an existing body of water? . . . . . ___ Yes ___ No
4. Will project have a potentially large impact on groundwater quality? . . . . . ___ Yes ___ No
5. Will project significantly effect drainage flow on adjacent sites? . . . . . ___ Yes ___ No
6. Will project affect any threatened or endangered plant or animal species? . . . . . ___ Yes ___ No
7. Will project result in a major adverse effect on air quality? . . . . . ___ Yes ___ No
8. Will project have a major effect on visual character of the community or scenic views or vistas known to be important to the community? . . . ___ Yes ___ No
9. Will project adversely impact any site or structure of historic, pre-historic, or paleontological importance or any site designated as a critical environmental area by a local agency? . . . ___ Yes ___ No
10. Will project have a major effect on existing or future recreational opportunities? . . . ___ Yes ___ No
11. Will project result in major traffic problems or cause a major effect to existing transportation systems? . . . . . ___ Yes ___ No
12. Will project regularly cause objectionable odors, noise, glare, vibration, or electrical disturbance as a result of the project's operation? . ___ Yes ___ No
13. Will project have any impact on public health or safety? . . . . . ___ Yes ___ No
14. Will project affect the existing community by directly causing a growth in permanent population of more than 5 percent over a one-year period or have a major negative effect on the character of the community or neighborhood? . . ___ Yes ___ No
15. Is there public controversy concerning the project? ___ Yes ___ No

PREPARER'S SIGNATURE: _____ TITLE: _____

REPRESENTING: _____ DATE: _____

9/1/78

FACILITY DESCRIPTION

Revised 4/20/94

FACILITY DESCRIPTION

The General Electric Buffalo Service Shop is a 69,000 sq. ft. single building located on 5.3 acres of land at 175 Milens Road, Tonawanda, New York. (FACILITY DESCRIPTION - EXHIBIT I). The site location is above the 100 year flood water elevation. The facility consists of approximately 63,000 sq. ft. of one story manufacturing/service area and 6,000 sq. ft. of office area.

The General Electric Buffalo Service Shop is involved in the repair of industrial equipment including electric motors, transformers, turbines, pumps, compressors, etc.

In the performance of these repair activities, the facility generates hazardous wastes (on-site generated wastes) as defined in the applicable State and Federal Environmental Regulations.

The General Electric Service Shop also receives PCB articles from customers and other off-site General Electric facilities for repair, if these items become hazardous wastes, they are prepared for disposal by draining and storage prior to shipment to qualified sites for disposal or treatment.

On-Site Generated Waste

The hazardous wastes generated on-site are:

-Shop process wastes, generated by shop processes, such as: steam cleaning, painting, abrasive blasting, manual cleaning of parts with rags and solvents, insulating varnish, collection of used lubricants and motor oil; PCB contaminated liquids and solids.

-Discarded stock materials (mostly paints and varnishes) that exhibit characteristics of hazardous waste. Hazardous wastes are maintained to a minimum due to strict enforcement of the department's Hazardous Waste Minimization Program.

PROCEDURES

The Buffalo Service Shop has established specifically designated locations as collection areas in which frequently disposed of hazardous waste materials are accumulated. Collection containers, with covers, are placed in these areas. Collection containers are properly labeled, stating the type of hazardous waste they contain and the proper category of hazardous waste material. Collection containers used for ignitable wastes are Factory Mutual approved. Sizes of the collection containers are 30 gallons and 55 gallons. Location of the collection containers is shown in the Facility Description - Exhibit 3.

Hazardous waste materials that are frequently discarded are sent directly to the designated hazardous waste storage area as they are generated. Hazardous wastes are stored in containers that are compatible with the wastes and are in good condition. The size of the storage containers is 55 gallons. Transportation of containers to the designated hazardous waste storage area is performed with skids and fork lifts.

PCB liquids, solids, and articles (New York DEC Hazardous Waste Numbers B001 through B007) are also generated by the Buffalo Service Shop from service and repair activities at the facility. Items generated by the Buffalo Service Shop consist of drummed liquids and solids, and PCB articles. Storage location for these wastes are shown in Facility Description - Exhibit 3.

All service operations at the Buffalo Service Shop which involve hazardous wastes, liquids, solids, articles, are conducted in accordance with Federal EPA Regulations 40CFR761 and New York State Hazardous Waste Regulations 6NYCRR Part 370 through 373.

The EHS Coordinator maintains records of the material generated by repairs or decontamination. All hazardous wastes are then placed in the proper storage area or shipped to a qualified disposal site.

All items shipped for disposal are properly manifested as hazardous wastes unless tests are obtained to verify that wastes are not hazardous. The EHS Coordinator is responsible for obtaining required analysis and maintaining test reports. The manifests are prepared, signed and distributed by the EHS Coordinator who also arranges for shipment and disposal with qualified transporters and disposal sites. The EHS Coordinator maintains records of all wastes, shipped, and in inventory. These records are maintained in the facility's files for five years.

Transportation of all hazardous waste, generated by the Buffalo Service Shop is done by qualified transporters using flat-bed or closed trucks. Unloading of wastes received is done in the unloading area, southeast corner of the facility under direct supervision of a certified EHS Coordinator using overhead cranes or fork trucks with barrel lifting device attachment. Detailed traffic information is discussed in the traffic section.

General Electric has agreements in place with waste disposal facilities utilized for disposal.

FACILITY DESCRIPTION

The following summary shows the waste material, the process generating the waste, and waste generation point. (See Exhibit 2.)

WASTE MATERIAL	PROCESS GENERATING WASTE	WASTE GENERATION POINT SHOP LOCATION
Sludge - Cleaning Pits	Steam Cleaning Operation	Steam Cleaning Booths (Facility Description - Exhibit 2, Loc. 1, 2, 3)
Sludge - Oil/Water Separator	Steam Cleaning Operation	Oil/Water Separators (Facility Description - Exhibit 2, Loc., 4, 5)
Abrasive Blasting Fines	Abrasive Blasting	Abrasive blast Cabinet (Facility Description - Exhibit 2, Loc. 6, 7, 8)
Waste Motor/Lubricant Oil	Oil Draining From Various Equipment/ Collection of Used Lubricating Oil	Various Locations
Rags, Used Brushes Other Debris Soaked With Flammable Solvent Thinner	Manual Cleaning	Various Locations
Paint and Varnish	Painting/Varnish Treating	Paint Booth (Facility Description - Exhibit 2, Loc., 2) Varnish Tank (Facility Description - Exhibit 2, Loc. 9)
Flammable Solvent and Thinners	Paint Thinning	Paint Booth (Facility Description - Exhibit 2, Loc. 2)
	Manual Cleaning	Various Locations
PCB Contaminated Liquids and Solids	Flushing PCB Contaminated Transformers/ Repair Work	PCB Area

FACILITY DESCRIPTION

The estimated annual quantity of wastes handled in Buffalo Service Shop are:

On-Site Generated Waste

WASTE MATERIAL	QUANTITY	UNITS	HAZARDOUS WASTES NO.
Sludge (Oil/Water Separator, Cleaning Pits)	1,500	Pounds	(Varies) D001; D002, D004-D011
Sludge/Waste Water (Water Wash Paint Booth)	1,500	Pounds	(Varies) D001; D004-D011
Abrasive Blasting Fines	500	Pounds	(Varies) D004-D011
Waste Oil (Motor/Lubricating Oil)	500	Gallons	(Varies) D004-D011
Rags, Used Brushes, Other Debris Soaks with Flammable Solvent and Thinners	500	Pounds	D001
Paint and Varnish Residue	1,500	Pounds	D001
Flammable Solvent & Thinners	500	Gallons	D001, D002, F001, F003, F005
Scrap Varnishes	1,500	Pounds	D001
PCB Contaminated Liquids (From Flushing PCB Contaminated Transformers)	30,600	Pounds	B001, B002, B003
PCB Contaminated Solids (Generated During PCB Related Work Activities)	7,500	Pounds	B004, B005, B006, B007

FACILITY DESCRIPTION

STORAGE AREAS

PCB Work Area/PCB and RCRA Storage Areas

Located within the facilities manufacturing/service area are the following designated hazardous waste work and storage areas:

PCB work/storage area "E"
RCRA waste drum storage area (locations shown in facility description - Exhibit 3).

PCB Work/Storage Areas

Area E is an interior area 17.5 ft. x 68.5 ft. with a 9" high curb. Area E containment volume is 6,725 gallons.

Areas E is used for storage of PCB items prior to repair or disposal.
For Closure Certifications refer to attachment VII.

RCRA Hazardous Waste Storage Area

An interior 11 ft. x 32 ft. area with a 8" high x 6" wide concrete curb. Run-on into the containment area is prevented by a roofing and side walls containment system design. Capacity calculations for the above areas are given in detail in the drawings located in the drawing section of this application. Drums stored in this area will be put on steel drum dollies to protect drums from contact with accumulated liquids resulting from possible spills or leaks.

In addition to the existing storage facilities, the Buffalo Service Shop has the following storage facilities for material which is not hazardous:

Two (2) 6000-gallon above-ground storage tanks outside the east wall of the facility. They store uncontaminated 10C oil. The tanks are on a concrete pad and are contained by a dike.

One (1) 2000-gallon above-ground storage tank inside of the building. It stores used 10C oil (PCB concentration less than 50 ppm). The tank is on a concrete pad and contained by a dike. Within the diked area there may also be (25) twenty-five 55 gallon drums not hazardous oil. Oil is stored in drums prior to pumping into 2000 gallon tank.

FACILITY DESCRIPTION

The General Electric Company, Buffalo Service Shop, has the following environmental permits:

NYSDEC, Division of Air:

ID - 146489 - 1587 - 00013

ID - 146489 - 1587 - 00011

ID - 146489 - 1587 - 00201

ID - 146489 - 1587 - 00241

ID - 146489 - 1587 - 00627

NYSDEC, Division of Solid and Hazardous Waste:

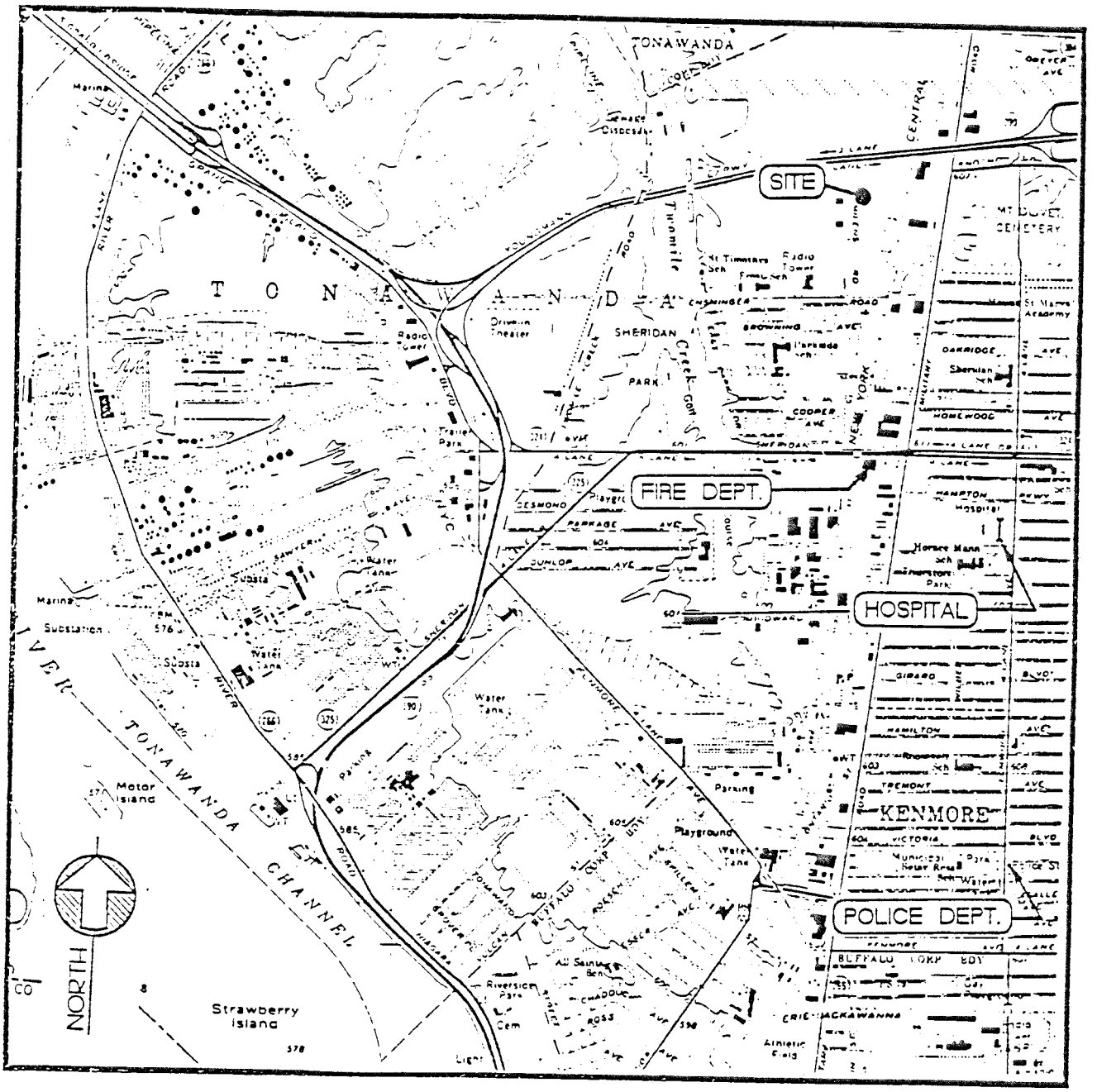
6NYCRR Part 364, Waste Transporter Permit No. 9-105

EPA Hazardous Waste Activity Permit NYD 067539940

EPA Commercial PCB Storage Facility Application, filed August 1, 1990
Facility has interim status pending action on the application

FACILITY DESCRIPTION

-EXHIBITS-



0 ½ 1 2

1 IN. = APPROXIMATLY 1/2 MILE

ROAD CLASSIFICATION

Heavy-duty ——— Light-duty ———

Medium-duty ——— Unimproved dirt .....

Interstate Route U.S. Route State Route

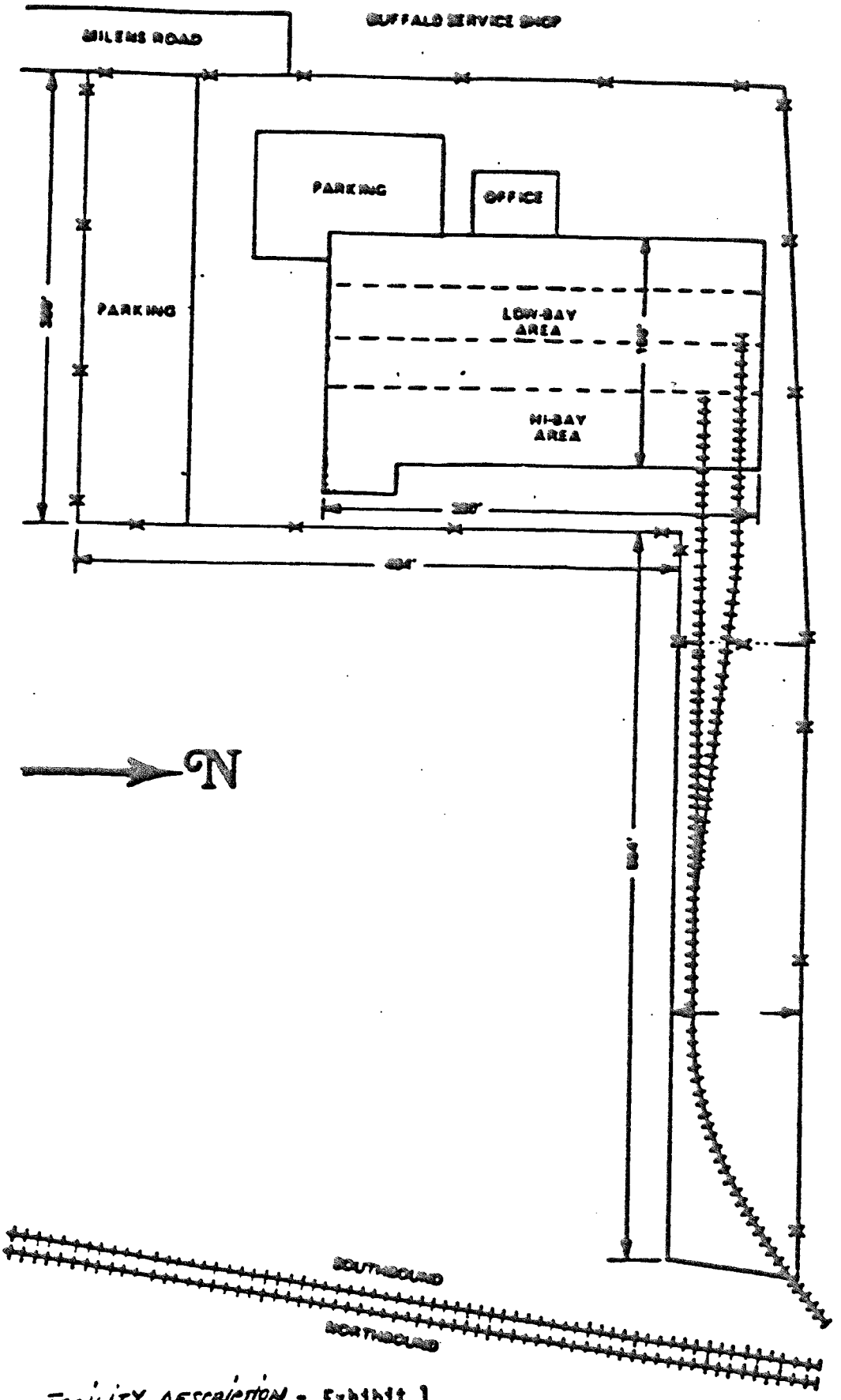
GENERAL ELECTRIC
TONAWANDA SERVICE
CENTER
TONAWANDA, NEW YORK

PROJECT NO. 52-0509

LAW ENVIRONMENTAL
ALBANY, NEW YORK

SITE LOCATION

FIGURE 1

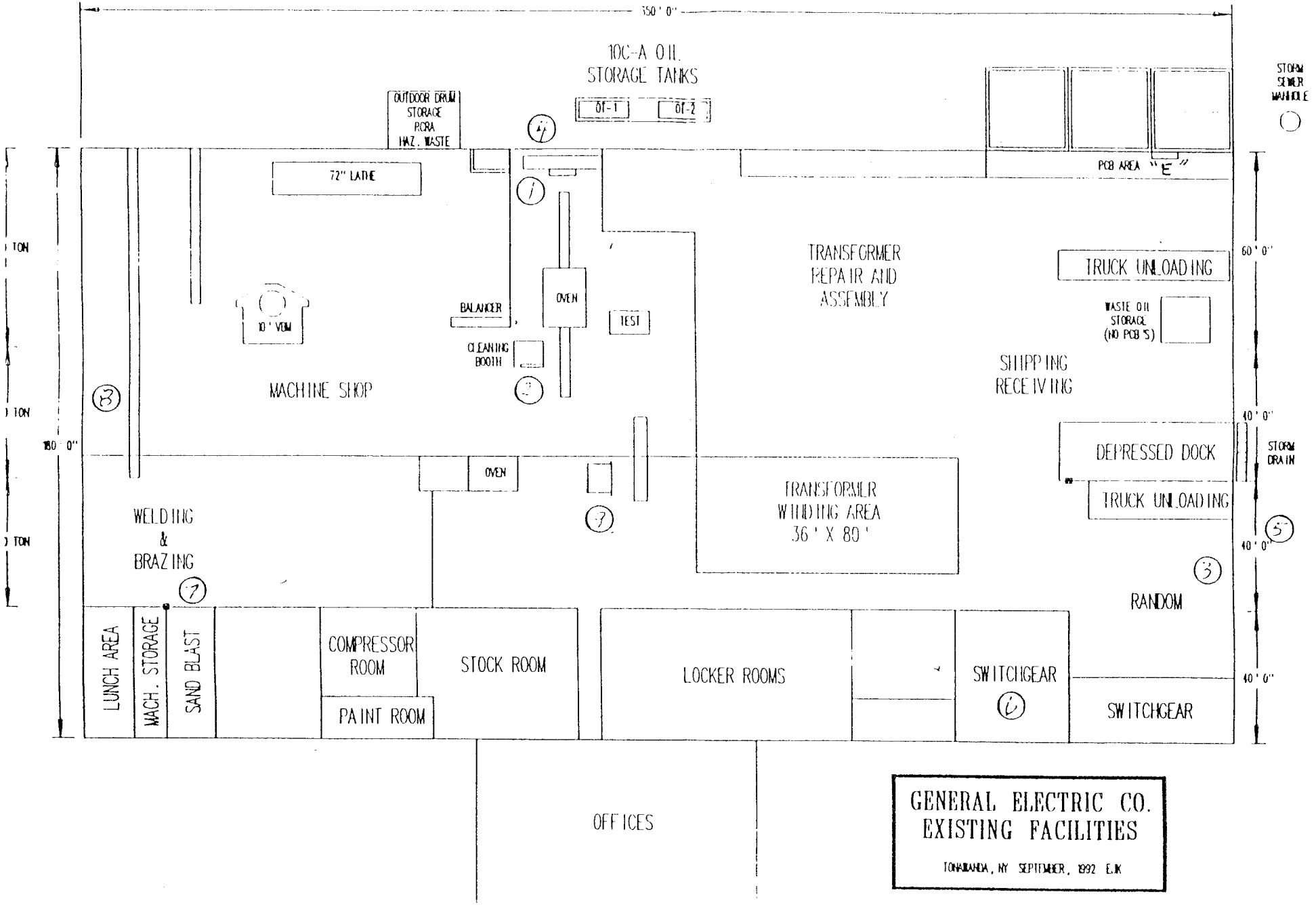


FACILITY DESCRIPTION - Exhibit 1

HAZARDOUS WASTE GENERATION POINTS

EXHIBIT 2

BUFFALO SERVICE CENTER



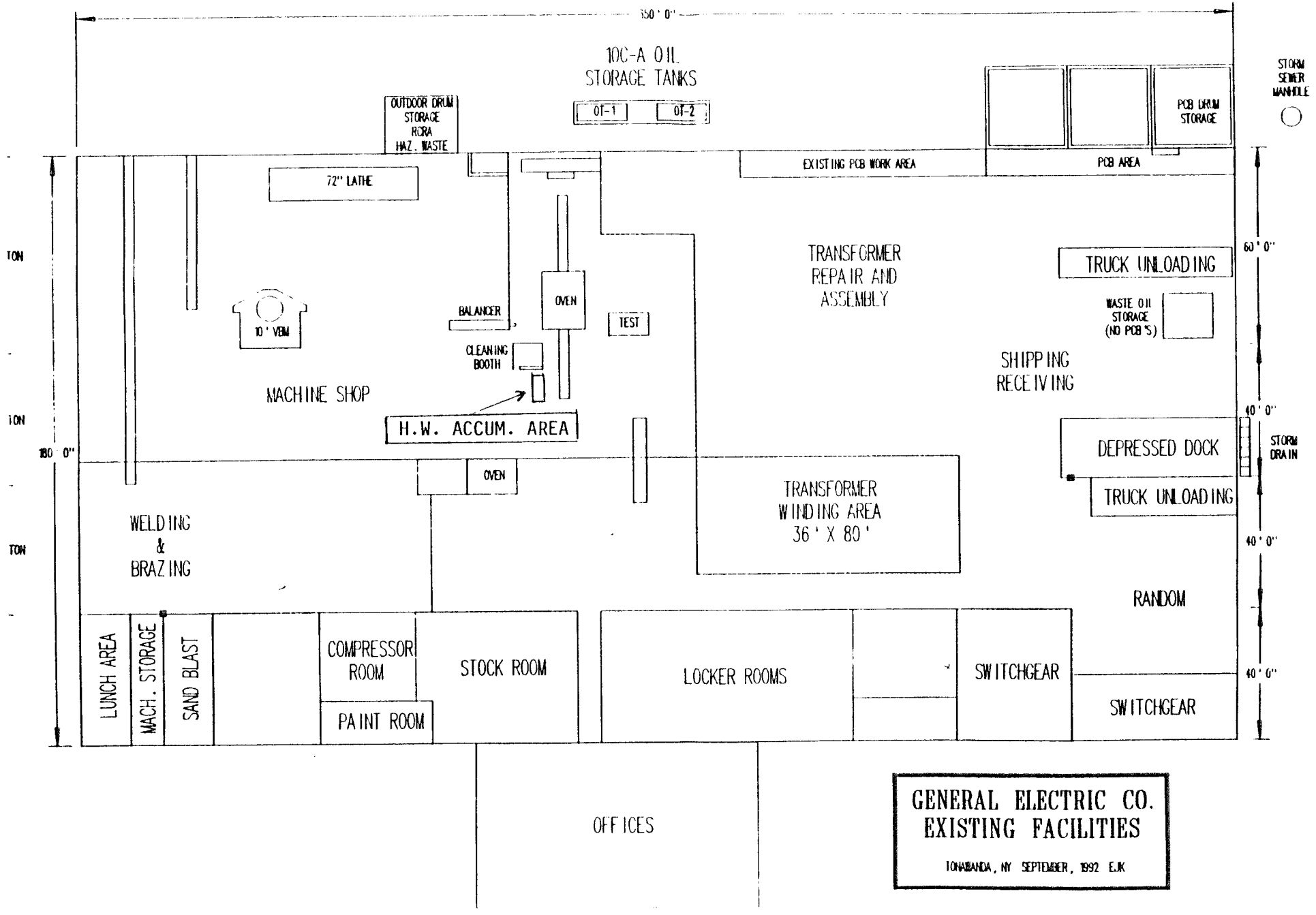
GENERAL ELECTRIC CO.
EXISTING FACILITIES

TONAWANDA, NY SEPTEMBER, 1992 E.M.

HAZARDOUS WASTE ACCUMULATION AREA

EXHIBIT 3

BUFFALO SERVICE CENTER



GENERAL ELECTRIC CO.
EXISTING FACILITIES

TONAWANDA, NY SEPTEMBER, 1992 EJK

HAZARDOUS WASTE ANALYSIS PLAN

Rev. 3/19/96

HAZARDOUS WASTE ANALYSIS PLAN

CONTENTS

I. Waste Description/Characteristics

II. Chemical and Physical Analysis of Hazardous Waste, Testing Requirements, Testing Frequency

III. Testing and Sampling Methods, Quality Assurance/Quality Control

IV. Oil/Water Separators

V. Attachments

Appendix A - Service Center Hazardous Wastes
Appendix B - MSDS
Appendix C - Analysis Reports

HAZARDOUS WASTE ANALYSIS PLAN

The Buffalo Service Shop is responsible for identifying those materials which upon generation are defined as hazardous waste under RCRA and/or by the Hazardous Waste management regulations of the State of New York. These materials include commercial chemical products (stock materials) that could result in hazardous waste when discarded, shop process wastes (generated on-site by shop processes) and PCB items (generated on-site).

I. Waste Description/Characteristics

The following discussion covers the types of wastes handled by GE-Buffalo Service Shop, waste generation description and hazardous waste numbers. The wastes are:

1. Discarded Commercial Chemical Products (Stock Materials)
2. Shop Process Wastes
3. PCB Waste (Generated On-Site)

1. Discarded Commercial Chemical Products (Stock Materials)

These materials include stock material that could result in hazardous waste when discarded. A list of commercial chemical products currently used or with future possibility of usage for various repair activities is attached (Appendix A).

Since certain hazardous waste such as solvents and thinners may be identified by more than one hazardous waste number, the procedure outlined in Appendix A - Solvent and Thinners section will be followed for correction identification of waste.

2. Shop Process Waste

Waste Stream	Waste General Description	Hazardous Waste Number
Sludge from oil/ water separator and cleaning pits	Steam cleaning of various dirty parts received by the center for repairs	(Varies) D001; D002; D004-D011
Abrasive blasting fines	Used abrasive media generated during abrasive cleaning of metal components.	(Varies) D004-D011
Waste oil (motor oil, lubricating oil)	Motor oil drained from various equipment/collection of used lubricating oil.	(Varies) D004 - D011
Rags, used brushes, other debris soaked with solvents and thinners	Manual degreasing and cleaning of parts using solvents, thinners.	F001 (for 1, 1, 1-trichloroethane usage). F003 (for acetone, xylene and 1500 thinner usage). F005 (for MEK and toluene usage).
Scrap paint and varnish	Residual painting and insulating varnish resulting from painting and varnish treating.	D001
Solvents and thinners.	Cleaning of parts and paint thinning.	See Appendix A - Solvents and Thinners - for EPA hazardous waste number identification.

3. PCB Wastes

A. On-Site Generated PCB Waste

Waste Stream	Waste Generation Description	Hazardous Waste Number
PCB contaminated oils	Draining of PCB contaminated transformers	B001 - B003
PCB contaminated solids	Solid material (such as rags, protective equipment, debris, etc. generated during PCB work-related activities.	B004 - B007

II. Chemical and Physical Analysis of Hazardous Waste, Hazardous Waste Testing Parameters, Testing Frequency

The discussion found in this section covers the waste analysis data which is needed to adequately store the waste, the testing parameters and frequency of testing.

1. Commercial Chemical Products (Stock Materials)

a. All stock materials (except for non-chemical items such as hardware where there is no reason to believe that they may be hazardous waste) used in the Buffalo Service Shop will be reviewed annually to determine if they exhibit hazardous characteristics or are included in the Hazardous Waste Substance listings specified in 6 NYCRR Part 371.

The stock materials used, or with possibility of usage, by GE-Buffalo Service Shop that would become hazardous wastes when discarded have been identified, based on their hazardous characteristics, and are listed in the Appendix 'A'. The EPA Hazardous Waste Identification Number given in Appendix 'A' will be used for labeling purposes. Since certain hazardous wastes like solvents and thinners may be identified by more than one hazardous waste number the procedure outline in Appendix A - Solvents and Thinners will be followed.

b. New materials added to stock will be reviewed by the Buffalo Service Shop Hazardous Waste Coordinator to determine if they will require control or disposal as hazardous wastes when discarded.

c. Since there will be no variability in the stored material characteristics any discarded stock material is identified and labeled using the listing of materials submitted in Appendix 'A' without further testing.

The Material Safety Data Sheets of the chemical products will be used to determine their composition. Copies of the MSDA of the chemical products currently used by the Buffalo Service Shop is also included in Appendix 'A'.

d. The hazardous waste generated because of discarded stock material is managed by storage. The quantities of discarded stock material is very small and not expected to exceed a maximum of one (1) 55 gallon drum per year. This is accomplished through implementation of the Hazardous Waste Minimization Plan. Stock materials are reviewed annually to ensure that types and quantities of these materials have adequate usage to justify the stock level. Any material that has low usage will either be removed from future stock or the inventory quantity will be reduced.

1. Commercial Chemical Products (Stock Materials) (continued)

e. Most likely this waste will consist of pain or insulating varnish exceeding shelf life. The discarded stock material will be removed from the stockroom shelf, packed into the proper DOT approved drum, labeled with all required data, entered in this facility's Hazardous Waste Log Books with all pertinent information (e.g. drum control number, weight, type of waste, etc.) and transported to the RCRA Hazardous Waste Storage Area.

f. The drum containing the discarded stock material will be managed as hazardous waste in accordance with procedure detailed in the Container section - Use and Management of Containers used for storage of hazardous waste.

2. Shop Process Wastes

a. Materials produced by certain shop processes (steam cleaning, painting, varnish insulating, metalizing, abrasive blasting, oil drainage) will require chemical and physical analysis to determine if they exhibit hazardous characteristics.

The other materials produced by shop processes such as rags, brushes and other debris soaked with solvents and thinners resulting from manual cleaning of parts and solvents and thinners will be classified as hazardous waste using the EPA hazardous waste numbers for listed processes. Details are found on page ----- of this Hazardous Waste Analysis Plan and Appendix A - Solvent and Thinners section.

b. In obtaining samples for waste analysis, precaution will be taken to ensure that a representative sample is taken. The selection of equipment and procedure for obtaining representative samples will be performed in accordance with EPA Procedure specified in SW-846 (U.S. Environmental Protection Agency - Test Methods for Evaluating Solid Waste). Considering the continual updating of SW-846 the most recently updated EPA-approved revision of SW-846 will be used, except where an earlier revision is mandated by law. Services of NYDEC technically acceptable and New York State Department of Health Approved Laborites will be employed to ensure correct sampling and testing.

Analysis for hazardous waste characteristics will be performed in accordance with procedures specified in 6NYCRR.

Further discussion of sampling and testing methods will be covered in the Sampling and Testing Methods Section of the GE-Buffalo Shop Waste Analysis Plan.

The wastes generated by shop processes, waste composition, analysis data required is shown in the following table:

HAZARDOUS WASTE ANALYSIS PLAN

Waste	Shop Process Location	Components/Percent		Analysis Required	Testing Frequency
Sludge	Steam cleaning (oil , water, grime, grease) separator, cleaning pits)	Solids (dirt	85%	Volatiles Semi - Volatiles	Each time material is removed for disposal.
		Water (mixed with alkaline detergent	14%	TCLP Analysis (all except pesticides & herbicides)	
		Oil	1%	PCB	
		Total	100%		
Abrasive blasting fines	Abrasive blasting metal components (mech. apparatus parts, non-PCB transformer tanks)	Spent abrasive material	75%	TCLP Analysis (Metals only)	Annually
		Rust, paint chips, dirt	25%		
		Total	100%		
Waste oil (motor oil, lubricating oil)	Oil drained from various equipment	Oil	100%	PCB, Flashpoint, Total Halogens, Arsenic (total) Cadmium (total) Chromium & Lead (total)	Each time material is removed for disposal.
Scrap paint & varnish	Residual painting & insulating varnish from painting & varnish treating	Paint/ varnish	100%	Flashpoint Volatiles TCLP Analysis (Metals only)	Annually
Spent solvents	Solvent used to clean paint spray equipment	Spent solvents/ paints	95% 5%	Flashpoint Volatiles	Annually

Volatiles (EPA SW 846 Method 8240), Semi-Volatiles (EPA SW 846 Method 8270)

The analysis will be performed by a NYDEC technically acceptable and New York State Department of Health approved laboratory.

The other hazardous waste, produced by shop processes are:

WASTE STREAM	SHOP PROCESS	HAZARDOUS WASTE NUMBER
Rags, used brushes, other debris soaked degreasing solvents and thinners	Manual degreasing and cleaning of parts using solvents or thinners	F001 - When 1.1.1 Trichlorethane is used for
		F003 - When Acetone, Xylene & 1500 thinner is used.
		F005 - When MEK & Toluene is used
Solvents & thinners	Cleaning of parts & paint thinning	See Appendix A - Solvents & thinners for hazardous waste number identification.

The RCRA waste generated by shop processes (sludge from steam cleaning pits and oil/water separators, sludge from water wash paint booth and metalizing booth, abrasive blasting fines, waste oil such as motor oil and lubricating oil, scrap paint and varnish) are sampled and tested for RCRA characteristics of the waste is known every time it is removed eliminating possible errors in case of any variability over time. Review of RCRA wastes generated by shop processes will take place annually and this review record will be entered into the facility records.

NOTES:

1. Copies of the analysis reports for the above wastes are attached (Appendix 'B') with the exception of the metalizing booth sludge. The metalizing booth has very low utilization. As of this date no waste material was generated from this source. When waste is generated it will be sampled and tested prior to storage and a copy of the analysis report submitted.

2. The analysis results will be maintained in the operating record until closure of the facility.

3. If waste with unknown characteristics is generated on-site, precautions will be taken to keep waste away from other wastes and sources of ignition. Warning signs will be posted to warn personnel about potential hazards. Sampling and testing of the waste will be performed to determine its physical characteristics. Upon completion of the analysis, and if the waste exhibits characteristics of hazardous waste it will be put in approved and compatible containers and moved to the hazardous waste storage area and treated as hazardous waste.

3. PCB Waste

The following discussion covers the PCB items and wastes (generated on-site) handled by GE Buffalo Service Shop, description and testing/testing frequency.

HAZARDOUS WASTE ANALYSIS PLAN

A. On-Site Generated PCB Waste

WASTE STREAM	SHOP PROCESS	WASTE DESCRIPTION	TESTING FREQUENCY
PCB contaminated	Flushing of PCB transformers	Flushing solvents 95% PCB contaminated oil 5% --- 100%	The solvent used for flushing PCB transformers was always found by test to contain PCBs over 500 ppm
PCB contaminated Solids	PCB work related	Solids (rags, protective, equipment, debris, etc.) 100%	This material is always managed as PCB solid since it comes in contact with PCBs during work activities on PCB

equipment

NOTE:
PCB transformers over 500 ppm require a flush prior to disposal. New virgin #2 fuel oil is used as flush solvent. Previous testing showed flush solvent used once was always found over 500 ppm PCB. Solvent used for flush is used only one time. Flush solvents are pumped directly from transformers into drums or tank trucks for shipment to EPA approved incinerators for disposal. Flush solvents are handled and disposed of as B003 waste.

B. Processing PCB Transformers and Equipment

1. Reconditioning and Repairing Transformers

Transformers received for repairs that have been tested or are assumed to be PCB contaminated (as per the EPA regulations) and are received without oil require no special handling during repairs.

The following options apply for transformers received "oil filled" with less than 500 ppm PCB:

a. If the customer furnishes analysis we will retest to confirm the analysis. After agreeing on the PCB category of the transformer all work and procedures will be in strict accordance with EPA regulations for that transformer category.

b. If the customer elects not to test PCB content and assumes, under EPA regulations, that the transformer is in the PCB contaminated electrical equipment category we must advise him of his options as to how we will handle the repair, i.e.,:

    1. If the oil, as received, is reusable, we will hold it for reuse after completion of repairs.

2. If the oil is not reusable we will return the oil to the customer for his disposal, or,

3. Dispose of the oil by incineration as PCB liquid less than 500 ppm PCB.

NOTES:

1. Management of 2000 gallon scrap oil tank

   a. Storage tank is used to store scrap oil less tank 50 ppm PCB prior to disposal.

   b. Only oil that has been certified as having less than 50 ppm PCB is placed into tank for storage.

   c. Liquid in tank is re-tested prior to disposal by incineration or chemical destruction.

III. Testing and Sampling Methods

The sampling and testing will be performed by a NYDEC technically acceptable and New York State Department of Health approved laboratory for the RCRA hazardous waste characteristics of ignitability, corrosivity, reactivity and EP toxicity as defined in Title 40, Code of Federal Regulations, Part 261 and New York State DEC Regulations. All analyses are conducted according to "Test Methods for the Evaluation of Solid Waste Physical/Chemical Methods." Environmental Protection Agency.

The analyses for PCB concentration is performed also by a NYDEC technically acceptable and New York State Department of Health approved laboratory and performed by Electron capture Gas Chromorography in accordance with the accepted EPA methods.

The specific methodology used for waste sampling at GE Buffalo Shop is the methodology described in the test methods for evaluating solid waste given by U.S. Environmental Protection Agency (SW-846) in Section 1.4 (Sampling Methodology). The container (drums and other receptacles (and tank sampling methodology described in the sampling methodology for containers (1.4.1) and tanks (1.4.2) of the SW-846 covers the methodology used by GE Buffalo Service Shop.

In general, several samples will be taken from the same container from location displaced both vertically and horizontally throughout the waste. As a minimum, a sufficient number and distribution of samples will be taken to address possible vertical anomalies in the waste.

As with containers, when sampling tanks, sufficient number of samples are taken from different locations within the waste in order to provide analytical data that are representative of the entire tank contents
A detailed Quality Assurance/Quality Control Plan follows.

IV: Oil/Water Separators

There are two oil/water separators (see attached drawing for location):

1. East oil/water separator
2. South oil/water separator

In order to ensure proper operation of the oil/water separators periodic inspection will be performed. For the first 6 months, a weekly inspection schedule will be followed. If review of the weekly inspection logs indicate small variations from week to week, the weekly inspection schedule will be replaced by a monthly inspection schedule.

Both compartments of the oil/water separator (the interceptor and the oil storage compartments) will be inspected following these steps:

1. East Oil/Water Separator - Operator Procedure

For inspection record purposes, the attached inspection form (East Oil/Water Separator - Inspection Form) will be used.

a) Remove covers to gain access to interceptor and waste oil storage compartments.

b) Visually inspect the skimmer opening to ensure free flow of oil to the oil storage compartment.

c) Using a dip stick (marked in inches), check the level of sludge accumulated at the bottom of the interceptor. If the sludge accumulation is above 24 inches, removal of the sludge and cleaning of the interceptor compartment will be initiated. Prior to the disposal of sample

will be collected in accordance with the procedure detailed in the Hazardous Waste Analysis Plan. The sludge will be analyzed for the following parameters:

-Ignitability (D001)
-Corrosivity (D002)
-TCLP Analysis (all except pesticides & herbicides)
-PCB
-Volatiles
-Semi-Volatiles

d) Using a dip stick (marked in inches) check the level of oil accumulated in the waste oil storage compartment. If the oil level is above 42", removal of oil and cleaning of the waste oil storage compartment. If the oil level is above 42", removal of oil and cleaning of the waste oil, storage compartment will be initiated. Prior to disposal, a sample will be collected in accordance with the procedure detailed in the Hazardous Waste Analysis Plan. The oil will be analyzed for the following parameters:

IV. Oil/Water Separators (continued)

-Ignitability (D001)
-Corrosivity (D002)
-TCLP Analysis (all except pesticides & herbicides)
-PCB
-Volatiles
-Semi-Volatiles

V. South Oil/Water Separator-Operating Procedure

For inspection record purposes the attached inspection form (South Oil/Water Separator - Inspection Form) will be used.

a) Remove covers to gain access to interceptor and waste oil storage compartments.

b) Visually inspect the skimmer opening to ensure free flow of oil to the oil storage compartments.

c) Using a dip stick (marked in inches), check the level of sludge accumulated at the bottom of the interceptor. If the level reading is above 12 inches, removal of sludge and cleaning of the interceptor will be initiated. Prior to disposal, a sample will be collected in accordance with the procedure detailed in the Hazardous Analysis Waste Plan. The material will be analyzed for the following parameters:

-Ignitability (D001)
-Corrosivity (D002)
-TCLP Analysis (all except pesticides & herbicides)
-PCB
-Volatiles
-Semi-Volatiles

d) Using a dip stick (marked in inches), check the level of oil accumulated in the waste oil storage compartment. If the oil level is above 32", removal of oil and cleaning of the waste oil storage will be initiated. Prior to disposal a sample will be collected in accordance with the procedure detailed in the Hazardous Waste Analysis Plan. The oil will be analyzed for the following parameters:

-Ignitability (D001)
-Corrosivity (D002)
-TCLP Analysis (all except pesticides & herbicides)
-PCB
-Volatiles
-Semi-Volatiles

V. South Oil/Water Separator-Operating Procedure

e) Disposal of the sludge and waste oil will be performed in accordance with all applicable regulations.

f) Fill out the inspection log form and cover access openings.

CHEMICAL AND PHYSICAL

ANALYSIS OF HAZARDOUS WASTE

1. CHEMICAL AND PHYSICAL ANALYSIS OF HAZARDOUS WASTE

The discussion found in this section covers how each waste is generated and the waste analysis dated which is needed to adequately store the waste.

Discussion of waste generation/handling location was covered in the Facility Description section.

The concept and objectives of the Buffalo Service Shop Waste Analysis Plan are discussed in details in the Waste Analysis Plan section.

WASTE STREAM	WASTE GENERATION DESCRIPTION	ANALYSIS DATA REQUIRED PRIOR TO STORAGE
Sludge (From Oil/ Water Separator and and Cleaning Pits)	Steam cleaning of various dirty parts received by the shop for repairs.	Volatiles, Semi-Volatiles,PCB, TCLP Analysis (all except pesticides & herbicides)
Abrasive Blasting Fines	Used abrasive media generated during abrasive cleaning of metal components	TCLP analysis (metals only)
Waste Oil (Motor Oil, Lubricating Oil)	Oil drainage from various equipment/collection of used lubricating oil.	PCB, TCLP (metals only)
Rages, Used Brushes, Other Debris Soaked with Flammable Solvents and Thinners.	Manual cleaning of parts using solvents.	Ignitability (waste characteristics known without analysis required.
Scrap Paint and Varnish	Residual painting and insulating varnish resulted from the painting and varnish treating.	Ignitability, Volatiles.
Flammable Solvents and Thinners	Cleaning of parts and paint thinning.	Ignitability, Volatiles.
PCB Items	Decommissioned PCB transformers, carcasses, debris	PCB
PCB Liquids	Drained fluids from PCB transformers.	PCB

CHEMICAL AND PHYSICAL ANALYSIS OF HAZARDOUS WASTE

WASTE STREAM	WASTE GENERATION DESCRIPTION	ANALYSIS DATA REQUIRED PRIOR TO STORAGE
PCB Contaminated Oils and Solids	Draining of PCB contaminated solids such as absorbent material, rags, protective	PCB

2. WASTE CHARACTERISTICS

1. PCB Items and Wastes - Testing/Frequency of Testing

The following summary shows the PCB items and wastes (generated on-site or off-site) handled by GE-Buffalo Service Shop, the testing performed and its frequency.

On-Site Generated PCB Waste

Waste Material	Waste No.	Testing/Testing Frequency
PCB contaminated solids (generated during PCB work related activities	B007	This material (such as rags, protective equipment, debris, etc.) is always managed as PCB solid since it comes in contact with PCB's during work activities on PCB equipment.
PCB Liquids	B001	This liquid is drained from PCB transformers, and is managed as PCB liquid without testing.
	B002 & B003	With customer approval, analysis is performed when material is received.
PCB Solids	B005 & B006	Not tested since the equipment is known to contain or have contained PCB's.

CHEMICAL AND PHYSICAL ANALYSIS OF HAZARDOUS WASTE

2. WASTE CHARACTERISTICS (continued)

2. The analysis results provided in Appendix "C" of the Waste Analysis Plan correspond to the specific waste streams listed as follows:

Waste	Shop Process/Location	Lab Name/Lab Report No.
Sludge	Steam cleaning (oil/water water separator, cleaning pits)	Acts Testing Lab/5B-3484E & 5B-3719E.
Abrasive Blasting Fines	Abrasive Blasting	RECRA Environmental Inc. 92-2831.
Waste Oil (Motor Oil, Lubricating Oil)	Oil drained from various equipment	ACTS Testing Lab/5B-5788E & 5B-3487E.

The reference analysis reports are attached in this section under Appendix "A."

3. These wastes are rags and brushes soaked with flammable solvent and thinners; paint and varnish residues, flammable solvent and thinners and scrap varnishes. These wastes are analyzed every time prior to disposal for ignitability, TCLP, halogenated organic compounds and PCB's.

4. Testing and Sampling Methods

The samples are tested by qualified laboratories for the RCRA hazardous waste characteristics of ignitability, corrosivity, reactivity and toxicity as defined in 6 NYCRR Part 371. All analyses are conducted according to "Test Methods for the Evaluation of Solid Waste Physical/Chemical Methods," EPA.

The analyses for PCB concentration is done also by qualified laboratories and performed by Electron Capture Gas' Chromorography in accordance with the accepted EPA methods.

The specific methodology used for waste sampling at GE-Buffalo Shop is the methodology described in the test methods for evaluating solid waste given by U.S. Environmental Protection Agency (SW-846) in Section 1.4 (Sampling Methodology). The container (drums and other receptacles) and tank sampling methodology described in the sampling methodology for containers (1.4.1) and tanks (1.4.2) of the SW-846 (attached under Exhibit "B" of the Waste Analysis Plan of permit application submitted April 6, 1987) covers the methodology used by GE-Buffalo Service Shop.

4. Testing and Sampling Methods (continued)

In general, several samples will be taken from same container from locations displaced both vertically and horizontally throughout the waste. As a minimum, a sufficient number of distribution of samples will be taken to address any possible vertical anomalies in the waste.

As with containers, when sampling tanks, sufficient number of samples are taken from different locations within the waste in order to provide analytical data that are representative of the entire tank contents.

5. Analysis reports received with PCB shipments

Examples of PCB reports received with the PCB contaminated liquids shipments are attached in this section under Appendix "C."

STANDARD OPERATING PROCEDURES
FOR
QUALITY ASSURANCE/QUALITY CONTROL

Prepared As A Supplement Reference To
The Hazardous Waste Analysis Plan
For General Electric's Buffalo Service Shop

OUTLINE

TITLE PAGE/LABORATORY DIRECTOR SIGNATURE

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2.0 WASTE SAMPLING AND PACKAGING

- 2.1 Waste Definition
- 2.2 Waste Sampling
  - 2.2.1 Volume Requirements
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- 2.3 Packaging
  - 2.3.1 Waste Identification/Coding System
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3.0 SAMPLE RECEIPT AT LABORATORY

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- 4.4 Sample Splitting and Preservation Procedures

5.0 SAMPLE AND EXTRACT STORAGE

- 5.1 General Storage
- 5.2 Extract Samples
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GE COMPANY
BUFFALO SERVICE CENTER

SOUTH OIL/ WATER SEPARATOR -- INSPECTION LOG

INSPECTION DATE	OIL SKIMMER FLOW		INTERCEPTOR COMPARTMENT (SLUDGE LEVEL - INCHES) -a)	OIL STORAGE COMPARTMENT (OIL LEVEL - INCHES) -b)	COMMENTS	INSPECTOR'S SIGNATURE
	FREE	OBSTRUCTED				

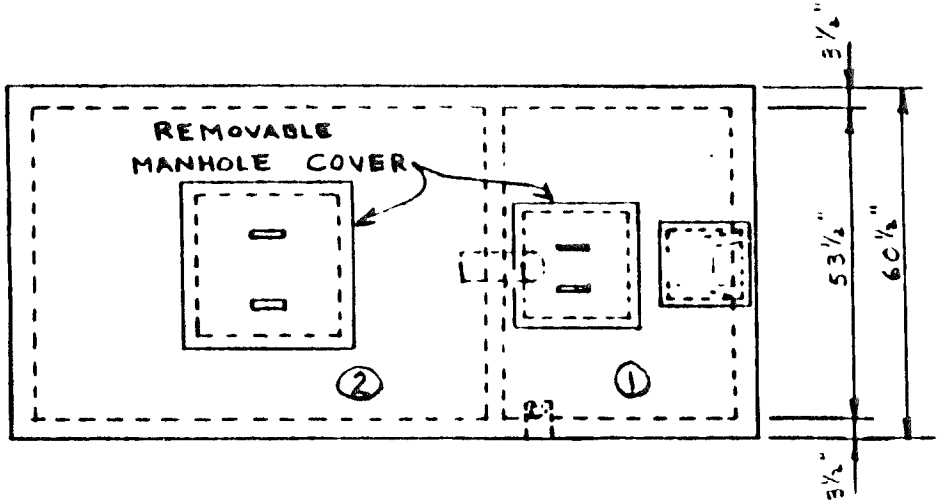
GE COMPANY
BUFFALO SERVICE CENTER

EAST OIL/ WATER SEPARATOR -- INSPECTION LOG

INSPECTION DATE	OIL SKIMMER FLOW		INTERCEPTOR COMPARTMENT (SLUDGE LEVEL - INCHES) -a)	OIL STORAGE COMPARTMENT (OIL LEVEL - INCHES) -b)	COMMENTS	INSPECTOR'S SIGNATURE
	FREE	OBSTRUCTED				

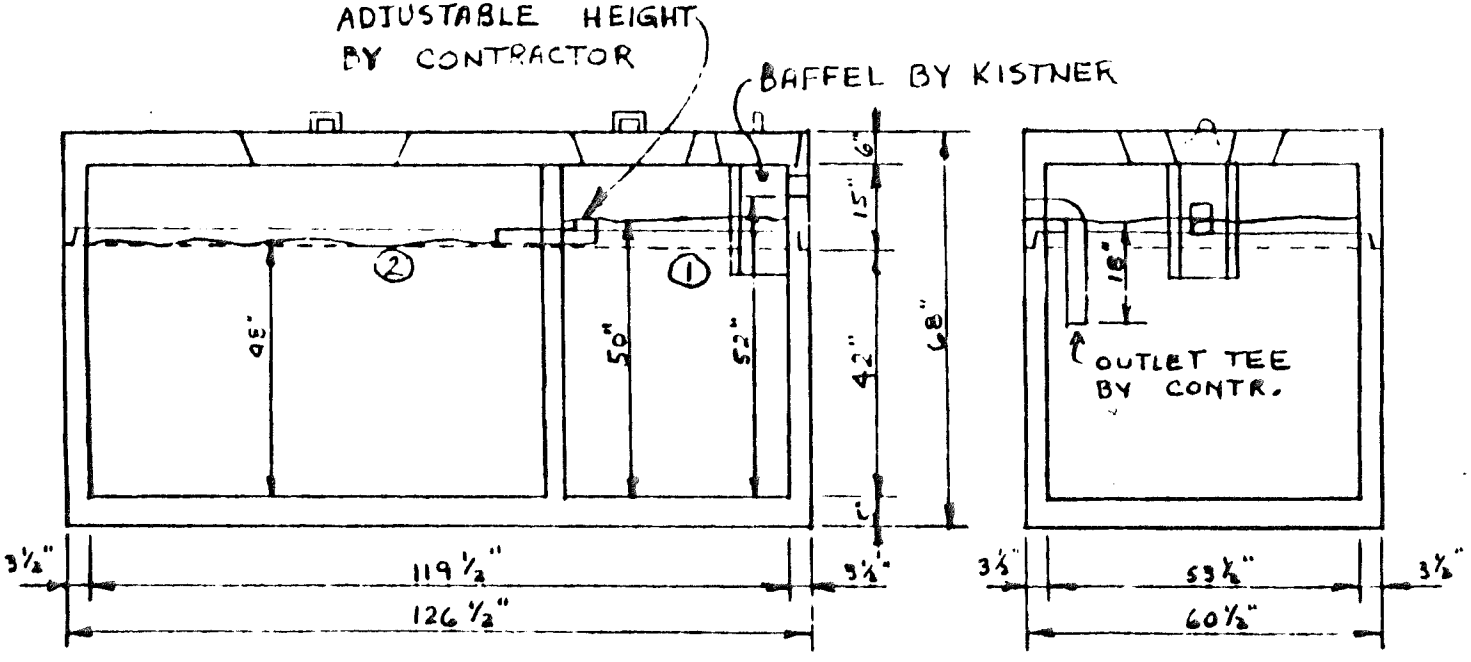
NOTES: (a- If sludge level exceeds 24 inches, follow instructions listed in the Oil/ Water Separator Operating Procedure.
(b- If oil level exceeds 42 inches, follow instructions listed in the Oil/ Water Separator Operating Procedure.

EAST (OLD) OIL/WATER SEPARATOR

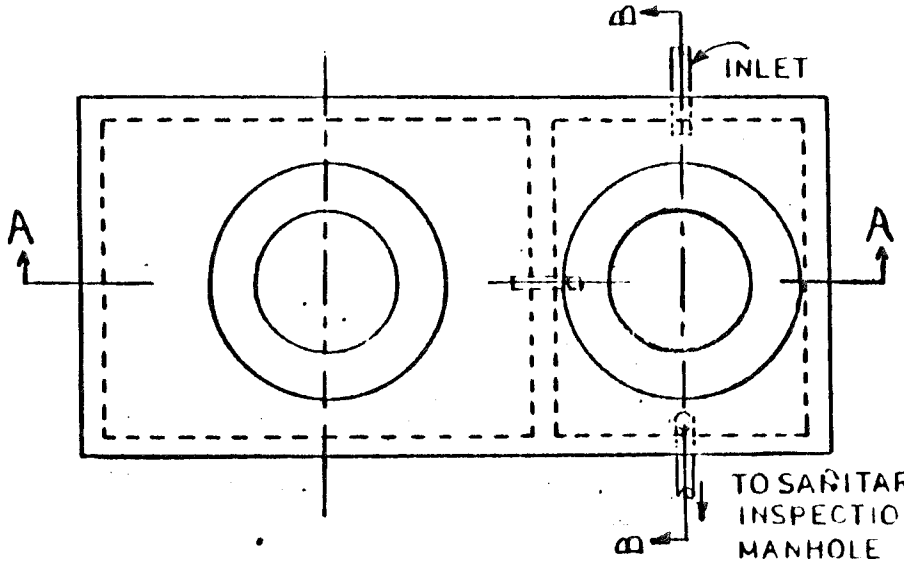


NOTES:
CONCRETE: 6 BAG MIX
3000 PSI. @ 28 DAYS
STEEL: 6"x6" 10/10 GA.
WIRE MESH THROUGHOUT
#3 REBAR 12" O.C. HORIZ.

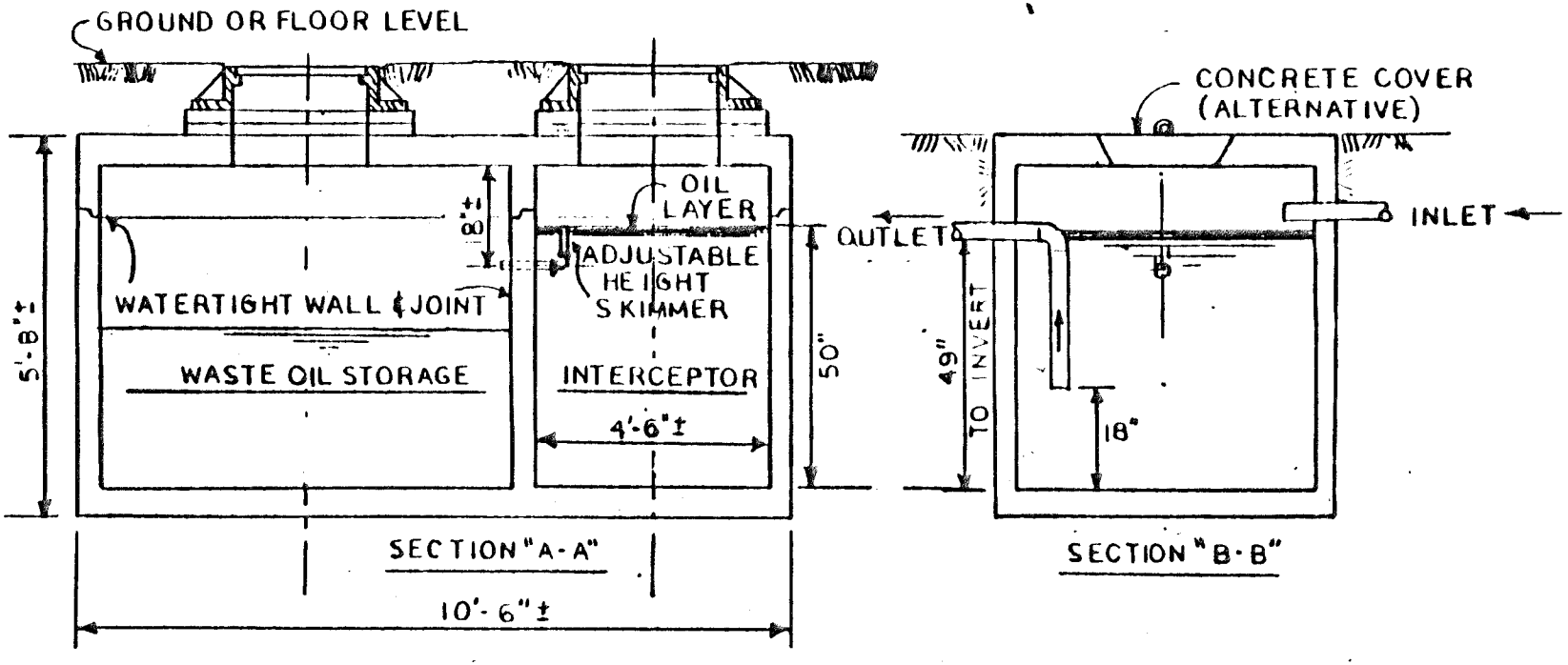
① COLLECTION TANK
400 GALLONS
② OIL STORAGE TANK
850 GALLONS



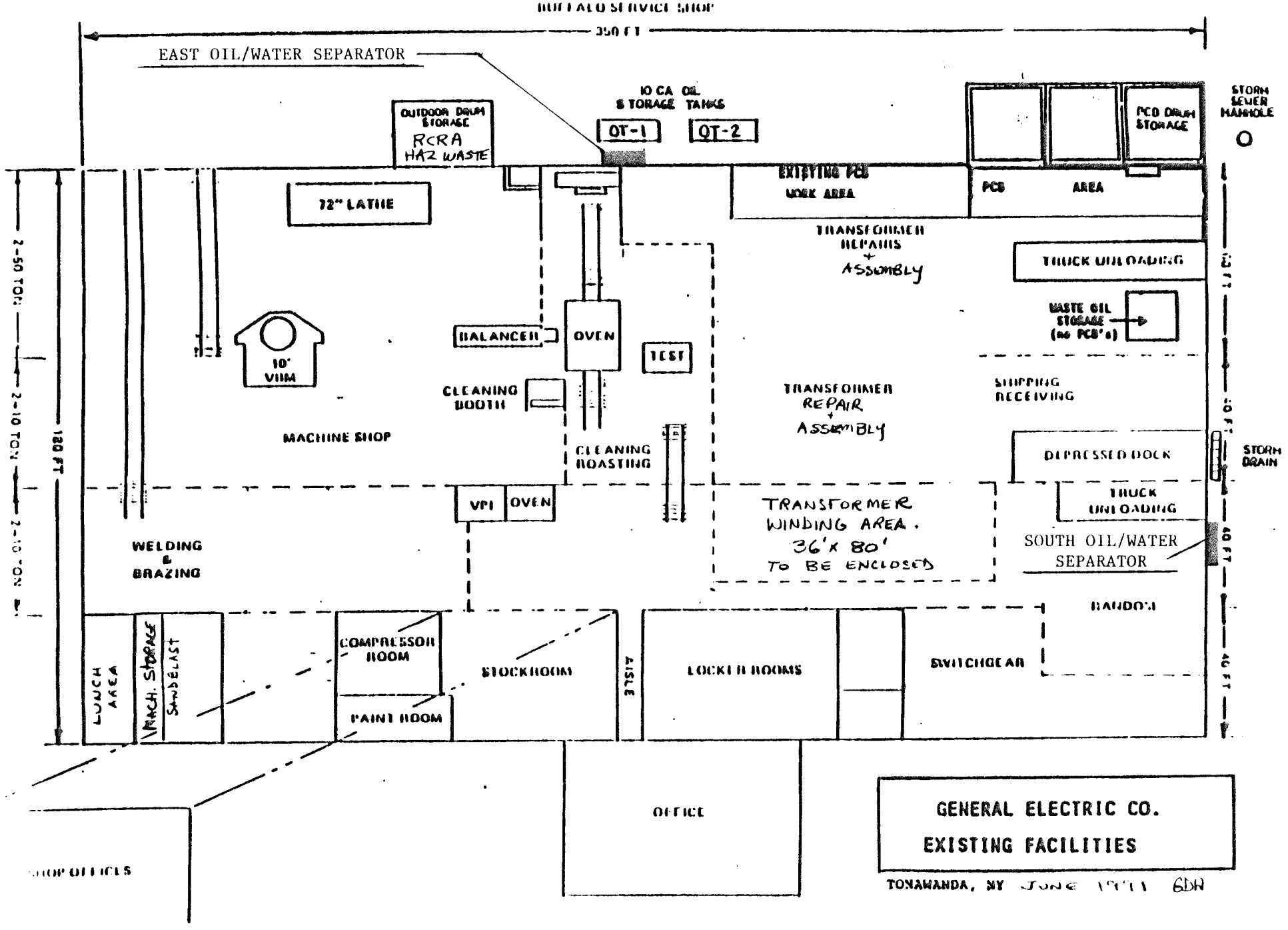
SOUTH(NEW) OIL/WATER ..PARATOR



CONCRETE OIL
INTERCEPTOR AND
STORAGE TANK
—VENT AS REQ'D
—DEPTH TO SUIT



GE- BUFFALO .CE CENTER
OIL/WATER SEPARATOR LOCATION DWG.



APPENDIX A

EXHIBIT I

SERVICE CENTER HAZARDOUS WASTES

TABLE D (Cont'd)

1 SERVICE CENTER HAZARDOUS WASTE	2 EPA HAZARD NO.	3 PROPER DOT SHIPPING NAME	4 DOT HAZARD CLASS	5 DOT UN OR NA NO.	6 DOT LABEL	7 REPORTABLE QUANTITY (RQ)	8 PACKAGING DRUM TYPE	9 PLACARD
Miscellaneous (Cont'd)								
~~Phenyl~~ Dichloroarsine	~~P001~~	~~Waste Phenyl~~ dichloroarsine	~~Poison B~~	~~NA1556~~	~~Poison~~	1	5A 30 Gallon Limit	Poison
~~Phenyl Mercaptan~~	~~P001~~	~~Waste Phenyl~~ dichloroarsine	~~Poison B~~	~~NA1556~~	~~Poison~~	100	5A 30 Gallon Limit	Poison
~~Potassium Cyanide~~ (liquid)	~~P098~~	~~Waste Potassium~~ cyanide solution	~~Poison B~~	~~UN1680~~	~~Poison~~	10	5,5A,5B, 17E Liquid 17H Solid	Poison
Potassium Cyanide (solid)	P098	Waste Potassium cyanide, solid	Poison B	UN1680	Poison	10	5,5A,5B 17E Liquid 17H Solid	Poisc
Rapid Fixer Solution A Rapid Fixer Solution B Rust-I-Cide	D002	Waste Corrosive liquid, n.o.s.	Corrosive Material	UN1760	Corrosive	100	Use Original Container	Corrosive
~~Silver Cyanide~~	~~P104~~	~~Waste Silver cyanide~~	~~Poison B~~	~~UN1684~~	~~Poison~~	1	5,5A,5B 17E (liquid) 17H (solid)	Poison
~~Sodium Cyanide~~ (liquid)	~~P106~~	~~Waste~~ Sodium cyanide, solution	~~Poison B~~	~~UN1689~~	~~Poison~~	10	5,5A,5B, 17E (liquid)	Poison
~~Sodium Cyanide~~ (solid)		~~Waste~~ Sodium cyanide, solid	~~Poison B~~	~~UN1689~~	~~Poison~~	10	5,5A,5B, 17E (solid)	Poison
SS-3 Stainless Steel Cleaner	D002	Waste Corrosive liquid, n.o.s.	Corrosive Material	UN1760	Corrosive	100	37P,17H,17C,21P 37A,17E,34,37B,17F	Corrosive
~~Strontium Sulfide~~	~~P107~~	~~Hazardous Waste, liquid~~ or solid, n.o.s.	~~ORM-E~~	~~NA9188~~	~~ORM-E~~		17C,17H,17E	None
X-25 Soldering Flux	D001	Waste Oxidizing material, n.o.s.	Oxidizer	UN1479	Oxidizer	100	6,6A,6B,6C, 17C,17E,17H, 37A,37B	Oxidizer

EXHIBIT I

SERVICE CENTER HAZARDOUS WASTES

TABLE D (Cont'd)

1 SERVICE CENTER HAZARDOUS WASTE	2 EPA HAZARD NO.	3 PROPER DOT SHIPPING NAME	4 DOT HAZARD CLASS	5 DOT UN OR NA NO.	6 DOT LABEL	7 REPORTABLE QUANTITY (RQ)	8 PACKAGING DRUM TYPE	9 PLACARD
Miscellaneous (Cont'd)								
Ammonium Hydroxide (Containing not less than 12% but not more than 44% Ammonia)	D002	Waste Ammonium hydroxide	Corrosive	NA2672	Corrosive	100	5,5A,5B,5C,5M 50,5H,17C,17H 17F, 37P	Corrosive
Aqua Ammonia 26	D002	Waste Corrosive liquid, n.o.s.	Corrosive Material	UN1760	Corrosive	100	Use Original Container	Corrosive
Butyl Alcohol	U031	Waste Butyl alcohol	Flammable Liquid	NA1120	Flammable Liquid	5000	5,5A,5B,5C,5M 17E,17C	Flammable
~~Cyanides~~	~~P030~~	~~Waste Cyanide solution~~	~~Poison B~~	~~UN1935~~	~~Poison~~	~~10~~	5,5A,5B,17E, 37B	Poison
EG6565 Rust Ban	D001	Waste Paint	Flammable Liquid	UN1263	Flammable Liquid	100	5,5A,5B,5C,5M 17E,17C	Flammable
Formex Gel	D002	Waste Formic acid	Corrosive Material	NA1779	Corrosive	100	37P,17H,17C,21P, 37A,17E,34,37B 17F	Corrosive
Insulation-Transformer Leads (Clear & Dark)	D001	Hazardous Waste liquid, n.o.s.	ORM-E	UN1993	Flammable Liquid	100	5,5A,5B,5C,5M	Flammable
Klean Crete	D002	Waste Corrosive liquid, n.o.s.	Corrosive Material	UN1760	Corrosive	100	Use Original Container	Corrosive
~~Methyl Parathion (liquid)~~	~~P071~~	~~Waste Methyl parathion, liquid~~	~~Poison B~~	~~NA2783~~	~~Poison~~	~~100~~	5,5A,5B,17C, 17E	Poison
~~Methyl Parathion (Solid)~~	~~P071~~	~~Waste Methyl parathion mixture, dry~~	~~Poison B~~	~~NA2783~~	~~Poison~~	~~100~~	~~5,5A,5B,17C~~ 17E	Poison
PH6297 Rust Ban	D001	Waste Paint	Flammable Liquid	UN1263	Flammable Liquid	100	5,5A,5B,5C,5M 17E,17C	Flammable

EXHIBIT I

SERVICE CENTER HAZARDOUS WASTES

TABLE D (Cont'd)

1 SERVICE CENTER HAZARDOUS WASTE	2 EPA HAZARD NO.	3 PROPER DOT SHIPPING NAME	4 DOT HAZARD CLASS	5 DOT UN OR NA NO.	6 DOT LABEL	7 REPORTABLE QUANTITY (RQ)	8 PACKAGING DRUM TYPE	9 PLACARD
Miscellaneous (Cont'd)								
~~2-Cyclohexy-4,6 Dinitrophenol~~	~~P034~~	~~Hazardous Waste, liquid or solid, n.o.s.~~	~~ORM-E~~	~~NA9189~~	~~ORM-E~~		17C,17H,17E	None Specified
~~2-Propynol~~	~~P102~~	~~Hazardous Waste, liquid or solid, n.o.s.~~	~~ORM-E~~	~~NA9189~~	~~ORM-E~~	1000	17C,17H,17E	None
2861 Permafil	D001	Waste Oxidizing material, n.o.s.	Oxidizer	UN1479	Oxidizer	100	6,6A,6B,6C, 17C,17E,17H 37A,37B	Oxidizer
3068 Texo-Brite (Chromic Acid Solution)	D002	Waste Chromic acid solution	Corrosive Material	UN1755	Corrosive	100	Do Not Mix 17E Check Regulations	Corro
3332 Permafil Catalyst	D001	Waste Oxidizing material, n.o.s.	Oxidizer	UN1479	Oxidizer	100	6,6A,6B,6C, 17C,17E,17H 37A,37B	Oxidizer
~~4,6-Dinitro-O-Cresol and Salts~~	~~P047~~	~~Hazardous Waste, liquid or solid, n.o.s.~~	~~ORM-E~~	~~NA9189~~	~~ORM-E~~	~~10~~	17C,17H,17E	None Specified
65376 Silicone Lube 65379 White Grease 65382 Battery Cleaner 69954 Open Gear Lube	D001	Waste Flammable liquid, n.o.s.	Flammable Liquid	UN1993	Flammable Liquid	100	5,5A,5B,5C,5M 17E,17C	Flammable
9858 Catalyst	D001	Waste Oxidizing material, n.o.s.	Oxidizer	UN1479	Oxidizer	100	6,6A,6B,6C, 17C,17E,17H 37A,37B	Oxidizer
Ammonium Hydroxide (containing less than 12% ammonia)	D002	Waste Ammonium hydroxide	ORM-A	NA2672	ORM-A			

EXHIBIT I

SERVICE CENTER HAZARDOUS WASTES

TABLE D

1 SERVICE CENTER HAZARDOUS WASTE	2 EPA HAZARD NO.	3 PROPER DOT SHIPPING NAME	4 DOT HAZARD CLASS	5 DOT UN OR NA NO.	6 DOT LABEL	7 REPORTABLE QUANTITY (RQ)	8 PACKAGING DRUM TYPE	9 PLACARD
Miscellaneous								
0,0-Diethyl-0-(2-Pyrazinyl) Phosphorothionate	P040	Hazardous Waste, liquid or solid, n.o.s.	ORM-E	NA9189	ORM-E	100	17C,17H,17E	None Specified
14AM Magna Glo Prepared Bath	D001	Waste Flammable liquid, n.o.s.	Flammble Liquid	UN1993	Flammable Liquid	100	5,5A,5B,5C,5M 17E,17C	Flammable
#2 Form-A-Gasket** Cement	D001	Waste Cement	Flammable Liquid	NA113	Flammable Liquid	100	5,5A,5B,5C,5M 17E,17C	Flammable
2,4-Dichlorophenoxyacetic Acid	P035	Waste 2,4-Dichlorophenoxy-, acetic acid	ORM-A	NA2765	ORM-A	100	17C,17H,17E	None Specified
2,4-Dithiobiuret	P049	Hazardous waste, liquid or solid, n.o.s.	ORM-E	NA9189	ORM-E	100	17C,17H,17E	None Specified
2, Butanone Peroxide	P019	Hazardous waste, liquid or solid, n.o.s.	ORM-E	NA9189	ORM-E	100	17C,17H,17E	None Specified

*Use only 1 EPA Hazard No., whichever is appropriate. See Section 1.1 for guidance.

**Flashpoint <100°F

EXHIBIT I

SERVICE CENTER HAZARDOUS WASTES

TABLE C (Cont'd)

1 SERVICE CENTER HAZARDOUS WASTE	2 EPA HAZARD NO.	3 PROPER DOT SHIPPING NAME	4 DOT HAZARD CLASS	5 DOT UN OR NA NO.	6 DOT LABEL	7 REPORTABLE QUANTITY (RQ)	8 PACKAGING DRUM TYPE	9 PLACARD
Solvents & Thinners (Cont'd)								
SE75	F001	Hazardous waste, liquid n.o.s.		NA9189	ORM-E		None Specified	None
Solute 2101	F001	Hazardous waste, liquid n.o.s.		NA9189	ORM-E		None Specified	None
Toluol/Toluene	U220* or F005	Waste Toluene		UN1294	Flammable Liquid		5,5A,5B,5C,5M 17E,17C	Flammable
Trichloroethane III	U226* or F001 or F002	Waste 1,1,1-Trichloroethane		UN2831	ORM-E		None Specified	None
Trichloroethylene		Waste Trichloroethylene		UN1710	ORM-E		None Specified	None
Triethane III	U226* or F001 or F002	Waste 1,1,1-Trichloroethane		UN2831	ORM-E		None Specified	None
Varsol	D001	Waste Naptha		UN2553	Flammable Liquid		5,5A,5B,5C,5M 17E,17C	Flammable
Xylene, Xylol	U239* or F003	Waste Xylene		UN1307	Flammable Liquid		5,5A,5B,5C,5M 17E,17C	Flammable

**Use only 1 EPA Hazard No., whichever is appropriate. See Section 1.1 for guidance.*

EXHIBIT I

SERVICE CENTER HAZARDOUS WASTES

TABLE C (Cont'd)

1 SERVICE CENTER HAZARDOUS WASTE	2 EPA HAZARD NO.	3 PROPER DOT SHIPPING NAME	4 DOT HAZARD CLASS	5 DOT UN OR NA NO.	6 DOT LABEL	7 REPORTABLE QUANTITY (RQ)	8 PACKAGING & DRUM TYPE	9 PLACARD
Solvents & Thinners (Cont'd)								
Methylene Chloride	U080* or F001 or F002	Waste Methylene chloride		UN1593	ORM-E		None Specified	None
Naptha (Hi-Flash)	F003* or F005	Waste Naptha		UN2553	ORM-E		None Specified	Combustible
Naptha (VM&P)	D001	Waste Naptha		UN2553	Flammable Liquid		5,5A,5B,5C,5M	Flammable
Percnlor Perchloroethylene Perclene Perk	U210* or F001 or F002	Waste Perchloroethylene		UN1897	ORM-E		None Specified	None
Safety Cleaner 150	U226* or F001 or F002	Waste 1,1,1-Trichloroethane		UN2831	ORM-E		None Specified	None

**Use only 1 EPA Hazard No., whichever is appropriate. See Section 1.1 for guidance.*

EXHIBIT I

SERVICE CENTER HAZARDOUS WASTES

TABLE C (Cont'd)

1 SERVICE CENTER HAZARDOUS WASTE	2 EPA HAZARD NO.	3 PROPER DOT SHIPPING NAME	4 DOT HAZARD CLASS	5 DOT UN OR NA NO.	6 DOT LABEL	7 REPORTABLE QUANTITY (RQ)	8 PACKAGING DRUM TYPE	9 PLACARD
Solvents & Thinners (Cont'd)								
Cellosolve	D001	Waste Ethylene glycol monoethyl ether		UN1171	Combustible Liquid		None Specified	Combustible
~~Chlorothene NU~~	~~U226*~~ or F001 or F002	~~Waste 1,1,1-~~ Trichloroethane		~~UN2831~~	~~ORM-E~~		None Specified	None
~~Chlorothene VG~~	~~U226*~~ or F001 or F002	~~Waste 1,1,1-~~ Trichloroethane		~~UN2831~~	~~ORM-E~~		None Specified	None
Denatured Alcohol	D001	Waste Denatured alcohol		NA1986	Flammable Liquid		5,5A,5B,5C,5M 17E,17C	Flammable
Ethyl Alcohol	D001	Waste Ethyl alcohol		UN1170	Flammable Liquid		5,5A,5B,5C,5M 17E,17C	Flammable
Kerosene	D001	Waste Kerosene		UN1223	ORM-E		None Specified	Combustible
~~Methyl Ethyl Ketone~~ (MEK)	~~U159*~~ or F005/ D001	~~Waste Methyl ethyl ketone~~		~~UN1193~~	~~Flammable~~ Liquid		5,5A,5B,5C,5M 17E,17C	Flammable

**Use only 1 EPA Hazard No., whichever is appropriate. See Section 1.1 for guidance.*

EXHIBIT I

SERVICE CENTER HAZARDOUS WASTES

TABLE C

1 SERVICE CENTER HAZARDOUS WASTE	2 EPA HAZARD NO.	3 PROPER DOT SHIPPING NAME	4 DOT HAZARD CLASS	5 DOT UN OR NA NO.	6 DOT LABEL	7 REPORTABLE QUANTITY (RQ)	8 PACKAGING DRUM TYPE	9 PLACARD
Solvents & Thinners								
~~1,1,1 Trichloroethane~~	~~U226*~~ or F001 or F002	~~Waste 1,1,1~~ Trichloroethane		~~UN2831~~	~~ORM-E~~		None Specified	None
~~1,1,2 Trichloroethane~~	~~U227~~	~~Waste 1,1,2~~ Trichloroethane		~~None~~	~~ORM-E~~		None Specified	None
1500 Thinner 1511 F Thinner 1511 M Thinner 1514 Lacquer Thinner 6442 Thinner	D001	Waste Flammable liquid n.o.s.		UN1993	Flammable Liquid		5,5A,5B,5C,5M 17E,17C	Flammable
676	F001	Hazardous waste, liquid n.o.s.		NA9189	ORM-E		None Specified	None
75029 Thinner 9424 Thinner	D001	Waste Flammable liquid n.o.s.		UN1993	Flammable Liquid		5,5A,5B,5C,5M 17E,17C	Flammable
Acetone	F003/ D001	Waste Acetone		UN1090	Flammable Liquid		5,5A,5B,5C,5M 17E,17C	Flammable
AP755	F001	Hazardous waste, liquid n.o.s.		NA9189	ORM-E		None Specified	None

**Use only 1 EPA Hazard No., whichever is appropriate. See Section 1.1 for guidance*

EXHIBIT I

SERVICE CENTER HAZARDOUS WASTES

TABLE B

1 SERVICE CENTER HAZARDOUS WASTE	2 EPA HAZARD NO.	3 PROPER DOT SHIPPING NAME	4 DOT HAZARD CLASS	5 DOT UN OR NA NO.	6 DOT LABEL	7 REPORTABLE QUANTITY (RQ)	8 PACKAGING DRUM TYPE	9 PLACARD
Alkaline & Caustic Cleaners								
92XX Magnus Cleaner 215D Magnus Cleaner 114 Magnus Cleaner 147X Magnus Cleaner 92S Magnus Cleaner 26N Magnus Cleaner	D002	Waste Corrosive liquid, n.o.s.	Corrosive Material	UN1760	Corrosive	100	Use Original Container, 37M	Corrosive
Fluxes								
115-5-51 Soldering Flux 294 Soldering Flux X-25 Soldering Flux Stainless Steel Soldering Flux	D001	Waste Combustible liquid, n.o.s.	Combustible Liquid	NA1993	Combustible Liquid	100	5,5A,5B,5C, 5M,17E,17C	Combus
NDT Materials								
SKC-NF Cleaner/Remover ZC-7 Zyglo Form 8 Cleaner/Remover ZP-9 Zyglo Form 8 Developer	F002	Hazardous Waste liquid, n.o.s.	ORM-E	NA-9189	ORM-E		None Specified	None
Paints & Enamels								
Paints & Enamels	D001	Waste Paint	Flammable Liquid	UN1263	Flammable Liquid	100	5,5A,5B,5C,5M 17E,17C	Flammable
Paint Residue (Solidified)	D001	Hazardous Waste, solid n.o.s.	NA9189	ORM-E		100	Same	Same

EXHIBIT I

SERVICE CENTER HAZARDOUS WASTES

TABLE A

1 SERVICE CENTER HAZARDOUS WASTE	2 EPA HAZARD NO.	3 PROPER DOT SHIPPING NAME	4 DOT HAZARD CLASS	5 DOT UN OR NA NO.	6 DOT LABEL	7 REPORTABLE QUANTITY (RQ)	8 PACKAGING DRUM TYPE	9 PLACARD
Acids								
Hydrochloric Acid	D002	Waste Hydrochloric acid	Corrosive Material	UN1789	Corrosive	100	Use Original Container	Corrosive
Nitric Acid	D002	Waste Nitric acid, 40% or less	Corrosive Material	NA1796	Corrosive	100	Use Original Container	Corrosive
Phosphoric Acid	D002	Waste Phosphoric acid	Corrosive Material	UN1805	Corrosive	100	Use Original Container	Corrosive
Sulfuric Acid	D002	Waste Sulfuric acid	Corrosive Material	UN1830	Corrosive	100	Use Original Container	Corrosive
Sulfuric Acid, Spent	D002	Waste Sulfuric acid, spent	Corrosive Material	UN1832	Corrosive	100	Use Original Container	Corrosive
Adhesives & Epoxies 1276 Adhesive 1286 Adhesive 7057 Adhesive 880 Gasket Adhesive Pliobond	D001	Waste Adhesive	Flammable Liquid	NA1133	Flammable Liquid	100	5A,5B,5C,5M,5 17E,17C	Flammable
3060 Casting Epoxy 5003 Epoxy Cement 3093 Sprayable Epoxy	D002	Waste Corrosive liquid, n.o.s.	Corrosive	UN1760 Material	Corrosive	100	37P	Corrosive

APPENDIX B

MATERIAL SAFETY DATA SHEET

Ingredients

	Percent	Threshold Limit Values
HCl		The American Conference of Governmental Industrial Hygienists (ACGIH) has established a Ceiling Limit of 5 ppm (7 mg/m³) for HCl.
20°Be'	31.4	
22°Be'	35.2	
Water	64.8-68.6	None established.

Hazardous Reactivity

Incompatibility: Contact with most metals will produce flammable hydrogen. Mixing with strong oxidizers can produce poisonous chlorine gas. Reacts exothermically with alkalies and active metals.

Hazardous Decomposition Products: Flammable hydrogen gas can be produced by the reaction with most metals. Chlorine gas will be released by mixing with strong oxidizers.

Conditions To Avoid: Avoid contact with metals and strong oxidizers.

Handling and Storage

Precautions: Store in a cool, dry, well-ventilated area away from heat and oxidizing agents.

Use equipment designed for acid service for handling and storage.

Environmental Protection

Procedure In Case Of Spill Or Release: Get protective equipment. Contain spill and pump into marked containers for reclamation or disposal. For small spills, neutralize with soda ash or dilute caustic soda solution and flush to a sewer system in accordance with regulatory permit requirements. If possible, clean up spill area on a dry basis and then flush with plenty of water.

Waste Disposal Method: Dispose of spilled or waste product, contaminated soil and other contaminated materials in licensed landfill or treatment facility in accordance with all local, state and federal regulations.

Regulatory Status

§311 of the Clean Water Act lists Muriatic acid as a hazardous substance which, if discharged into or upon water, may require immediate response to mitigate danger to public health and welfare. The Act specifies procedures to be followed in the event of accidental spillage as well as civil penalties and fines to be levied. Spills of Muriatic acid of 5,000 or more pounds must be reported to the National Response Center, 1-800-424-8802.

The shipment of Muriatic acid is regulated by the U.S. Department of Transportation. It is classified as a Corrosive Material, requires a Corrosive DOT label and is assigned UN 1789 as an international identification number (49 CFR § 172.101).

MATERIAL SAFETY DATA SHEET

Regulatory Status Continued

Muriatic acid is contained on a composite list as required under §101(14) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) usually referred to as Superfund. The list includes substances designated pursuant to §3001 of the Solid Waste Disposal Act (RCRA), toxic pollutants under §307 of the Clean Water Act, hazardous air pollutants under §112 of the Clean Air Act, imminently hazardous chemicals determined under §7 of TSCA and substances designated pursuant to §102 of CERCLA.

Muriatic acid is designated a hazardous substance by 29 CFR §1910, Subpart Z, Toxic and Hazardous Substances, OSHA.

Muriatic acid is designated a hazardous substance by American Conference of Governmental Industrial Hygienists.

OSHA Standard 29 CFR §1910.1200 Hazard Communication requires that information be provided to employees concerning hazardous chemicals by means of a hazard communication program including container labels, Material Safety Data Sheet literature, training and access to written records.

Muriatic acid is a Generally Recognized As Safe (GRAS) substance and as such certified food grade material can be used as a food additive as exempted by the Food, Drug and Cosmetic Act (21 CFR § 582.

Information contained in this section is provided as a service and while based on generally available resources and information should not be considered to be an all-inclusive regulatory bibliography of the product, particularly regarding non-federal laws and regulations. Users are advised to check with state and local authorities concerning any applicable regulations regarding transportation, handling, use or disposal of this product.

Additional Information

See OCC Product Data Sheet 720 and 103 for product specifications, packaging and other information.

See OCC Bulletin 152 "Handling Rubber Line Tank Cars" and Bulletin 156 "Tank Car Loading and Unloading Platforms" for additional information on handling.

Muriatic acid is listed in the TSCA Chemical Substances Inventory under CAS No. 7647-01-0.

Hazard ratings for Muriatic acid according to the Hazardous Materials Identifications System (HMIS) developed by the National Paint and Coatings Association are:

Health, 3	Flammability, 0;
Reactivity, 1;	Personal Protection, G.

For additional non-emergency information, contact Technical Service, Occidental Chemical Corporation, Industrial & Specialty Chemicals Division, 716/286-3000.

☐ New ☒ Revised Date June 1985

OXY

Occidental Chemical Corporation
Industrial & Specialty Chemicals Division
Occidental Chemical Center, 360 Rainbow Boulevard South
Box 728, Niagara Falls, New York 14302 716/286-3000

IMPORTANT! The information presented herein, while not guaranteed, was prepared by competent technical personnel and is true and accurate to the best of our knowledge. No warranty or guaranty, express or implied, is made regarding performance, stability or otherwise. This information is not intended to be all-inclusive as to the manner and conditions of use, handling, storage. Other factors may involve other or additional safety or performance considerations. While our technical personnel will be happy to respond to questions regarding safe handling and use procedures, safe handling and use remain the responsibility of the customer. No suggestions for use are intended as, and nothing herein shall be construed as, a recommendation to infringe any existing patents or to violate any Federal State or local laws.

Available From
RIVERSIDE CHEMICAL COMPANY, INC.
NORTH TONAWANDA, N.Y.

Occidental Chemical Corporation
Industrial & Specialty Chemicals Division

MSDS 570

MATERIAL SAFETY DATA SHEET

Product Information

Product Name
MURIATIC ACID (HYDROCHLORIC ACID)

CAS Registry Number
7647-01-0

Common Name or Synonym
Hydrogen chloride solution
Muriatic acid
Chlorohydric acid

Chemical Family
Inorganic acid

Chemical Name
Hydrochloric acid

Chemical Formula
HCl

Health Data

WARNING! CORROSIVE AT CONCENTRATIONS ABOVE 15%.

First Aid Measures

Eye Contact: Immediately flush eyes with a directed stream of water for at least 15 minutes. Forcibly hold eyelids apart to ensure complete irrigation of all eye and lid tissue. GET IMMEDIATE MEDICAL ATTENTION. Contact lenses should not be worn when working with this chemical.

Skin Contact: Immediately flush contaminated skin with water and wash with soap and water. If large areas of the body are contaminated or if clothing is penetrated, immediately use safety shower preferably removing clothing while under the shower. Flush exposed areas with large amounts of water for at least 15 minutes. GET PROMPT MEDICAL ATTENTION. Wash clothing before reuse.

Ingestion: If person is conscious immmediately administer large quantitites of water. Do not induce vomiting. Avoid having an unconscious person vomit. GET IMMEDIATE MEDICAL ATTENTION.

Inhalation: Move the exposed person to fresh air at once. If breathing has stopped perform artificial respiration. Keep the affected person warm and at rest. GET MEDICAL ATTENTION AS SOON AS POSSIBLE.

Effects of Overexposure: Hydrochloric acid will produce irritation and burns of the skin and mucous membranes, the severity being determined by the concentration of the solution and duration of exposure. Contact with the eyes may cause severe burns. Unless removed quickly by thorough irrigation with water, prolonged or permanent visual impairment or loss of sight may result.

Vapors have an irritating effect on the respiratory tract causing coughing, burning of throat, choking sensation, bronchitis and pulmonary edema. Ingestion of concentrated hydrochloric acid causes severe burns of the mouth, esophagus and stomach.

Toxicity: Corrosivity (rabbit):
0.01%-15% Concentration: Noncorrosive
>15% Concentration: Corrosive

Acute Oral Toxicity:
LD_{50} (rabbit): 900 mg/Kg

Acute Inhalation Toxicity
LC_{50} (rat, one hour): 3124 ppm

MATERIAL SAFETY DATA SHEET

Fire and Explosion Hazard Data

Flash Point: Nonflammable

Extinguishing Media: Use water spray, fog, foam, dry chemicals, CO_2 or other agents as appropriate for surrounding fire.

Special Fire Fighting Procedure & Personal Protection: Use self-contained breathing apparatus and full protective equipment.

Unusual Fire and Explosion Hazards: Reacts with active metals (potassium, sodium, calcium, powdered aluminum, zinc, magnesium) to produce flammable hydrogen.

Special Protection

Ventilation: Provide good general room ventilation to minimize exposure. Use local exhaust ventilation at points of vapor emission.

Eye Protection: Wear safety glasses with side shields or chemical goggles.

Respiratory: Use NIOSH/MSHA approved organic vapor acid-gas respirator for areas where airborne exposure is excessive.

Other Protective Equipment: Eye wash facility should be in close proximity. Use of rubberized coveralls, rubber shoes and an emergency shower availability are suggested.

Gloves: Wear protective gloves, such as rubber or neoprene, to minimize skin contact. Wash thoroughly after handling.

Physical Data

Boiling Point
20°Be'-80°C
22°Be'-55°C

Specific Gravity (H_2O=1)
20°Be' - 1.16 (9.67 lbs/gal)
22°Be' - 1.18 (9.83 lbs/gal)

Solubility in Water
Complete

pH
1.0

Appearance and Color
Clear, colorless to pale yellow liquid. Pungent irritating odor.

Melting Point
20°Be': −53°C (−63.4°F)
22°Be': −66°C (−86.3°F)

LINCOLN ELECTRIC

Trade Name:	Lincolnweld A96S
Class:	
Date:	September 23, 1985

MATERIAL SAFETY DATA SHEET NO. F20

For U.S. Manufactured Welding Consumables and Related Products

Conforms to Hazard Communication Standard 29CFR 1910.1200 Rev. September 1985

SECTION I — IDENTIFICATION

Manufacturer/Supplier Name: The Lincoln Electric Company	Product Type: Submerged arc flux
Address: 22801 St. Clair Avenue, Cleveland, Ohio 44117	Classification: None
Telephone No.: (216) 481-8100	

SECTION II — HAZARDOUS MATERIALS*

IMPORTANT!

This section covers the materials from which this product is manufactured. The fumes and gases produced during welding with the normal use of this product are covered by Section V; see it for industrial hygiene information.

* The term "hazardous" in "Hazardous Materials" should be interpreted as a term required and defined in the Hazards Communication Standard and does not necessarily imply the existence of any hazard.

Covering or Flux Ingredients (CAS No.)	Wt %	TLV mg/m³**	Supplemental Information
Magnesite (1309-42-8)	20	10	(*) Not listed. Nuisance value maximum is 10 mg/m³.
Ferrochromium (as Cr) (11114- 6-8)	15	0.5	
Zirconium compounds (as Zr) (14940-68-2)	10	5	
Aluminum oxide and/or bauxite (1344-09-8)	10	10	
Iron (65996-67-0)	5	10*	
ilicate binders (1344-09-8)	5	10*	
Fluorides (as F) (7789-75-5) less than	5	2.5	
Manganese alloys and compounds (as Mn) (7439-96-5) less than	5	5	
Silicon and/or silicon alloys (as Si) (8049-17-0)	0.5	10*	
CAS Number shown is representative for the ingredients listed.			

** OSHA PEL (Permissible Exposure Limit) Value limits are the same as TLV unless otherwise listed.

Other	Wt %	TLV mg/m³	

SECTION III — FIRE AND EXPLOSION HAZARD DATA

Non Flammable. Welding arc and sparks can ignite combustibles and flammable products. See Z49.1 referenced in Section VI.

SECTION IV — HEALTH HAZARD DATA

Threshold Limit Value:

The ACGIH recommended general limit for Welding Fume NOC — (Not Otherwise Classified) is 5 mg/m³. ACGIH-1985 preface states "The TLV-TWA should be used as guides in the control of health hazards and should not be used as fine lines between safe and dangerous concentrations." See Section V for specific fume constituents which may modify this TLV. Threshold Limit Values are figures published by the *American Conference of Governmental Industrial Hygienists*. Units may be milligrams per cubic meter (mg/m³), millions of particles per cubic foot of air (mppcf), or parts per million of vapor or gas in air (ppm). *(Section IV continued on side two.)*

Trade Name: Lincolnweld A565

Size:

Date: September 23, 1985

Effects of Overexposure **SECTION IV — HEALTH HAZARD DATA continued**

Electric arc welding may create one or more of the following health hazards:

Fumes and Gases can be dangerous to your health. Common entry is by inhalation.

Short-term (acute) overexposure to welding fumes may result in discomfort such as dizziness, nausea, or dryness or irritation of nose, throat, or eyes.

Long-term (chronic) over-exposure to welding fumes can lead to siderosis (iron deposits in lung) and affect pulmonary function. Chromium and its compounds are on the IARC (International Agency for Research on Cancer) list as posing a carcinogenic risk to humans.

Arc Rays can injure eyes and burn skin.

Electric Shock can kill.

Emergency and First Aid Procedures: Call for medical aid. Employ first aid techniques recommended by the American Red Cross. IF BREATHING IS DIFFICULT give oxygen. IF NOT BREATHING employ CPR (Cardiopulmonary Resuscitation) techniques. IN CASE OF ELECTRICAL SHOCK, turn off power and follow recommended treatment. In all cases call a physician.

SECTION V — REACTIVITY DATA

Hazardous Decomposition Products

Welding fumes and gases cannot be classified simply. The composition and quantity of both are dependent upon the metal being welded, the process, procedure and electrodes used.

Other conditions which also influence the composition and quantity of the fumes and gases to which workers may be exposed include: coatings on the metal being welded (such as paint, plating, or galvanizing), the number of welders and the volume of the work area, the quality and amount of ventilation, the position of the welder's head with respect to the fume plume, as well as the presence of contaminants in the atmosphere (such as chlorinated hydrocarbon vapors from cleaning and degreasing activities).

When the electrode is consumed, the fume and gas decomposition products generated are different in percent and form from the ingredients listed in Section II. Decomposition products of normal operation include those originating from the volatilization, reaction, or oxidation of the materials shown in Section II, plus those from the base metal and coating, etc., as noted above.

Reasonably expected fume constituents of this product would include: Primarily iron oxide and fluorides; secondarily complex oxides of aluminum, chromium, magnesium, manganese, silicon, sodium and zirconium when used with recommended Lincolnweld electrodes. (See MSDS for electrode being used.)

Maximum fume exposure guideline for this product is 5.0 mg/m^3.

Gaseous reaction products may include carbon monoxide and carbon dioxide. Ozone and nitrogen oxides may be formed by the radiation from the arc.

One recommended way to determine the composition and quantity of fumes and gases to which workers are exposed is to take an air sample from inside the welder's helmet if worn or in the worker's breathing zone. See ANSI/AWS F1.1 "Method for Sampling Airborne Particles Generated by Welding and Allied Processes," available from the American Welding Society, 550 N.W. LeJeune Road, Miami, Florida 33126.

SECTION VI AND VII — CONTROL MEASURES AND PRECAUTIONS FOR SAFE HANDLING AND USE

Read and understand the manufacturer's instructions and the precautionary label on the product. See American National Standard Z49.1, "Safety In Welding and Cutting" published by the American Welding Society, 550 N.W. LeJeune Road, Miami, Florida, 33126 and OSHA Publication 2206 (29CFR1910), U.S. Government Printing Office, Washington, D.C. 20402 for more detail on many of the following:

Ventilation

Use enough ventilation, local exhaust at the arc, or both, to keep the fumes and gases from the worker's breathing zone and the general area. Train the welder to keep his head out of the fumes.

Respiratory Protection

Use respirable fume respirator or air supplied respirator when welding in confined space or general work area when local exhaust or ventilation does not keep exposure below TLV.

Eye Protection

Wear helmet or use face shield with filter lens shade number * or darker. Shield others by providing screens and flash goggles.

* No specific recommendation for submerged arc.

Protective Clothing

Wear hand, head, and body protection which help to prevent injury from radiation, sparks, and electrical shock. See Z49.1. At a minimum this includes welder's gloves and a protective face shield, and may include arm protectors, aprons, hats, shoulder protection, as well as dark substantial clothing. Train the welder not to permit electrically live parts or electrodes to contact skin . . . or clothing or gloves if they are wet. Insulate from work and ground.

Disposal Information

Discard any product, residue, disposable container, or liner as ordinary waste in an environmentally acceptable manner unless otherwise noted.

LINCOLN ELECTRIC

Trade Name: Lincolnweld 860
Sizes:
Date: September 23, 1985

MATERIAL SAFETY DATA SHEET NO. F7

For U.S. Manufactured Welding Consumables and Related Products

Conforms to Hazard Communication Standard 29CFR 1910.1200 Rev. September 1985

SECTION I — IDENTIFICATION

Manufacturer/Supplier Name: The Lincoln Electric Company	Product Type: Submerged arc flux
Address: 22801 St. Clair Avenue, Cleveland, Ohio 44117	Classification: F6A2-EL12, F7A2-EM12K, F7P2-EM13K, F7A2-EM13K, F7A2-EA1-A2, F7P2-EA1-A2, F9A2-EM2-M2, F8A2-EG-G(with LA-71), F7P2-EG-G(with LA-71), F7A2-EG-M11(with LA-75), F7P2-EG-M11(with LA-75)
Telephone No.: (216) 481-8100	

SECTION II — HAZARDOUS MATERIALS*

IMPORTANT!

This section covers the materials from which this product is manufactured. The fumes and gases produced during welding with the normal use of this product are covered by Section V; see it for industrial hygiene information.

* The term "hazardous" in "Hazardous Materials" should be interpreted as a term required and defined in the Hazards Communication Standard and does not necessarily imply the existence of any hazard.

Covering or Flux Ingredients (CAS No.)	Wt %	TLV mg/m³	Supplemental Information
Bauxite and/or aluminum oxide (1344-28-1)	35	10	(*) Not listed. Nuisance value maximum is 10 mg/m³.
Magnesite (1309-42-8)	20	10	
Quartz (14808-60-7)	10	2.7**	(**) appcf - see Section IV below.
Manganese alloys and/or compounds (as Mn) (7439-96-5)	5	5	
Silicate binder (1344-28-1)	5	10*	
Fluorides (as F) (7789-75-5)	5	2.5	
Zirconium compounds (as Zr) (14940-68-2) less than	5	5	
Mineral silicates (1332-58-7) less than	5	20**	
Silicon alloys (as Si) (8049-17-0)	1	10*	
Iron (65996-67-0)	1	10*	
Titanium dioxides (as Ti) (13463-67-7) less than	0.5	10	
CAS Number shown is representative for the ingredients listed.			

** OSHA PEL (Permissible Exposure Limit) Value limits are the same as TLV unless otherwise listed.

Other	Wt %	TLV mg/m³	

SECTION III — FIRE AND EXPLOSION HAZARD DATA

Non Flammable. Welding arc and sparks can ignite combustibles and flammable products. See Z49.1 referenced in Section VI.

SECTION IV — HEALTH HAZARD DATA

Threshold Limit Value:

The ACGIH recommended general limit for Welding Fume NOC — (Not Otherwise Classified) is 5 mg/m³. ACGIH-1985 preface states "The TLV-TWA should be used as guides in the control of health hazards and should not be used as fine lines between safe and dangerous concentrations." See Section V for specific fume constituents which may modify this TLV. Threshold Limit Values are figures published by the *American Conference of Government Industrial Hygienists*. Units may be milligrams per cubic meter (mg/m³), millions of particles per cubic foot of air (mppcf), or parts per million of vapor or gas in air (ppm). *(Section IV continued on side two.)*

(Supersedes 6/5/84)

Trade Name: Lincolnweld 880

Sizes:

Date: September 23, 1985

SECTION IV — HEALTH HAZARD DATA continued

Effects of Overexposure

Electric arc welding may create one or more of the following health hazards:

Fumes and Gases can be dangerous to your health. Common entry is by inhalation.

Short-term (acute) overexposure to welding fumes may result in discomfort such as dizziness, nausea, or dryness or irritation of nose, throat, or eyes.

Long-term (chronic) over-exposure to welding fumes can lead to siderosis (iron deposits in lung) and affect pulmonary function.

Arc Rays can injure eyes and burn skin.

Electric Shock can kill.

Emergency and First Aid Procedures: Call for medical aid. Employ first aid techniques recommended by the American Red Cross. IF BREATHING IS DIFFICULT give oxygen. IF NOT BREATHING employ CPR (Cardiopulmonary Resuscitation) techniques. IN CASE OF ELECTRICAL SHOCK, turn off power and follow recommended treatment. In all cases call a physician.

SECTION V — REACTIVITY DATA

Hazardous Decomposition Products

Welding fumes and gases cannot be classified simply. The composition and quantity of both are dependent upon the metal being welded, the process, procedure and electrodes used.

Other conditions which also influence the composition and quantity of the fumes and gases to which workers may be exposed include: coatings on the metal being welded (such as paint, plating, or galvanizing), the number of welders and the volume of the work area, the quality and amount of ventilation, the position of the welder's head with respect to the fume plume, as well as the presence of contaminants in the atmosphere (such as chlorinated hydrocarbon vapors from cleaning and degreasing activities).

When the electrode is consumed, the fume and gas decomposition products generated are different in percent and form from the ingredients listed in Section II. Decomposition products of normal operation include those originating from the volatilization, reaction, or oxidation of the materials shown in Section II, plus those from the base metal and coating, etc., as noted above.

Reasonably expected fume constituents of this product would include: Primarily iron oxide and fluorides; secondarily complex oxides of aluminum, calcium, manganese, magnesium, potassium, silicon, sodium, titanium and zirconium when used with recommended Lincolnweld electrodes. (See MSDS for electrode being used.)

Maximum fume exposure guideline for this product is 5.0 mg/m^3.

Gaseous reaction products may include carbon monoxide and carbon dioxide. Ozone and nitrogen oxides may be formed by the radiation from the arc.

One recommended way to determine the composition and quantity of fumes and gases to which workers are exposed is to take an air sample from inside the welder's helmet if worn or in the worker's breathing zone. See ANSI/AWS F1.1 "Method for Sampling Airborne Particles Generated by Welding and Allied Processes," available from the American Welding Society, 550 N.W. LeJeune Road, Miami, Florida 33126.

SECTION VI AND VII — CONTROL MEASURES AND PRECAUTIONS FOR SAFE HANDLING AND USE

Read and understand the manufacturer's instructions and the precautionary label on the product. See American National Standard Z49.1, "Safety in Welding and Cutting" published by the American Welding Society, 550 N.W. LeJeune Road, Miami, Florida, 33126 and OSHA Publication 2206 (29CFR1910), U.S. Government Printing Office, Washington, D.C. 20402 for more detail on many of the following:

Ventilation

Use enough ventilation, local exhaust at the arc, or both, to keep the fumes and gases from the worker's breathing zone and the general area. Train the welder to keep his head out of the fumes.

Respiratory Protection

Use respirable fume respirator or air supplied respirator when welding in confined space or general work area when local exhaust or ventilation does not keep exposure below TLV.

Eye Protection

Wear helmet or use face shield with filter lens shade number * or darker. Shield others by providing screens and flash goggles.

* No specific recommendation for submerged arc.

Protective Clothing

Wear hand, head, and body protection which help to prevent injury from radiation, sparks, and electrical shock. See Z49.1. At a minimum this includes welder's gloves and a protective face shield, and may include arm protectors, aprons, hats, shoulder protection, as well as dark substantial clothing. Train the welder not to permit electrically live parts or electrodes to contact skin . . . or clothing or gloves if they are wet. Insulate from work and ground.

Disposal Information

Discard any product, residue, disposable container, or liner as ordinary waste in an environmentally acceptable manner unless otherwise noted

U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration

Form Approved
OMB No. 44-R1367

MATERIAL SAFETY DATA SHEET

Required under USDL Safety and Health Regulations for Ship Repairing, Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

SECTION I

MANUFACTURER'S NAME: HANDY & HARMAN	EMERGENCY TELEPHONE NO.: 212-752-3400
ADDRESS (Number, Street, City, State, and ZIP Code): 850 Third Ave., New York, N.Y. 10022	
CHEMICAL NAME AND SYNONYMS:	TRADE NAME AND SYNONYMS: Handy Dry Flux-6040
CHEMICAL FAMILY: Fluoride-Borate Salts	FORMULA: 60% potassium bifluoride 40% potassium tetraborate

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS		N.A.	BASE METAL		N.A.
CATALYST		N.A.	ALLOYS		N.A.
VEHICLE		N.A.	METALLIC COATINGS		N.A.
SOLVENTS		N.A.	FILLER METAL PLUS COATING OR CORE FLUX		N.A.
ADDITIVES		N.A.	OTHERS		
OTHERS		N.A.			

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)
~~POTASSIUM BIFLUORIDE~~	~~60~~	~~2.5 mg/cu~~ of air
BORATE (NOT HIGHLY TOXIC)		

SECTION III - PHYSICAL DATA

BOILING POINT (°F.) unknown-gives off water above 212 F		SPECIFIC GRAVITY (H_2O=1)	N.A.
VAPOR PRESSURE (mm Hg.)	N.A.	PERCENT, VOLATILE BY VOLUME (%)	N.A.
VAPOR DENSITY (AIR=1)	N.A.	EVAPORATION RATE (_____ =1)	
SOLUBILITY IN WATER	unknown	for mixture but individual	salts are soluble
APPEARANCE AND ODOR	white salt mixture		

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method Used)	N.A.	FLAMMABLE LIMITS	N.A.	Lel / Uel
EXTINGUISHING MEDIA	N.A.			
SPECIAL FIRE FIGHTING PROCEDURES	N.A.			
UNUSUAL FIRE AND EXPLOSION HAZARDS	N.A.			

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE Not know for product but TLV for fluoride is 2.5 mg/cubic meter of air.

EFFECTS OF OVEREXPOSURE
Overexposure to decomposition products during brazing(largely hydrogen fluoride will irritate and be corrosive to skin, eyes and mucous membranes

EMERGENCY AND FIRST AID PROCEDURES
Wash exposed areas of skin or eyes with large volume of water. Victims of overexposure (unlikely in ordinary usage) should be removed from contaminated area and be given artificial respiration if breathing has stopped. See also Section IX

SECTION VI - REACTIVITY DATA

STABILITY			
	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	stable at room temperature

INCOMPATABILITY (Materials to avoid) N.A.

HAZARDOUS DECOMPOSITION PRODUCTS Fluorides on heating during brazing(see section V

HAZARDOUS POLYMERIZATION			
	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Avoid contact with skin or eyes. Dilute and wash spillage with water. Wear rubber gloves during spill clean-up.

WASTE DISPOSAL METHOD Dilute with water to acceptable concentration for disposa in sewers. Local regulations may require treatment with lime to precipitat and remove as insoluble calcium fluoride.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type) For brazing in restricted spaces use Bureau of Mines approved lase type "C: respirator or self contaminated air.

VENTILATION		
	LOCAL EXHAUST reduce fluoride below TLV	SPECIAL
	MECHANICAL (General)	OTHER

PROTECTIVE GLOVES	EYE PROTECTION
Rubber or suitable plastic	standard welding goggles.

OTHER PROTECTIVE EQUIPMENT
Suitable lab coat or clothing to avoid contact of flux with skin.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Maintain flux at room temperatures during storage.

OTHER PRECAUTIONS This flux is often used with alloys containing cadmium. Cadmium fume is a greater hazard than fluoride fume from flux. Refer t AWS Standard Z49.1 - 1967 Safety in Cutting and Welding.

U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration

Form Approved
OMB No. 44-R1387

MATERIAL SAFETY DATA SHEET

Required under USDL Safety and Health Regulations for Ship Repairing, Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

SECTION I

MANUFACTURER'S NAME: Laminated and Insulating Materials General Electric Co., Business Department	EMERGENCY TELEPHONE NO.: (518) 374-2211 Ext. 5-3357
ADDRESS (Number, Street, City, State, and ZIP Code): 1 Campbell Road, Schenectady, N.Y. 12306	
CHEMICAL NAME AND SYNONYMS: Tertiary Butyl Perbenzoate	TRADE NAME AND SYNONYMS: Catalyst 3332
CHEMICAL FAMILY: Peroxy Ester	FORMULA: $C_{11}H_{14}O_3$

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)
Tertiary Butyl Perbenzoate	98	—

SECTION III - PHYSICAL DATA

BOILING POINT (°F.)		SPECIFIC GRAVITY (H_2O=1)	1.04
VAPOR PRESSURE (mm Hg.) 50°C	.33	PERCENT, VOLATILE BY VOLUME (%)	100%
VAPOR DENSITY (AIR=1)		EVAPORATION RATE (_____ =1)	
SOLUBILITY IN WATER	<1%		
APPEARANCE AND ODOR			

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used): 200°F (Cleveland open micro cup)	FLAMMABLE LIMITS	LEL	UEL

EXTINGUISHING MEDIA
Water, Foam, CO_2

SPECIAL FIRE FIGHTING PROCEDURES
Water from safe distance - Explosion hazard

UNUSUAL FIRE AND EXPLOSION HAZARDS
Explosion hazard typical of peroxides.

(Continued on reverse side)

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE
Not established

EFFECTS OF OVEREXPOSURE
Mildly irritating to skin.

EMERGENCY AND FIRST AID PROCEDURES
Skin - wash with soap and water.

Eye - Flush with water call physician

Ingestion - Administer emetic call physician.

SECTION VI - REACTIVITY DATA

STABILITY			
	UNSTABLE	X	CONDITIONS TO AVOID Heat Store below 100°F.
	STABLE		

INCOMPATABILITY *(Materials to avoid)*
Acids, promotors, oxidizable materials.

HAZARDOUS DECOMPOSITION PRODUCTS

HAZARDOUS POLYMERIZATION			
	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Soak up with inorganic absorbents sweep up with non-sparking equipment.

WASTE DISPOSAL METHOD
Dig trench. Distribute spillage. Ignite with device having 6-foot handle, retreat to safe distance.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION *(Specify type)*

VENTILATION		
	LOCAL EXHAUST	SPECIAL
	MECHANICAL *(General)* Recommended	OTHER

PROTECTIVE GLOVES
Recommended

EYE PROTECTION
Recommended

OTHER PROTECTIVE EQUIPMENT

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Do not repackage.
Store below 100°F.

OTHER PRECAUTIONS
Avoid storage of large quantities.

GPO 930-540

John J. Keane

FORM 11641 PWO

MATERIAL SAFETY DATA SHEET

Required under USDL Safety and Health Regulations for Ship Repairing, Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

SECTION I

3E Spec. ASOA1994

MANUFACTURER'S NAME	EMERGENCY TELEPHONE NO.
3M COMPANY	(612)733-2328
ADDRESS (Number, Street, City, State, and ZIP Code) 3M CENTER, ST. PAUL, MINNESOTA 55101	
CHEMICAL NAME AND SYNONYMS	TRADE NAME AND SYNONYMS SCOTCHGRIP Brand Industrial
CHEMICAL FAMILY	FORMULA Adhesive 826 (3E Spec ASOA199)

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)
Ethyl acetate	65	400ppm
Ethyl alcohol	<10	1000ppm

SECTION III - PHYSICAL DATA

BOILING POINT (°F.) (IBP) Solvent	171	SPECIFIC GRAVITY (H_2O=1)	0.92
VAPOR PRESSURE (mm Hg.)		PERCENT VOLATILE BY VOLUME (%) weight	- 75
VAPOR DENSITY (AIR=1)	>1.5	EVAPORATION RATE (ether = 1)	slower
SOLUBILITY IN WATER Very slight			
APPEARANCE AND ODOR Light amber liquid - solvent odor.			

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used) 24°F (C.C.)		FLAMMABLE LIMITS	LEL 2.18	UEL 19
EXTINGUISHING MEDIA CO_2, foam, dry chemical				
SPECIAL FIRE FIGHTING PROCEDURES None				
UNUSUAL FIRE AND EXPLOSION HAZARDS None				

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(Continued on reverse side)

SECTION V · HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE
See Section II.

EFFECTS OF OVEREXPOSURE
Liquid irritating to the eyes. May defat skin. Concentrated vapors irritating to the eyes and respiratory system.

EMERGENCY AND FIRST AID PROCEDURES
EYE CONTACT: Immediately flush eyes with plenty of water. Obtain medical attention.

SKIN CONTACT: Wash with soap and water.

INHALATION: Provide fresh air.

SECTION VI · REACTIVITY DATA

STABILITY			CONDITIONS TO AVOID
	UNSTABLE		
	STABLE	X	

INCOMPATABILITY *(Materials to avoid)*

HAZARDOUS DECOMPOSITION PRODUCTS
Thermal decomposition may produce CO and CO_2.

HAZARDOUS POLYMERIZATION			CONDITIONS TO AVOID
	MAY OCCUR		
	WILL NOT OCCUR	X	

SECTION VII · SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Extinguish all sources of ignition. Collect spilled material and store in a closed metal container.

WASTE DISPOSAL METHOD
Incinerate properly in accordance with local regulations.

SECTION VIII · SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION *(Specify type)*

VENTILATION			
	LOCAL EXHAUST	X	SPECIAL
	MECHANICAL *(General)*		OTHER

PROTECTIVE GLOVES
Neoprene impervious gloves

EYE PROTECTION
Chemical goggles

OTHER PROTECTIVE EQUIPMENT

SECTION IX · SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Keep away from all sources of ignition. Use only in areas adequately ventilated to prevent vapor buildup. Avoid eye contact. Avoid prolonged breathing of vapors and prolonged or repeated contact with skin. Keep container closed.

OTHER PRECAUTIONS

MATERIAL SAFETY DATA SHEET

NPVLA 6-70

(Approved by U.S. Department of Labor "Essentially Similar" to Form LSB-00S-4)

Section I

MFR'S NAME
General Electric Company

STREET ADDRESS
305 Eastern Avenue

CITY, STATE, AND ZIP CODE
Chelsea, Mass. 02150

EMERGENCY TELEPHONE NO.
617-884-6918

CHEMICAL NAME AND SYNONYMS
Shellac Base

CHEMICAL FAMILY
N.A.

TRADE NAME
880 Red Gasket Adhesive

FORMULA

Section II HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS

PIGMENTS	%	TLV (Units)	SOLVENTS	%	TLV (Units)
			Ethanol 95% Proprietary	40	1900
CATALYST			ADDITIVES		
			OTHERS		

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)

Section II PHYSICAL DATA

BOILING POINT (°F.)	165	SPECIFIC GRAVITY (H_2O=1)	0.91
VAPOR PRESSURE (mm Hg.)	44	PERCENT VOLATILE BY VOLUME (%)	100
VAPOR DENSITY (AIR=1)	> 1	EVAPORATION RATE Butyl Acetate	1.7
SOLUBILITY IN WATER	Partly		
APPEARANCE AND ODOR	Water white alcohol		

Section V FIRE AND EXPLOSION HAZARD DATA

FLAMMABLE LIMITS — LEL 3.28 — UEL 15

METHOD USED
60° Open Cup

FIRE FIGHTING MEDIA
Carbon Dioxide and Dry Powder

SPECIAL FIRE FIGHTING PROCEDURES

UNUSUAL FIRE AND EXPLOSION HAZARDS

THRESHOLD LIMIT VALUE
N.A.

EFFECTS OF OVEREXPOSURE
Inhalation: Respiratory irritation, dizziness, unconsciousness, death.

Contact: Extreme irritation, burns.

Contact: Mild irritation, burns and possible allergic reaction.

EMERGENCY AND FIRST AID PROCEDURES
Inhalation: Remove from exposure. Unconscious, but breathing: Administer oxygen.
Not breathing: Artifical resuscitation.

Eye Contact: Flush with copious amounts of water. See physician.

Skin Contact: Wash thoroughly with soap and water. Use hand lotion. See physician.

SECTION V - REACTIVITY DATA

STABILITY			CONDITIONS TO AVOID
	UNSTABLE		
	STABLE	X	Excessive heat, sparks and open flames.

INCOMPATABILITY (Materials to avoid) Avoid strong oxidizers.

HAZARDOUS DECOMPOSITION PRODUCTS N.A.

HAZARDOUS POLYMERIZATION			CONDITIONS TO AVOID
	MAY OCCUR		
	WILL NOT OCCUR	X	Excessive heat, sparks and open flames.

SECTION VI - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Provide adequate ventilation. Avoid excessive heat, sparks and open flames.

up with rags. Place dirty rags in container of water.

WASTE DISPOSAL METHOD
Distill off solvents under strictly safe conditions. Reuse distillate.

Dispose of residue as landfill.

SECTION VII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type)
Use appropriate respirators.

VENTILATION Keep vapors below L.e.1 (Sect. IV) and T.L.V. (Sect. II). Solvent vapors should be removed by dilution ventilation from lower levels, Eliminate all ignition sources (switches, motors etc

PROTECTIVE GLOVES Yes | EYE PROTECTION Yes

OTHER PROTECTIVE EQUIPMENT
As required to avoid skin contact.

SECTION VIII - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Store in a cool well ventilated area. Avoid excessive heat, sparks and open flames.
Ground containers and transfer vessels. Keep free fall of liquid to a few inches.
Avoid build up of static electricity. Do not take internally. Avoid prolonged contact with skin.

MATERIAL SAFETY DATA SHEET

FOR COATINGS, RESINS AND RELATED MATERIALS

(Approved by U.S. Department of Labor "Essentially Similar" to Form OSHA-20)

IMPA 1
H13F
127C
P/H2

DATE OF PREP. 06/08/73

Section I

MANUFACTURER'S NAME GENERAL ELECTRIC CO., PAINT OPERATION

STREET ADDRESS 305 EASTERN AVENUE CITY, STATE, AND ZIP CODE CHELSEA, MASS. 02150

EMERGENCY TELEPHONE NO. 617-884-6918, DIAL COMM: *8-263-2526

MANUFACTURERS CODE IDENTIFICATION 1276

PRODUCT CLASS NITRO CELLULOSE CEMENT ADHESIVE CEMENT

TRADE NAME GLYPTAL

Section II — HAZARDOUS INGREDIENTS

INGREDIENT	PERCENT	TLV PPM	TLV mg/M³	LEL	VAPOR PRESSURE
TOLUENE	< 5.0	100	375	1.3	22.4
ETHANOL	< 5.0	1000	1900	3.3	44.0
METHYL ETHYL KETONE	< 5.0	200	590	1.8	70.6
ETHYL ACETATE 99%	45.0	400	1400	2.2	76.0

No

Section III — PHYSICAL DATA

BOILING RANGE 165 - 232 F

VAPOR DENSITY [X] HEAVIER [ ] LIGHTER THAN AIR

EVAPORATION RATE [ ] FASTER [X] SLOWER THAN ETHER

PERCENT VOLATILE BY VOLUME 67.5

WEIGHT PER GALLON 8.67

Section IV — FIRE AND EXPLOSION HAZARD DATA

DOT CATEGORY FLAMMABLE, RED LABEL

FLASH POINT 28 F

LEL 1.3

EXTINGUISHING MEDIA CARBON DIOXIDE OR DRY CHEMICAL

UNUSUAL FIRE AND EXPLOSION HAZARDS EXPLOSION HAZARD DUE TO PRESSURE BUILD-UP DUE TO HEAT

SPECIAL FIRE FIGHTING PROCEDURES

Section V — HEALTH HAZARD DATA

1276

ESHOLD LIMIT VALUE SEE SECTION II

CTS OF OVEREXPOSURE

NHALATION: RESPIRATORY IRRITATION, DIZZINESS, UNCONSCIOUSNESS.
YE CONTACT: EXTREME IRRITATION, BURNS.
SKIN CONTACT: MILD IRRITATION, BURNS AND POSSIBLE ALLERGIC REACTION.

ERGENCY AND FIRST AID PROCEDURES

INHALATION: REMOVE FROM EXPOSURE. UNCONSCIOUS, BUT BREATHING: ADMINISTEI OXYGEN. NOT BREATHING: ARTIFICIAL RESUSCITATION.
EYE CONTACT: FLUSH WITH COPIOUS AMOUNTS OF WATER. SEE PHYSICIAN.
SKIN CONTACT: WASH THOROUGHLY WITH SOAP AND WATER. USE HAND LOTION.

Section VI — REACTIVITY DATA

BILITY ☐ UNSTABLE ☒ STABLE CONDITIONS TO AVOID EXCESSIVE HEAT, SPARKS AND OPEN FLAMES.
COMPATABILITY (Materials to avoid) STRONG OXIDIZERS
ZARDOUS DECOMPOSITION PRODUCTS CARBON MONOXIDE MAY BE FORMED BY INCOMPLETE COMBUSTI

ZARDOUS POLYMERIZATION ☐ MAY OCCUR ☒ WILL NOT OCCUR
NDITIONS TO AVOID EXCESSIVE HEAT, SPARKS AND OPEN FLAMES.

Section VII — SPILL OR LEAK PROCEDURES

EPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED PROVIDE ADEQUATE VENTILATION. AVOID EXCE SIVE HEAT, SPARKS AND OPEN FLAMES. CLEAN UP WITH RAGS; PLACE DIRTY RAGS IN CONTAINER OF WATER.
ISPOSAL METHOD DISTILL OFF SOLVENTS UNDER STRICTLY SAFE CONDITIONS. RE-USE DISTILLATE. DISPOSE OF RESIDUE AS LAND FILL.

Section VIII — SPECIAL PROTECTION INFORMATION

SPIRATORY PROTECTION USE APPROPRIATE RESPIRATORS.

ENTILATION KEEP VAPORS BELOW L.E.L.(SECTION IV) AND T.L.V.(SECTION II). SOLVE VAPORS SHOULD BE REMOVED BY DILUTION VENTILATION FROM LOWER LEVELS. E INATE ALL IGNITION SOURCES(OPEN MOTORS, SWITCHES ETC.).

ROTECTIVE GLOVES YES
YE PROTECTION YES
THER PROTECTIVE EQUIPMENT AS REQUIRED TO AVOID SKIN CONTACT

Section IX — SPECIAL PRECAUTIONS

RECAUTIONS TO BE TAKEN IN HANDLING AND STORING STORE IN A COOL WELL VENTILATED AREA. AVOID E CESSIVE HEAT, SPARKS AND OPEN FLAMES. GROUND CONTAINERS AND TRANSFER VES SELS. KEEP FREE FALL OF LIQUID TO A FEW INCHES TO AVOID BUILD-UP OF STA TIC ELECTRICITY. DO NOT TAKE INTERNALLY. AVOID PROLONGED BREAT ING OF VAPORS. AVOID PROLONGED CONTACT WITH SKIN.
THER PRECAUTIONS

U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration

Form Approved
OMB No. 44-R1387

MATERIAL SAFETY DATA SHEET

Required under USDL Safety and Health Regulations for Ship Repairing, Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

SECTION I

MANUFACTURER'S NAME: Riverside Chemical Co., Inc.	EMERGENCY TELEPHONE NO.: (716) 692-1350 CHEMTREC (800) 424-9300
ADDRESS (Number, Street, City, State, and ZIP Code): 871 River Rd., N. Tonawanda, NY 14120	
CHEMICAL NAME AND SYNONYMS	TRADE NAME AND SYNONYMS: Arseco Solvent 1514 GE
CHEMICAL FAMILY: Mixture of: Aromatic hydrocarbons and aliphatic alcohols	FORMULA: proprietary

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS	100	100ppm	FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)

SECTION III - PHYSICAL DATA

BOILING POINT (°F.)	228	SPECIFIC GRAVITY (H_2O=1)	.85
VAPOR PRESSURE (mm Hg.) @ 68°F	23	PERCENT VOLATILE BY VOLUME (%)	100
VAPOR DENSITY (AIR=1)	3.2	EVAPORATION RATE (n-BuAc =1)	1.9
SOLUBILITY IN WATER	slight		

APPEARANCE AND ODOR: Clear, colorless liquid with characteristic odor

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used): 35°F T.C.C.	FLAMMABLE LIMITS	LEL 1	UEL 7

EXTINGUISHING MEDIA: Foam, CO_2 or dry chemical

SPECIAL FIRE FIGHTING PROCEDURES: Wear self contained breathing apparatus. Do not enter fire area without protective clothing and breathing apparatus.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Keep work areas free of hot metal surfaces and other sources of ignition.

(Continued on reverse side)

SECTION V · HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE
See section II

EFFECTS OF OVEREXPOSURE
Highly irritating to eyes. Prolonged or repeated contact with skin causes irritation. High vapor concentration or prolonged breathing of vapors may cause headache, dizziness, nausea and drowsiness. May cause respiratory irritation.

EMERGENCY AND FIRST AID PROCEDURES
Inhalation: Remove victim to fresh air. Give artificial respiration if not breathing.
Eyes: Flush with water for 15 minutes.
Skin: Wash with soap and water. Apply a mild skin cream.
Ingestion: Do not induce vomiting. Call a physician.

SECTION VI · REACTIVITY DATA

STABILITY			CONDITIONS TO AVOID
	UNSTABLE		
	STABLE	X	Heat, sparks, open flame, fire.

INCOMPATABILITY *(Materials to avoid)*
Strong oxidizing agents

HAZARDOUS DECOMPOSITION PRODUCTS
Thermal decomposition may cause yield of Carbon Monoxide and Carbon Dioxide.

HAZARDOUS POLYMERIZATION			CONDITIONS TO AVOID
	MAY OCCUR		
	WILL NOT OCCUR	X	

SECTION VII · SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Eliminate all sources of ignition. Evacuate the area. Wear protedtive clothing and respiratory equipment. Shut off leak, ventilate area, flush with water into retaining area or container. Smaller quantities may be absorbed onto appropriate absorbant.

WASTE DISPOSAL METHOD
Dispose of in accordance with all applicable local, state and federal regulations. If permitted, incinerate under safe conditions.

SECTION VIII · SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION *(Specify type)*
NIOSH approved cartridge respirator or gas mask.

VENTILATION		
	LOCAL EXHAUST: Sufficient to keep work area below TLV	SPECIAL
	MECHANICAL *(General)*	OTHER

PROTECTIVE GLOVES	EYE PROTECTION
impermeable	goggles, face shield

OTHER PROTECTIVE EQUIPMENT
apron, eye wash fountain, safety shower

SECTION IX · SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Keep container tightly closed, cool and away from ignition sources. Use with adequate ventilation. Avoid prolonged or repeated personal contact. No smoking around product.

OTHER PRECAUTIONS

GPO 930-540

U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration

Form Approved
OMB No. 44-R1387

MATERIAL SAFETY DATA SHEET

Required under USDL Safety and Health Regulations for Ship Repairing, Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

SECTION I

MANUFACTURER'S NAME: Riverside Chemical Co., Inc.	EMERGENCY TELEPHONE NO.: (716) 692-1350 CHEMTREC 800-424-9300
ADDRESS (Number, Street, City, State, and ZIP Code): 871-947 River Rd. N. Tonawanda, NY 14120	
CHEMICAL NAME AND SYNONYMS	TRADE NAME AND SYNONYMS: Arseco Solvent GE 1500
CHEMICAL FAMILY: Mixture of: Aromatic hydrocarbons and aliphatic hydrocarbons	FORMULA

SECTION II · HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)
Solvent	100	100 ppm

SECTION III · PHYSICAL DATA

BOILING POINT (°F.)	250	SPECIFIC GRAVITY (H_2O=1)	.81
VAPOR PRESSURE (mm Hg.) @ 68°F	9	PERCENT, VOLATILE BY VOLUME (%)	100
VAPOR DENSITY (AIR=1)	3.9	EVAPORATION RATE (n-BuAc =1)	.9
SOLUBILITY IN WATER	negligible		

APPEARANCE AND ODOR: Clear, colorless liquid, characteristic odor

SECTION IV · FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used): 50°F (TCC)	FLAMMABLE LIMITS	LEL 0.9	UEL 7

EXTINGUISHING MEDIA: Foam, CO_2, dry chemical, water spray

SPECIAL FIRE FIGHTING PROCEDURES: Wear self-contained breathing apparatus.
Water may be unsuitable except as cooling medium.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

(Continued on reverse side)

SECTION V · HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE
100 ppm.

EFFECTS OF OVEREXPOSURE
Drying of skin. Excessive inhalation may cause anaesthesia, headache, dizziness, nausea, upper respiratory irritation.

EMERGENCY AND FIRST AID PROCEDURES
Inhalation: remove to fresh air, apply artificial respiration if necessary, call a physician. Skin contact: wash with mild soap and water, apply a mild skin cream, in severe cases contact a physician. Eye contact: flush with water, call a physician. Ingestion: call a physician.

SECTION VI · REACTIVITY DATA

STABILITY			CONDITIONS TO AVOID
	UNSTABLE		
	STABLE	X	Heat, sparks, open flame, fire

INCOMPATABILITY *(Materials to avoid)*
Strong oxidizing agents

HAZARDOUS DECOMPOSITION PRODUCTS
Thermal decomposition may yield carbon monoxide and carbon dioxide.

HAZARDOUS POLYMERIZATION			CONDITIONS TO AVOID
	MAY OCCUR		
	WILL NOT OCCUR	X	

SECTION VII · SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Flush with water into retaining area or container. Avoid sparks, fire or hot metal surfaces. Small quantities may be absorbed onto an appropriate absorbant.

WASTE DISPOSAL METHOD
Incinerate under safe conditions or dispose of in accordance with applicable local, state and federal regulations.

SECTION VIII · SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION *(Specify type)*
Depends on concentration above time weighted TLV, cartridge respirator or gas mask.

VENTILATION		
	LOCAL EXHAUST: Sufficient to keep workroom concentration below TLV	SPECIAL
	MECHANICAL *(General)*	OTHER

PROTECTIVE GLOVES		EYE PROTECTION	
	impermeable		chemical goggles

OTHER PROTECTIVE EQUIPMENT
apron

SECTION IX · SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Keep cool and away from sources of ignition. Use with adequate ventilation. Avoid prolonged or repeated personal contact.

OTHER PRECAUTIONS

Section IV - - SPECIAL PROTECTION INFORMATION

Respiratory Protection (Specify Type)	The use of respiratory protection depends on vapor concentration above the time-weighted TLV; use a NIOSH approved cartridge respirator or gas mask.		
entilation	General mechanical ventilation may be sufficient to keep product vapor concentrations within specified time-weighted TLV ranges. If general ventilation proves inadequate to maintain safe vapor concentrations, supplemental local exhaust may be required. Other special precautions such as respiratory masks or environmental containment devices may be required in extreme cases.		
Protective Gloves	The use of impermeable gloves is advised to prevent skin irritation in sensitive individuals.	Eye Protection	Safety glasses, chemical goggles and/or face shields are recommended to safeguard against potention eye contact, irritation, or injury.
Other Protective Equipment	Impermeable aprons are advised when working with this product. The availability of eye washes and safety showers in work areas is recommended.		

Section V - - REACTIVITY DATA

Stability	Unstable		Conditions to Avoid:
	Stable	X	
ncompatibility (Materials to Avoid)	This product is incompatible with strong oxidizing agents strong acids or bases selected amines		
Hazardous Decomposition Products	Thermal decomposition in the presence of air may yield carbon monoxide and/or carbon dioxide.		
Hazardous Polymerization	May Occur		Conditions to Avoid:
	Will Not Occur	X	

Section VI - - SPILL OR LEAK PROCEDURES

HIGHWAY OR RAILWAY SPILLS - CALL CHEMTREC 800/424-9300

Precautions In Case of Release or Spill	Keep sources of ignition and hot metal surfaces isolated from the spill. Flush spilled material into suitable retaining areas or containers with large quantities of water. Small amounts of spilled material may be absorbed into an appropriate absorbant.
Reportable Quantity	Notify Coast Guard National Response Center; Phone No. 800-424-8802, If Spill Is Greater Than 1000 lbs (Kilograms)
Waste Disposal Method	Dispose of used product in accordance with applicable local, county, state and federal regulations.

Section VII - - S[illegible] AND SPECIAL PRECAUTIONS

Handling and Storing Precautions	Keep product containers cool, dry, and away from sources of ignition. Use and store this product with adequate ventilation. (See Section IV.)
Other Precautions	Personnel should avoid inhalation of vapors. (See sections I, II, III, V, VI) Personal contact with the product should be avoided. Should contact be made, remove saturated clothing and flush affected areas with water. (See sections II, IV, VI)

Section VIII - - FIRE AND EXPLOSION HAZARD DATA

DOT Flammability Classification	Flammable Liquid	Flash Point Range: ☐ Below 20° F, ☒ 20° F - 100° F ☐ 100° F - 200° F ☐ Over 200° F ☐ None to boiling
Extinguishing Media	Use foam, CO_2 or dry chemical fire fighting apparatus	
Unusual Fire and Explosion Hazards	Keep work areas free of hot metal surfaces and other sources of ignition.	
Fire Fighting Procedures	The use of self-contained breathing apparatus is recommended for fire fighters. Water may be unsuitable as an extinguishing media, but helpful in keeping adjacent containers cool. Avoid spreading burning liquid with water used for cooling purposes.	

Section IX - - PHYSICAL DATA

Approximate Boiling Range, ° F	282° - 286°F	Vapor Density: ☒ Heavier ☐ Lighter Than Air	
Evaporation Rate: ☐ Faster ☒ Slower Than Ether		Percent Volatile: 100%	Solubility in Water: Negligible
Specific Gravity: ☒ Lighter ☐ Heavier Than Water		Weight per Gallon: 7.25	
Appearance and Odor:	This product is clear, has little if any color and has a characteristic odor.		

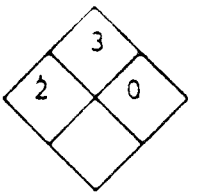
Section X - - DOCUMENTARY INFORMATION

Product Code No. 1420		Issue Date 10/20/80	Prepared By Paul Pfeifer
Replaces: UCD No. 229 & 259		Product Code No. 1420	Issued 10/79 & 12/79
Reviewed By: J. Totten		Manager, Loss Prevention	
Reviewed By: Eginar Beck		Director of Occupational Health & Toxicology	
Reviewed By [illegible]		Science and Technology Division	

The above information is believed to be correct as of the date hereof. However, no warranty of merchantability, fitness for any use, or any other warranty is expressed or is to be implied regarding the accurancy of these data, the results to be obtained from the use of the material, or the hazards connected with such use. Since the information contained herein may be applied under conditions beyond our control and with which we may be unfamiliar, and since data made available subsequent to the date hereof may suggest modification of the information, we do not assume responsibility for the results of its use. This information is furnished on the condition that the person receiving it shall make his own determination as to the suitability of the material for his particular purpose and on the condition that he assume the risk of his use thereof.

union

MATERIAL HEALTH AND SAFETY BULLETIN



Union Chemicals Division
Petrochemical Group

UCD No 864

Product Code No 1420

UN No. 1307

MANUFACTURER'S NAME

Union Chemicals Division, Union Oil Company of California

STREET ADDRESS

1345 North Meacham Road

CITY, STATE, AND ZIP CODE

Schaumburg, Illinois 60196

Business Phone: (312) 885-5450

EMERGENCY TELEPHONE NO.

Transportation Emergencies call CHEMTREC (800) 424-9300
Health Emergencies Call Los Angeles Poison Control Center (24 hours) (213) 664-2121

PRODUCT: Xylene

COMMON NAME: AMSCO Solv 1420

GENERIC NAME: Volatile Solvent

CHEMICAL NAME: Xylene

MICAL FAMILY: Aromatic Hydrocarbon

DOT PROPER SHIPPING NAME:

Xylene

WARNING STATEMENT:

Warning Flammable.
DO NOT induce vomiting if swallowed.
For industrial use only.

Section I - - INGREDIENTS

	TLV*		TLV*
Xylene	100		

*Threshold Limit Value A. OSHA [X] B. ACGIH [ ] C. See Section III [ ] D. Other [ ]

Form AM-6A02 (10-80) Printed in U.S.A.

Section II - - EMERGENCY AND FIRST AID PROCEDURES

EMERGENCY: Have a physician call LOS ANGELES POISON CONTROL CENTER (24 hrs.) 213/664-2121

Eye Contact	If this product comes in contact with the eyes, flush with large quantities of water for at least 15 minutes and seek immediate medical attention.
Skin Contact	If this product comes in contact with the skin, wash with soap and large quantities of water and seek medical attention if irritation from contact persists.
Inhalation	If breathing difficulties, dizziness, or lightheadedness occur when working in areas with high vapor concentrations, victim should seek air free of vapors. If victim experiences continued breathing difficulties, administer oxygen until medical assistance can be rendered. If breathing stops, begin artificial respiration and seek immediate medical attention.
Ingestion	If this product is swallowed, DO NOT induce vomiting. Seek immediate medical advice and/or attention.

Section III - - PHYSIOLOGICAL EFFECTS AND HEALTH INFORMATION

Eye Effects	This product may be an eye irritant.
Skin Effects	This product may cause skin irritation upon prolonged or repeated contact.
Systemic Effects	Various studies have shown a possible association with exposure to this product and the following: Respiratory tract irritation Liver damage in humans Kidney damage in humans Nausea and vomiting

SPILLS AND LEAKS

Spills should be cleaned up immediately. Soak up spills with rags and/or mops. When wet with 1-1-1-Trichloroethane, rags and mops should be placed in closed containers or in a safe area out of doors until they can be dried safely. Employees performing this work should wear adequate personal protective equipment.

WASTE DISPOSAL

Waste disposal of 1-1-1-Trichloroethane depends upon local conditions. Be sure that all Federal, State, and Local regulations regarding health and pollution are followed. 1-1-1-Trichloroethane is normally recovered from residues by distillation.

DISPOSAL and RETURN PROCEDURES (Returnable Containers)

Tank cars and tank trucks -- Follow shippers instructions.
Drums -- Drain contents completely, close all openings.

NON-RETURNABLE CONTAINERS

Be sure that all Federal, State, and Local regulations regarding health and pollution are followed. Don't litter.

SPECIAL HANDLING and STORAGE PROCEDURES

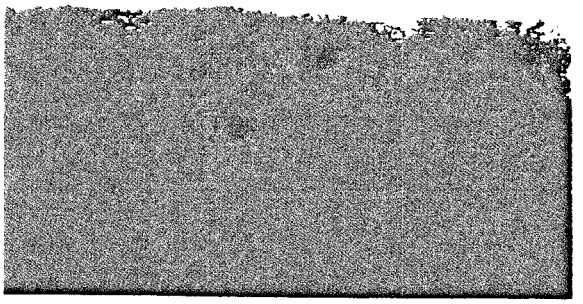
In selecting materials of construction suitable for storage of 1-1-1-Trichloroethane, steel has been found best in the majority of installations. Where excessive moisture may be encountered, suitable resin linings or stainless steel is preferred. In all installations, aluminum and zinc (galvanized) components should be eliminated. Store drums in a cool place, bung up and closed tightly. Ventilation should be provided at the floor level. Do not store in pits, depressions, basements, or unventilated areas.

All tanks should have a top and bottom 22" minimum diameter manhole and vent of diameter at least equal to that of the fill or discharge pipe. A vent dryer and safety seal are recommended. Vent indoor tanks outside in a location such that escaping vapor will not contaminate any work space area. Vertical tanks should be of the closed top design.

RIVERSIDE CHEMICAL CO., INC.
River Road
North Tonawanda, N. Y. 14120
716/692-1350

Company

ELECTRO CHEMICALS DIVISION



CHEMICAL NAME (in full)
1-1-1-Trichloroethane (Methyl Chloroform)

PRODUCT NAME
One-One-One-Trichloroethane

FORMULA

CH_3CCl_3

GENERAL INFORMATION

1-1-1-Trichloroethane is a clear, colorless, nonflammable liquid with a "chloroform-like" odor detectable at concentrations below 100 ppm.

HAZARD CLASSIFICATION

1-1-1-Trichloroethane is not regulated by the Department of Transportation.

I. IMPORTANT PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	Liquid	FLAMMABLE LIMITS	UL classified 5 to 10 where paraffin oil is 10 to 20	VAPOR PRESSURE	
COLOR	Colorless	LIGHT SENSITIVITY	No	125 mm Hg at 25°C	
[illegible]	"Chloroform-like"	SOLUBILITY (25°C)	0.07 g/100 g water	155 mm Hg at 30°C	
[illegible] POINT (Closed Cup)	None	SPECIFIC GRAVITY @ 25°C (H_2O = 1.0)	1.32	240 mm Hg at 40°C	
BOILING POINT	74.1°C (165.4°F)	THRESHOLD-LIMIT VALUE (AIR BORNE)	350 ppm	% VOLATILE (Volume)	100
AUTOIGNITION TEMPERATURE	485°C (905°F)	VAPOR DENSITY AIR = 1.0	4.55	EVAPORATION RATE (Ether = 1.0)	0.37
CRITICAL TEMP.	*	VISCOSITY 25°C	0.79 cps	REACTIVITY	Not highly reactive
DENSITY AT 20°C	1.32 g/cc	MINIMAL LETHAL DOSE	3% in air for 5-6 mins. (rats)		
HEAT OF COMBUSTION	*	LD50 TEST	*		

II. CHEMICAL REACTIVITY DATA

STABLE [x] Yes [ ] No SELFPOLYMERIZE [ ] Yes [x] No

HAZARDOUS DECOMPOSITION PRODUCTS

Hydrogen chloride and other toxic products in small quantities.

AVOID CONTACTS WITH THESE MATERIALS

Strong alkalies such as sodium hydroxide and alkali metals. Uninhibited or lightly inhibited 1-1-1-Trichloroethane should not be used in contact with aluminum or zinc or their alloys.

CONDITIONS TO AVOID

Open flames, electrical arc.

Data not available.

All information, recommendations and suggestions appearing in this literature concerning the use of our products are based upon tests and data believed to be reliable. However, it is the user's responsibility to determine the suitability for his own use of the products described herein. Since the actual use by others is beyond our control, no guarantee expressed or implied, is made by Diamond Shamrock Corporation as to the effects of such use or the results to be obtained nor does Diamond Shamrock Corporation assume any liability arising out of use, by others, of the products referred to herein. Nor is the information herein to be construed as absolutely complete since additional information may be necessary or desirable when particular or exceptional conditions or circumstances exist or because of applicable laws or government regulations. Nothing herein contained is to be construed as permission or as a recommendation to infringe any patent.

DIAMOND SHAMROCK CORPORATION

HEALTH HAZARDS

General

Hazards from vapor are chiefly those of an anesthetic; however, massive overexposure, for example within unventilated tanks, may result in death. Splashing small amounts into the eyes produces slight irritation. Repeated skin exposure normally produces slight irritation.

A. FIRST AID PROCEDURES

Ingestation

Call a physician immediately. If the patient is conscious, vomiting may be induced by inserting the finger at the back of the patient's throat or by having him drink warm salt water. Caution: Never attempt to give anything by mouth to an unconscious patient.

Inhalation

Remove person from contaminated area. If breathing has stopped, artificial respiration should be started immediately. Oxygen should be administered if available. If patient is conscious, hot tea or coffee may be given. Adrenaline should never be given. A physician should be called at once.

Skin Contact

Remove all contaminated clothing. Wash all affected areas with warm water and soap. In serious or persistent cases, a physician should be contacted.

Contact with Eyes

Wash eyes promptly with copious quantities of water for at least 15 minutes. Medical attention should be obtained.

B. PERSONAL PROTECTIVE EQUIPMENT

Eyes - Chemical safety goggles and plastic face shield should be worn where there is danger of splashing. Spectacle type of glasses do not give satisfactory protection.

Skin - Clothing made of neoprene may be worn to protect against splashes.

Respiratory - Self-contained breathing apparatus (compressed oxygen should not be used in tanks or other confined spaces), positive pressure hose masks, air-line masks and industrial canister-type gas masks (concentration not exceeding 2% of vol. use for short periods of exposure only) are acceptable.

V. FIRE and EXPLOSION

General

The fire hazard is very small and quite similar to that of trichlorethylene. In practical applications, the formation of combustible mixtures is extremely unlikely. 1-1-1-Trichloroethane has no flash or fire point as measured by conventional methods.

Fire Fighting (Procedure, Equipment)

Fires involving 1-1-1-Trichloroethane are unlikely but if they do occur, they may be controlled by carbon dioxide, dry chemical or foam. Self-contained respiratory protection should be provided for firemen fighting fires in buildings where 1-1-1-Trichloroethane is stored.

Form Approved
Budget Bureau No. 44-R1047
Expiration Date August 30, 1971

U.S. DEPARTMENT OF LABOR

WAGE AND LABOR STANDARDS ADMINISTRATION
Bureau of Labor Standards

MATERIAL SAFETY DATA SHEET RMC 6647

SECTION I

MANUFACTURER'S NAME: Humble Oil & Refining Company
EMERGENCY TELEPHONE NO.: A.C. 713 Day 221-3424; Night 668-7026 622-1422
ADDRESS (Number, Street, City, State, and ZIP Code): P.O. Box 2180 Houston, Texas 77001
CHEMICAL NAME AND SYNONYMS: Aromatic Petroleum Solvent
TRADE NAME AND SYNONYMS: SOLVESSO TOLUENE RMC-6647
CHEMICAL FAMILY: Petroleum Hydrocarbon
FORMULA: C_7H_8

SECTION II HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS		n.a.	BASE METAL		n.a.
CATALYST		n.a.	ALLOYS		n.a.
VEHICLE		n.a.	METALLIC COATINGS		n.a.
SOLVENTS	100	100 ppm	FILLER METAL PLUS COATING OR CORE FLUX		n.a.
ADDITIVES		n.a.	OTHERS		
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)

SECTION III PHYSICAL DATA

BOILING POINT (°F.) IBP-FBP	230-232	SPECIFIC GRAVITY (H_2O=1)	.872
VAPOR PRESSURE (mm Hg.) @ 70°C	38	PERCENT VOLATILE BY VOLUME (%)	100
VAPOR DENSITY (AIR=1)	4.5	EVAPORATION RATE (n-Butyl Acetate = 1)	1.5
SOLUBILITY IN WATER	Negligible		
APPEARANCE AND ODOR	Water-white color; aromatic hydrocarbon odor		

SECTION IV FIRE AND EXPLOSION HAZARD DATA

	FLAMMABLE LIMITS	Lel	Uel
FLASH POINT (Method used) Tag Closed Cup 45°F		1.2%	7.0%

EXTINGUISHING MEDIA: Foam, dry chemical, CO_2, water spray, or fog.

SPECIAL FIRE FIGHTING PROCEDURES: Use air-supplied rescue equipment for enclosed areas.

Cool exposed containers with water.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Flammable liquid --- Do not store or mix with strong oxidants.

6-10-70

n.a. = not applicable

RMC 6643

SECTION V HEALTH HAZARD DATA

[illegible] /Cd ppm for 8-hour working day

EFFECTS OF OVEREXPOSURE
Inhalation of high concentrations may have results ranging from mild depression to convulsions and loss of consciousness.

EMERGENCY AND FIRST AID PROCEDURES
If overcome by vapor, remove from exposure immediately; call a physician. If breathing is irregular or stopped, start resuscitation, administer oxygen. Remove contaminated clothing and wash skin. Flush eyes with water until irritation subsides.

SECTION VI REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	High temperature or heat

INCOMPATABILITY (Materials to avoid)
Oxygen and strong oxidants. May dissolve some plastics and rubber.

HAZARDOUS DECOMPOSITION PRODUCTS
Incomplete combustion produces carbon monoxide.

HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Remove all ignition sources. Keep people away. Recover free liquid. Add absorbent to spill area. Avoid breathing vapors. Ventilate enclosed spaces. Open all windows and doors.

WASTE DISPOSAL METHOD
Recover free liquid. Stay upwind and/or use personal protective equipment. Absorb with dry solids and incinerate. Run-off to waterway creates fire hazard. Notify fire and health agencies.

SECTION VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type)
Hydrocarbon vapor canister. Supplied-air or a hose mask

VENTILATION	LOCAL EXHAUST: Face velocity > 60 fpm	SPECIAL: Use only with adequate* ventilation
	MECHANICAL (General): Explosion-proof ventilation equipment	OTHER: No smoking or open lights

PROTECTIVE GLOVES: Hydrocarbon-insoluble rubber or plastic	EYE PROTECTION: Chemical goggles or face splash shield

OTHER PROTECTIVE EQUIPMENT
Hydrocarbon-insoluble apron such as neoprene or equivalent

SECTION IX SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Keep containers closed. Keep away from heat and open flame. Use only with adequate* ventilation.

OTHER PRECAUTIONS
Avoid prolonged or repeated breathing of vapors or contact with skin.

* Adequate means equivalent to outdoors ventilation.

James W. Hammond

Wm. G. Domask
Safety Regulations Advisor Ph.D., P.E.

Prevent liquid from entering sewers, watercourses, or low areas. Contain spilled liquid with sand or earth. Do not use combustible materials such as sawdust.
Recover by pumping (use an explosion proof or hand pump) or with a suitable absorbent.
Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations.

WATER SPILL

Eliminate sources of ignition. Vapors/dust can be harmful/fatal. Warn occupants and shipping in downwind areas.
Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations.

SECTION VI NOTES

CAS NUMBER: 000078933

EXXON CHEMICALS

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: Methyl Ethyl Ketone

NO. 506

SECTION VII TYPICAL PHYSICAL & CHEMICAL PROPERTIES

SP. GRAVITY / REF. TEMP., °F 0.81 @ 59.9 TO 59.9	VAPOR PRESSURE, mmHg at °F 82.508 @ 75 189.769 @ 100
SOLUBILITY IN WATER, WT. % at °F 26 @ 68	VISCOSITY OF LIQUID, cST at °F 0.5 @ 68
SP. GRAVITY OF VAPOR, at 1 ATM AIR=1 2.5	FREEZING MELTING POINT/RANGE, °F -123.34
EVAPORATION RATE, n-BU ACETATE=1 5.6	BOILING POINT/RANGE, °F 172.94 to 177.98

SECTION VIII REACTIVITY DATA

STABILITY? Stable	HAZARDOUS POLYMERIZATION OCCUR? Will not occur
CONDITIONS TO AVOID INSTABILITY Not Applicable	CONDITIONS TO AVOID HAZARDOUS POLYMERIZATION Not Applicable -

MATERIALS AND CONDITIONS TO AVOID INCOMPATIBILITY
Caustics, amines, alkanolamines, aldehydes, ammonia, strong oxidizing agents, and chlorinated compounds.

HAZARDOUS DECOMPOSITION PRODUCTS
None

SECTION IX TRANSPORT & STORAGE

ELECTROSTATIC ACCUMULATION HAZARD
No, but use proper grounding procedure

STORAGE TEMPERATURE, °F Ambient	LOADING/UNLOADING TEMPERATURE, °F Ambient
STORAGE TRANSPORT PRESSURE, mmHg Atmospheric	VISCOSITY AT LOADING/UNLOADING TEMPERATURE, cST 0.5 @ 68

SECTION X HAZARD CLASSIFICATION

U.S. DOT CLASSIFICATION Flammable liquid	EPA HAZARDOUS SUBSTANCE Methyl ethyl ketone	AMOUNT LBS. 5000

OTHER

REFERENCE NUMBER	DATE PREPARED	SUPERCEDES ISSUE DATE
HDHA-C-00025	MAY 23, 1985	MAY 17, 1985

FOR ADDITIONAL PRODUCT INFORMATION CONTACT YOUR TECHNICAL SALES REPRESENTATIVE
FOR ADDITIONAL HEALTH/SAFETY INFORMATION CALL 713-870-6855

EXXON CHEMICALS

MATERIAL SAFETY DATA SHEET

EXXON CHEMICAL AMERICAS • P.O. BOX 3272,HOUSTON 77001
A division of EXXON CHEMICAL COMPANY, a division of EXXON CORPORATION

NO. 506

SECTION I PRODUCT IDENTIFICATION & EMERGENCY INFORMATION

PRODUCT NAME
Methyl Ethyl Ketone

CHEMICAL NAME
2-Butanone CAS # 78-93-3

CHEMICAL FAMILY
Ketone

Available From
RIVERSIDE CHEMICAL COMPANY, INC.
NORTH TONAWANDA, N.Y.

PRODUCT APPEARANCE
Clear colorless liquid with a characteristic pungent odor.

EMERGENCY TELEPHONE NUMBERS: EXXON CHEMICAL AMERICAS 713-870-6000
CHEMTREC 800-424-9300

SECTION II HAZARDOUS COMPONENTS OF MIXTURES

THE PRECISE COMPOSITION OF THIS MIXTURE IS PROPRIETARY INFORMATION. A MORE COMPLETE DISCLOSURE WILL BE PROVIDED TO A PHYSICIAN OR NURSE IN THE EVENT OF A MEDICAL EMERGENCY.

Not applicable for this product.

For additional information see Section III.

SECTION III HEALTH INFORMATION AND PROTECTION

FIRST AID & NATURE OF HAZARD

EYE CONTACT:
Immediately flush eyes with large amounts of water for at least 15 minutes. Get prompt medical attention.
Severely irritating. If not removed promptly, will injure eye tissue, which may result in permanent damage.

INHALATION:
Using proper respiratory protection, immediately remove the affected victim from exposure. Administer artificial respiration if breathing is stopped. Keep at rest. Call for prompt medical attention.
High vapor concentrations are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, are anesthetic and may have other central nervous system effects.
Low order of toxicity.

SKIN CONTACT:
Flush with large amounts of water; use soap if available.
Remove grossly contaminated clothing, including shoes, and launder before reuse.
Frequent or prolonged contact may irritate and cause dermatitis.
Low order of toxicity.

INGESTION:
If swallowed, DO NOT induce vomiting. Keep at rest. Get prompt medical attention.
Minimal toxicity.
Small amounts of the liquid aspirated into the respiratory system during ingestion, or from vomiting, may cause bronchiopneumonia or pulmonary edema.

ACUTE TOXICITY DATA IS AVAILABLE UPON REQUEST

CX 1958

THIS INFORMATION RELATES TO THE SPECIFIC MATERIAL DESIGNATED AND MAY NOT BE VALID FOR SUCH MATERIAL USED IN COMBINATION WITH ANY OTHER MATERIALS OR IN ANY PROCESS. SUCH INFORMATION IS TO THE BEST OF OUR KNOWLEDGE AND BELIEF, ACCURATE AND RELIABLE AS OF THE DATE COMPILED. HOWEVER, NO REPRESENTATION, WARRANTY OR GUARANTEE IS MADE AS TO ITS ACCURACY, RELIABILITY OR COMPLETENESS. IT IS THE USER'S RESPONSIBILITY TO SATISFY HIMSELF AS TO THE SUITABILITY AND COMPLETENESS OF SUCH INFORMATION FOR HIS OWN PARTICULAR USE. WE DO NOT ACCEPT LIABILITY FOR ANY LOSS OR DAMAGE THAT MAY OCCUR FROM THE USE OF THIS INFORMATION NOR DO WE OFFER WARRANTY AGAINST PATENT INFRINGEMENT.

PERMISSIBLE EXPOSURE LIMIT; OSHA REQUIRES (29CFR1910.1000):
A TWA of 200 ppm (590 mg/m3) for Methyl Ethyl Ketone.

THRESHOLD EXPOSURE LIMIT; ACGIH RECOMMENDS:
A TWA of 200 ppm (590 mg/m3), and a STEL of 300 ppm (885 mg/m3) for Methyl Ethyl Ketone.

PERSONAL PROTECTION
Where contact may occur, wear safety glasses with side shields. For open systems where contact is likely, wear long sleeves, chemical resistant gloves, chemical safety goggles and a face shield.
Where concentrations in air may exceed the limits given in this Section and engineering, work practice or other means of exposure reduction are not adequate, NIOSH/MSHA approved respirators may be necessary to prevent overexposure by inhalation.

VENTILATION
The use of mechanical dilution ventilation is recommended whenever this product is used in a confined space, is heated above ambient temperatures, or is agitated.
Use explosion-proof ventilation equipment.

SECTION IV FIRE & EXPLOSION HAZARD

FLASHPOINT DEG. F : 21 METHOD: TCC NOTE: TOC: -2 C IMCO: -1 C
FLAMMABLE LIMITS-LEL: 1.4 UEL: 11.4
AUTOIGNITION TEMPERATURE DEG. F : 959

GENERAL HAZARD
Flammable Liquid, can release vapors that form flammable mixtures at temperatures at or above the flashpoint.
Empty product containers may contain product residue. Do not pressurize, cut, heat, weld or expose containers to flame or other sources of ignition.

FIRE FIGHTING
Use water spray to cool fire exposed surfaces and to protect personnel.
Shut off "fuel" to fire. If a leak or spill has not ignited, use water spray to disperse the vapors.
Either allow fire to burn under controlled conditions or extinguish with alcohol type foam and dry chemical. Try to cover liquid spills with foam.

HAZARDOUS COMBUSTION PRODUCTS
No unusual

SECTION V SPILL CONTROL PROCEDURE

LAND SPILL
Eliminate sources of ignition. Prevent additional discharge of material, if possible to do so without hazard. For small spills implement cleanup procedures; for large spills implement cleanup procedures and, if in public area, keep public away and advise authorities. Also, if this product is an EPA hazardous substance (See Section X, Page 4) notify the U.S. EPA if appropriate.
Vapors/dust can be harmful/fatal. Warn occupants of downwind areas.

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VII. Emergency and First Aid

Inhalation	IMMEDIATELY MOVE PERSONNEL TO AREA OF FRESH AIR. FOR RESPIRATORY DISTRESS, GIVE AIR, OXYGEN, OR ADMINISTER CPR (CARDIOPULMONARY RESUSCITATION), IF NECESSARY. OBTAIN MEDICAL ATTENTION IF BREATHING DIFFICULTIES CONTINUE.
Eye Contact	FLUSH WITH CLEAN LOW-PRESSURE WATER FOR AT LEAST 15 MINUTES. IF IRRITATION PERSISTS, OBTAIN MEDICAL ATTENTION.
Skin Contact	PROMPTLY REMOVE CONTAMINATED CLOTHING AND THOROUGHLY CLEAN BEFORE REUSE, BUT DISCARD CONTAMINATED LEATHER GOODS. THOROUGHLY WASH AFFECTED AREA WITH SOAP AND WATER.
Ingestion	DO NOT INDUCE VOMITING, SINCE ASPIRATION INTO THE LUNGS WILL CAUSE CHEMICAL PNEUMONIA. IF ASPIRATION OCCURS, PROMPTLY OBTAIN MEDICAL ATTENTION.
Emergency Medical Treatment Procedures	SEE ABOVE PROCEDURES.

VIII. Spill and Disposal

Precautions if Material is Spilled or Released	CONTAIN SPILL. REMOVE ALL IGNITION SOURCES AND SAFELY STOP FLOW OF SPILL. SPILL MAY CREATE SLIPPING HAZARDS. PREVENT FROM ENTERING ALL WATER BODIES, IF POSSIBLE. EVACUATE ALL NON-ESSENTIAL PERSONNEL. IN URBAN AREAS, CLEANUP AS SOON AS POSSIBLE; IN NATURAL ENVIRONMENTS, CLEANUP ON ADVICE FROM ECOLOGISTS. THIS MATERIAL WILL FLOAT ON WATER. ABSORBANT MATERIAL AND PADS CAN BE USED. COMPLY WITH ALL APPLICABLE LAWS. SPILLS MAY NEED TO BE REPORTED TO THE NATIONAL RESPONSE CENTER (800/424-8802). THE SPILLED MATERIAL AND ANY WATER OR SOIL WHICH IT HAS CONTACTED MAY BE HAZARDOUS TO ANIMAL/AQUATIC LIFE.
Waste Disposal Methods	MAXIMIZE PRODUCT RECOVERY FOR REUSE OR RECYCLING. UNUSED LIQUID PRODUCT IS LIKELY AN EPA "IGNITABLE HAZARDOUS WASTE" (D001). USE APPROVED TREATMENT, TRANSPORTERS, AND DISPOSAL SITES IN COMPLIANCE WITH ALL APPLICABLE LAWS. IF SPILL IS INTRODUCED INTO A WASTEWATER SYSTEM, THE CHEMICAL AND BIOLOGICAL OXYGEN DEMAND WILL LIKELY INCREASE. SPILL MATERIAL IS BIODEGRADABLE IF GRADUALLY EXPOSED TO MICROORGANISMS. POTENTIAL DISPOSAL METHODS INCLUDE INCINERATION AND LAND DISPOSAL, IF PERMITTED.

IX. Components {This may not be a complete list of components}

Component Name	CAS No.	Carcinogen##		Composition amount (Vol.) (See Qualification on Page 4)
HYDROCARBONS WITH A BOILING POINT RANGE OF 325°F. TO 560°F.		N/AP	AP	100 PERCENT

##Listed By: 1 = NTP, 2 = IARC, 3 = OSHA, 4 = Other

Compositions given are typical values, not specifications.

X. Physical and Chemical Data

Boiling Point 325° TO 550° F	**Viscosity Units, Temp. (Method)** AP 2 CST AT 100° F (D-445)		**Dry Point** N/DA
Freezing Point AP -50° F	**Vapor Pressure** (REID-PSIA AT 100° F) LT 0.1		**Volatile Characteristics** SLIGHT
Specific Gravity (H,O = 1 at 39.2° F) AP 0.81	**Vapor Sp. Gr. (Air = 1.0 at 60° - 90° F)** AP 6	**Solubility in Water** NEGLIGIBLE	**pH** N/AP
Hazardous Polymerization NOT EXPECTED TO OCCUR	**Other Chemical Reactivity** N/P		**Stability** STABLE

Other Physical and Chemical Properties	SULFUR CONTENT = 0.1 WT.% (TYPICAL).
Appearance and Odor	NEARLY COLORLESS LIQUID; MILD HYDROCARBON ODOR.
Conditions to Avoid	HEAT AND IGNITION SOURCES.
Materials to Avoid	STRONG ACIDS, ALKALIES, AND OXIDIZERS SUCH AS LIQUID CHLORINE AND OXYGEN.
Hazardous Decomposition Products	BURNING OR EXCESSIVE HEATING MAY PRODUCE CARBON MONOXIDE AND OTHER HARMFUL GASES/VAPORS INCLUDING OXIDES AND/OR OTHER COMPOUNDS OF SULFUR.

XI. Additional Precautions

Handling, Storage and Decontamination Procedures	SPECIAL SLOW LOAD PROCEDURES FOR "SWITCH LOADING" MUST BE FOLLOWED TO AVOID THE STATIC IGNITION HAZARD THAT CAN EXIST WHEN THIS MATERIAL IS LOADED INTO TANKS PREVIOUSLY CONTAINING GASOLINE OR OTHER LOW FLASH POINT PRODUCTS. (SEE A.P.I. PUBLICATION 2003.) KEEP CONTAINERS CLOSED AND AWAY FROM HEAT AND IGNITION SOURCES! ALL ELECTRICAL EQUIPMENT IN AREAS WHERE PRODUCT IS STORED/HANDLED SHOULD BE INSTALLED IN ACCORDANCE WITH APPLICABLE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE, N.F.P.A. DO NOT USE THIS PRODUCT AS A CLEANING AGENT. EMPTY CONTAINERS RETAIN SOME LIQUID AND VAPOR RESIDUES, AND HAZARD PRECAUTIONS MUST BE OBSERVED WHEN HANDLING EMPTY CONTAINERS. WARNING: USE OF ANY HYDROCARBON FUEL IN SPACES WITHOUT ADEQUATE VENTILATION MAY RESULT IN GENERATION OF HAZARDOUS LEVELS OF COMBUSTION PRODUCTS AND INADEQUATE OXYGEN LEVELS FOR BREATHING.
General Comments	WARNING: USE OF THIS TYPE 2-K KEROSENE AS FUEL IN NON-FLUE CONNECTED HEATING APPLIANCES CAN RESULT IN PERSONAL INJURY. PURCHASERS AND USERS SHOULD BE INFORMED OF THIS POTENTIAL HAZARD. SOME OSHA PERMISSIBLE EXPOSURE LIMITS ARE NOT SHOWN IN SECTION VI. BECAUSE THEY ARE LESS RESTIRCTIVE THAN THE ACGIH EXPOSURE LIMITS ALREADY LISTED. SINCE SPECIFIC EXPOSURE CONTROL LIMITS/STANDARDS HAVE NOT BEEN ESTABLISHED FOR THIS MATERIAL, THE EXPOSURE LIMITS SHOWN IN SECTION VI. ARE SUGGESTED AS MINIMUM CONTROL GUIDELINES. MATERIALS SIMILAR TO SOME COMPONENTS IN THIS PRODUCT WERE FOUND TO BE MUTAGENIC IN "IN VITRO" AND "IN VIVO" TESTS. THE EXACT RELATIONSHIP BETWEEN THESE RESULTS AND POSSIBLE HUMAN EFFECTS IS NOT KNOWN. "PETROLEUM DISTILLATE"--16 CFR 1500.14(B)(3). USE SPECIAL FEDERAL LABELING IF INTENDED, OR PACKAGED, FOR USE IN THE HOUSEHOLD OR BY CHILDREN. SOME OF THE INFORMATION PRESENTED AND CONCLUSIONS DRAWN HEREIN ARE FROM SOURCES OTHER THAN DIRECT TEST DATA ON THE MIXTURE ITSELF.

- - - Note - - - Qualifications:

EQ = Equal	AP = Approximately	N/P = No Applicable Information Found
LT = Less Than	UK = Unkown	N/AP = Not Applicable
GT = Greater Than	TR = Trace	N/DA = No Data Available

Disclaimer of Liability

The information in this MSDS was obtained from sources which we believe are reliable. **HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED, REGARDING ITS CORRECTNESS.**

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. **FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT.**

This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

MATERIAL SAFETY DATA SHEET

Available From
RIVERSIDE CHEMICAL COMPANY, INC.
NORTH TONAWANDA, N.Y.

KEROSENE

MSDS No. APPC 339

Rev. Date 04/12/85

ARCO PETROLEUM PRODUCTS COMPANY
DIVISION OF ATLANTIC RICHFIELD COMPANY
515 SOUTH FLOWER STREET
LOS ANGELES, CALIFORNIA 90071

IMPORTANT: Read this MSDS before handling and disposing of this product and pass this information on to employees, customers, and users of this product.
This product is considered a hazardous substance under the OSHA Hazard Communication Rule.

I. General

Trade Name	KEROSENE OR KEROSINE
Other Names	ASTM NO. 2-K GRADE KEROSINE (D-3699); FUEL OIL NO. 1; REGULAR GRADE KEROSINE; STOVE OIL; ILLUMINATING OIL.

Telephone Numbers
EMERGENCY
800/424-9300 CHEMTREC
312/210-3000 COMPANY
CUSTOMER SERVICE
213/486-8258 INFO ONLY

Chemical Family	PETROLEUM HYDROCARBONS
Generic Name	PETROLEUM DISTILLATE FUEL

DOT Hazardous Materials Proper Shipping Name: KEROSENE

DOT Hazard Class: COMBUSTIBLE LIQUID

CAS No. 8008-20-6*	Company ID No. 0625006250	UN/NA ID No. UN 1223

II. WARNING — Summary of Hazards

MAY CAUSE IRRITATION OR MORE SERIOUS SKIN DISORDERS!
AVOID PROLONGED OR REPEATED LIQUID, MIST, AND VAPOR CONTACT WITH EYES, SKIN, AND RESPIRATORY TRACT. LONG-TERM TESTS SHOW THAT SIMILAR PETROLEUM DISTILLATES HAVE PRODUCED SKIN TUMORS ON LABORATORY ANIMALS. WASH THOROUGHLY AFTER HANDLING.
MAY BE HARMFUL IF INHALED! (SEE SECTIONS IV. & V.)
CONTAINS PETROLEUM DISTILLATES!
IF SWALLOWED, DO NOT INDUCE VOMITING SINCE ASPIRATION INTO THE LUNGS WILL CAUSE CHEMICAL PNEUMONIA. OBTAIN PROMPT MEDICAL ATTENTION.
HIGHLY COMBUSTIBLE! OSHA/NFPA CLASS-II COMBUSTIBLE LIQUID.
KEEP AWAY FROM HEAT, SPARKS, AND OPEN FLAME.
AVOID THE "SWITCH LOADING" HAZARD. (SEE SECTION XI.)
KEEP OUT OF REACH OF CHILDREN!

III. Fire and Explosion

Flash Point (Method)	Autoignition Temperature (Method)	Flammable Limits (% Vol. in Air) At Normal Atmospheric Temperature and Pressure
AP 130°F (D-56)	AP 410°F (EST.)	Lower AP 0.7 Upper AP 5.0
SEE "FIRE & EXPLOSION HAZARDS"	BASED ON NFPA "FUEL OIL NO. 1"	BASED ON NFPA "FUEL OIL NO. 1"

Fire and Explosion Hazards: HIGHLY COMBUSTIBLE! WHEN HEATED ABOVE THE FLASH POINT, THIS MATERIAL WILL RELEASE FLAMMABLE VAPORS WHICH IF EXPOSED TO AN IGNITION SOURCE CAN BURN IN THE OPEN OR BE EXPLOSIVE IN CONFINED SPACES. MISTS OR SPRAYS MAY BE FLAMMABLE AT TEMPERATURES BELOW THE NORMAL FLASH POINT. FOR "SWITCH LOADING" PROCEDURES, SEE SECTION XI.

Extinguishing Media: FOAM, DRY CHEMICAL, HALON, CARBON DIOXIDE, AND WATER FOG.

Special Firefighting Procedures: FOR FIRES INVOLVING THIS MATERIAL, DO NOT ENTER ANY ENCLOSED OR CONFINED FIRE SPACE WITHOUT PROPER PROTECTIVE EQUIPMENT. THIS MAY INCLUDE SELF-CONTAINED BREATHING APPARATUS TO PROTECT AGAINST THE HAZARDOUS EFFECTS OF COMBUSTION PRODUCTS AND OXYGEN DEFICIENCES. COOL TANKS AND CONTAINERS EXPOSED TO FIRE WITH WATER.

IV. Health Hazards

Summary of Acute Hazards	LIQUID, MIST, OR VAPOR CONTACT CAN IRRITATE EYES, SKIN, AND THE RESPIRATORY AND DIGESTIVE TRACTS. ASPIRATION INTO LUNGS WILL CAUSE CHEMICAL PNEUMONIA.

ROUTE OF EXPOSURE	SIGNS AND SYMPTOMS	Primary Route(s)
Inhalation	VAPORS OR MISTS FROM THIS MATERIAL CAN IRRITATE THE NOSE, THROAT, AND LUNGS, AND CAN CAUSE SIGNS AND SYMPTOMS OF CENTRAL NERVOUS SYSTEM DEPRESSION, DEPENDING ON THE CONCENTRATION AND DURATION OF EXPOSURE.	☒
Eye Contact	MILD EYE IRRITATION MAY RESULT FROM CONTACT WITH LIQUID, MIST, AND/OR VAPORS.	☐
Skin Absorption	NO SIGNIFICANT SYSTEMIC EFFECTS ARE EXPECTED UNDER CONDITIONS OF ANTICIPATED USE.	☐
Skin Irritation	THIS MATERIAL IS LIKELY TO BE A MODERATE SKIN IRRITANT. IRRITATION LEADING TO DERMATITIS MAY RESULT FROM PROLONGED OR REPEATED EXPOSURES. (SEE CHRONIC HAZARDS BELOW.)	☒
Ingestion	THIS MATERIAL CAN IRRITATE THE MOUTH, THROAT, AND STOMACH, AND CAUSE NAUSEA, VOMITING, DIARRHEA AND RESTLESSNESS. ASPIRATION INTO THE LUNGS WILL CAUSE CHEMICAL PNEUMONIA.	☐
Summary of Chronic Hazards and Special Health Effects	THIS PRODUCT CONTAINS PETROLEUM DISTILLATES SIMILAR TO THOSE SHOWN TO PRODUCE SKIN TUMORS ON LABORATORY ANIMALS. AVOID PROLONGED OR REPEATED SKIN CONTACT. CAUTION IS RECOMMENDED FOR PRE-EXISTING CENTRAL NERVOUS SYSTEM DISEASES. PERSONNEL WITH PRE-EXISTING CENTRAL NERVOUS SYSTEM DISEASE, SKIN DISORDERS, OR CHRONIC RESPIRATORY DISEASES SHOULD AVOID EXPOSURE TO THIS PRODUCT.	

V. Protective Equipment and Other Control Measures

Respiratory	THIS MATERIAL IS NOT EXPECTED TO PRESENT A RESPIRATORY HAZARD BECAUSE OF ITS LOW VAPOR PRESSURE. BUT, IF EXCESSIVE MIST OR VAPORS RESULT FROM CONDITIONS OF USE, WEAR PROPER NIOSH/MSHA-APPROVED RESPIRATORY EQUIPMENT.
Eye	EYE PROTECTION SHOULD BE WORN WHENEVER THERE IS A LIKELIHOOD OF SPLASHING OR SPRAYING LIQUID. CONTACT LENSES SHOULD NOT BE WORN. SUITABLE EYE WASH WATER SHOULD BE AVAILABLE.
Skin	AVOID PROLONGED AND/OR REPEATED SKIN CONTACT. IF CONDITIONS OR FREQUENCY OF USE MAKE CONTACT SIGNIFICANT, CLEAN AND IMPERVIOUS PROTECTIVE CLOTHING SUCH AS GLOVES, APRON, BOOTS, AND FACIAL PROTECTION SHOULD BE WORN.
Engineering Controls	USE ADEQUATE VENTILATION TO KEEP VAPOR CONCENTRATIONS OF THIS MATERIAL BELOW APPLICABLE EXPOSURE LIMITS. (SEE SECTIONS VI. AND XI.)
Other Hygienic and Work Practices	USE GOOD PERSONAL HYGIENE PRACTICES. WASH HANDS BEFORE EATING, DRINKING, SMOKING, OR USE OF TOILET FACILITIES. IMMEDIATELY REMOVE SOILED CLOTHING AND WASH THOROUGHLY BEFORE REUSE. DISCARD CONTAMINATED LEATHER GOODS. RESPIRATOR USE SHOULD COMPLY WITH OSHA STANDARDS OR EQUIVALENT. SEE SECTION XI. FOR ADDITIONAL INFORMATION.

VI. Occupational Exposure Limits

Substance	Source	Date	Type	Value/Units	Time
KEROSENE (DHEW PUBLICATION 77-192)	NIOSH	1977	PEL	100 MG/M3	10 HRS
			STEL	1800 MG/M3	15 MIN
STODDARD SOLVENT (SEE SECTION XI.)	ACGIH	1985	TWA	100 PPM	8 HRS
			STEL	200 PPM	15 MIN

/ATER SPILL
Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations.

SECTION VI NOTES

CAS NUMBER: 000067641

SECTION VII TYPICAL PHYSICAL & CHEMICAL PROPERTIES

SP. GRAVITY REF. TEMP., F 0.79 @ 68.0/68.0	VAPOR PRESSURE, mmHg at F 56.256 @ 25 213.021 @ 75
SOLUBILITY IN WATER, WT. % at F 100 @ 68	VISCOSITY OF LIQUID, cST at F 0.4 @ 68
SP. GRAVITY OF VAPOR, at 1 ATM AIR=1 2.0	FREEZING MELTING POINT/RANGE, F -137.92
EVAPORATION RATE, n-BU ACETATE=1 11.6	BOILING POINT/RANGE, F 132.98

SECTION VIII REACTIVITY DATA

STABILITY? Stable	HAZARDOUS POLYMERIZATION OCCUR? Will not occur
CONDITIONS TO AVOID INSTABILITY Not Applicable	CONDITIONS TO AVOID HAZARDOUS POLYMERIZATION Not Applicable

MATERIALS AND CONDITIONS TO AVOID INCOMPATIBILITY
Caustics, amines, alkanolamines, aldehydes, ammonia, strong oxidizing agents, and chlorinated compounds.

HAZARDOUS DECOMPOSITION PRODUCTS
None

SECTION IX TRANSPORT & STORAGE

ELECTROSTATIC ACCUMULATION HAZARD
No, but use proper grounding procedure

STORAGE TEMPERATURE, F Ambient	LOADING/UNLOADING TEMPERATURE, F Ambient
STORAGE/TRANSPORT PRESSURE, mmHg Atmospheric	VISCOSITY AT LOADING/UNLOADING TEMPERATURE,cST 0.4 @ 68

SECTION X HAZARD CLASSIFICATION

U.S. DOT CLASSIFICATION Flammable liquid	EPA HAZARDOUS SUBSTANCE Acetone	AMOUNT LBS. 5000

ADDITIONAL INFORMATION
Not Available

REFERENCE NUMBER	DATE PREPARED	SUPERCEDES ISSUE DATE
HDHA-C-00001	AUGUST 21, 1985	AUGUST 21, 1985

FOR ADDITIONAL PRODUCT INFORMATION CONTACT YOUR TECHNICAL SALES REPRESENTATIVE
FOR ADDITIONAL HEALTH/SAFETY INFORMATION CALL 713-870-6885

EXXON CHEMICALS

MATERIAL SAFETY DATA SHEET

EXXON CHEMICAL AMERICAS • P.O. BOX 3272, HOUSTON, TEXAS 77001
A division of EXXON CHEMICAL COMPANY, a division of EXXON CORPORATION

NO. 505

SECTION I PRODUCT IDENTIFICATION & EMERGENCY INFORMATION

PRODUCT NAME
Acetone

CHEMICAL NAME
2-Propanone CAS # 67-64-1

Available From
RIVERSIDE CHEMICAL COMPANY, INC.
NORTH TONAWANDA, N.Y.

CHEMICAL FAMILY
Ketone

PRODUCT APPEARANCE
Clear colorless liquid with a characteristic pungent odor.

EMERGENCY TELEPHONE NUMBERS: EXXON CHEMICAL AMERICAS 713-870-6000
CHEMTREC 800-424-9300

SECTION II HAZARDOUS COMPONENTS OF MIXTURES

THE PRECISE COMPOSITION OF THIS MIXTURE IS PROPRIETARY INFORMATION. A MORE COMPLETE DISCLOSURE WILL BE PROVIDED TO A PHYSICIAN OR NURSE IN THE EVENT OF A MEDICAL EMERGENCY. THE FOLLOWING COMPONENTS ARE DEFINED HAZARDOUS IN ACCORDANCE WITH 29CFR1910.1200:

Not applicable for this product.

For additional information see Section III.

SECTION III HEALTH INFORMATION AND PROTECTION

FIRST AID & NATURE OF HAZARD

EYE CONTACT:
Immediately flush eyes with large amounts of water for at least 15 minutes. Get prompt medical attention.
Irritating, and may injure eye tissue if not removed promptly.

INHALATION:
Using proper respiratory protection, immediately remove the affected victim from exposure. Administer artificial respiration if breathing is stopped. Keep at rest. Call for prompt medical attention.
High vapor concentrations are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, are anesthetic and may have other central nervous system effects.

SKIN CONTACT:
Flush with large amounts of water; use soap if available.
Remove grossly contaminated clothing, including shoes, and launder before reuse.
Frequent or prolonged contact may irritate and cause dermatitis.
Low order of toxicity.

INGESTION:
First aid is normally not required.
Minimal toxicity.

ACUTE TOXICITY DATA IS AVAILABLE UPON REQUEST

PERMISSIBLE EXPOSURE LIMIT; OSHA REQUIRES (29CFR1910.1000):
A TWA of 1000 ppm (2400 mg/m3) for Acetone.

THRESHOLD EXPOSURE LIMIT; ACGIH RECOMMENDS:
A TWA of 750 ppm (1780 mg/m3), and a STEL of 1000 ppm (2375 mg/m3) for Acetone.

THIS INFORMATION RELATES TO THE SPECIFIC MATERIAL DESIGNATED AND MAY NOT BE VALID FOR SUCH MATERIAL USED IN COMBINATION WITH ANY OTHER MATERIALS OR IN ANY PROCESS. SUCH INFORMATION IS TO THE BEST OF OUR KNOWLEDGE AND BELIEF, ACCURATE AND RELIABLE AS OF THE DATE COMPILED. HOWEVER, NO REPRESENTATION, WARRANTY OR GUARANTEE IS MADE AS TO ITS ACCURACY, RELIABILITY OR COMPLETENESS. IT IS THE USER'S RESPONSIBILITY TO SATISFY HIMSELF AS TO THE SUITABILITY AND COMPLETENESS OF SUCH INFORMATION FOR HIS OWN PARTICULAR USE. WE DO NOT ACCEPT LIABILITY FOR ANY LOSS OR DAMAGE THAT MAY OCCUR FROM THE USE OF THIS INFORMATION NOR DO WE OFFER WARRANTY AGAINST PATENT INFRINGEMENT.

PERSONAL PROTECTION

Where contact may occur, wear safety glasses with side shields. For open systems where contact is likely, wear long sleeves, chemical resistant gloves, chemical safety goggles and a face shield.
Where concentrations in air may exceed the limits given in this Section and engineering, work practice or other means of exposure reduction are not adequate, NIOSH/MSHA approved respirators may be necessary to prevent overexposure by inhalation.

VENTILATION

The use of mechanical dilution ventilation is recommended whenever this product is used in a confined space, is heated above ambient temperatures, or is agitated.
Use explosion-proof ventilation equipment.

SECTION IV FIRE & EXPLOSION HAZARD

FLASHPOINT DEG. F : O METHOD: TOC
FLAMMABLE LIMITS-LEL: 2.6 UEL: 13.0 NOTE: @ 25 Deg. C (77Deg. F)
AUTOIGNITION TEMPERATURE DEG. F : 1000

GENERAL HAZARD

Extremely Flammable, material will readily ignite at ambient temperatures.
Flammable Liquid, can release vapors that form flammable mixtures at temperatures at or above the flashpoint.
Empty product containers may contain product residue. Do not pressurize, cut, heat, weld or expose containers to flame or other sources of ignition.

FIRE FIGHTING

Use water spray to cool fire exposed surfaces and to protect personnel.
Shut off "fuel" to fire. If a leak or spill has not ignited, use water spray to disperse the vapors.
Either allow fire to burn under controlled conditions or extinguish with alcohol type foam and dry chemical. Try to cover liquid spills with foam.

HAZARDOUS COMBUSTION PRODUCTS

No unusual

SECTION V SPILL CONTROL PROCEDURE

LAND SPILL

Eliminate sources of ignition. Prevent additional discharge of material, if possible to do so without hazard. For small spills implement cleanup procedures; for large spills implement cleanup procedures and, if in public area, keep public away and advise authorities. Also, if this product is an EPA hazardous substance (See Section X, Page 4) notify the U.S. EPA if appropriate.
Prevent liquid from entering sewers, watercourses, or low areas. Contain spilled liquid with sand or earth. Do not use combustible materials such as sawdust.
Recover by pumping (use an explosion proof or hand pump) or with a suitable absorbent.
Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations.

CX1059

MEDICAL EMERGENCY ONLY, 24 HOUR SERVICE: 1-800-328-0026

ECONOMICS LABORATORY, INC.
St. Paul MN 55102

Product Information: 1-612-293-2233
Date of Issue: September 13, 1985

1.0 IDENTIFICATION /

1.1 Product Name: 215-D
1.2 Product Type: Alkaline Felt and Wire Cleaner

2.0 HAZARDOUS INGREDIENTS /

	%	TLV (mg/m3) TWA	STEL
2.1 Sodium hydroxide (caustic soda) 1310-73-2	16.5	2 C	

This product contains no other ingredient considered hazardous according to the criteria of 29 CFR 1910.1200.

3.0 PHYSICAL DATA /

3.1 Appearance and Odor: Clear, light amber liquid; mild sweet odor
3.2 Solubility in Water: Complete
3.3 pH: (100%) >13 Use Solution pH: 2% >13
3.4 Boiling Point: >212 deg F Specific Gravity: 1.209 (68 F)

4.0 FIRE AND EXPLOSION DATA /

4.1 Special Fire Hazards: None
4.2 Fire Fighting Methods: Product does not support combustion.

5.0 REACTIVITY DATA /

5.1 Stability: Stable under normal conditions of handling.
5.2 Conditions to Avoid: Reacts violently with acids. Reacts with soft metals such as aluminum and zinc.

6.0 SPILL OR LEAK PROCEDURES / USE PROPER PROTECTIVE EQUIPMENT

6.1 Cleanup: Dike or dam large spills. Recover, pump to containers or soak up on inert absorbent. Flush residue to sewer with plenty of water.
6.2 Waste Disposal: 215-D is Corrosive (D002) according to RCRA criteria.

UNK = Unknown at this time TLV = Threshold Limit Value
TWA = Time Weighted Average STEL = Short Term Exposure Level
C = Ceiling Limit, Not To Be Exceeded

7.0 HEALTH HAZARD DATA / DANGER - POISON

7.1 Effects of Overexposure:
Skin and Eyes: CAUSES SEVERE CHEMICAL BURNS. Eye contact may cause blindness. Harmful contact may not cause immediate pain. ++ Immediate water flushing is vital in case of eye contact. ++
If Swallowed: HARMFUL OR FATAL. Causes chemical burns of mouth, throat and stomach.
If Inhaled: Damages airways and lungs, depending upon amount and duration of exposure. Effects can vary from slight irritation to bronchitis or pneumonia. People with asthma or other lung problems may be more susceptible.

8.0 FIRST AID / GET MEDICAL ATTENTION IMMEDIATELY

8.1 Eyes: Immediately flush with plenty of cool running water. Remove contact lenses. Continue flushing for at least 15 minutes, holding eyelids apart to ensure rinsing of the entire eye. CALL A PHYSICIAN IMMEDIATELY.
8.2 Skin: Immediately flush skin with plenty of cool running water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.
8.3 If Swallowed: Rinse mouth at once; then drink 1 or two large glasses of water or milk. DO NOT induce vomiting. NEVER give anything by mouth to an unconscious person. CALL A PHYSICIAN IMMEDIATELY.
8.4 If Inhaled: Immediately move to fresh air.

9.0 SPECIAL PROTECTION INFORMATION /

9.1 Respiratory: Avoid misting conditions or dusts.
9.2 Skin: Rubber gloves - protective cuff or gauntlet type preferred.
9.3 Eyes: Splashproof glasses, goggles or face shield.

10.0 ADDITIONAL INFORMATION/PRECAUTIONS /

10.1 DOT Classification: Alkaline Liquid, NOS / Corrosive Material NA 1719

KEEP OUT OF REACH OF CHILDREN

The above information is believed to be correct with respect to the formula used to manufacture the product. As data, standards and regulations change, and conditions of use and handling are beyond our control, NO WARRANTY, EXPRESS OR IMPLIED, IS MADE AS TO THE COMPLETENESS OR CONTINUING ACCURACY OF THIS INFORMATION.

MEDICAL EMERGENCY ONLY, 24 HOUR SERVICE: 1-800-328-0026

ECONOMICS LABORATORY, INC.
St. Paul MN 55102

Product Information: 1-612-293-2233
Date of Issue: October 14, 1985

1.0 IDENTIFICATION /

1.1 Product Name: 114
1.2 Product Type: Aqueous, alkaline cleaner

2.0 HAZARDOUS INGREDIENTS /

	%	TLV (mg/m3) TWA	STEL
2.1 Potassium silicate 1312-76-1	10-20	unk	
2.2 Potassium hydroxide (caustic potash) 1310-58-2	<10	2 C	

3.0 PHYSICAL DATA /

3.1 Appearance and Odor: Clear to slightly hazy, colorless to straw liquid; odorless
3.2 Solubility in Water: Complete
3.3 pH: 13.5
3.4 Boiling Point: >212 deg F Specific Gravity: 1.158

4.0 FIRE AND EXPLOSION DATA /

4.1 Special Fire Hazards: None
4.2 Fire Fighting Methods: Product does not support combustion.

5.0 REACTIVITY DATA /

5.1 Stability: Stable under normal conditions of handling.
5.2 Conditions to Avoid: No special requirements beyond standard industrial practices.

6.0 SPILL OR LEAK PROCEDURES / USE PROPER PROTECTIVE EQUIPMENT

6.1 Cleanup: Dike or dam large spills. Pump to containers or soak up on inert absorbent. Flush residue to sewer with plenty of water.
6.2 Waste Disposal: Consult state and local authorities for restrictions on disposal of chemical waste.

UNK = Unknown at this time TLV = Threshold Limit Value
TWA = Time Weighted Average STEL = Short Term Exposure Level
C = Ceiling Limit, Not To Be Exceeded

7.0 HEALTH HAZARD DATA / DANGER

7.1 Effects of Overexposure:
Skin and Eyes: CAUSES SEVERE CHEMICAL BURNS. Eye contact may cause blindness. Harmful contact may not cause immediate pain.
++ Immediate water flushing is vital in case of eye contact. ++
If Swallowed: HARMFUL OR FATAL. Causes chemical burns of mouth, throat and stomach.
If Inhaled: Damages airways and lungs, depending upon amount and duration of exposure. Effects can vary from slight irritation to bronchitis or pneumonia. People with asthma or other lung problems may be more susceptible.

8.0 FIRST AID / GET MEDICAL ATTENTION IMMEDIATELY

8.1 Eyes: Immediately flush with plenty of cool running water. Remove contact lenses. Continue flushing for at least 15 minutes, holding eyelids apart to ensure rinsing of the entire eye. CALL A PHYSICIAN IMMEDIATELY.
8.2 Skin: Immediately flush skin with plenty of cool running water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.
8.3 If Swallowed: Rinse mouth at once; then drink 1 or two large glasses of water or milk. DO NOT induce vomiting. NEVER give anything by mouth to an unconscious person. CALL A PHYSICIAN IMMEDIATELY.
8.4 If Inhaled: Immediately move to fresh air.

9.0 SPECIAL PROTECTION INFORMATION /

9.1 Respiratory: Avoid misting conditions or dusts.
9.2 Skin: Rubber gloves - protective cuff or gauntlet type preferred.
9.3 Eyes: Splashproof glasses, goggles or face shield.

10.0 ADDITIONAL INFORMATION/PRECAUTIONS /

10.1 DOT Classification: ORM-B, NOS / NA 1760 ORM-B

KEEP OUT OF REACH OF CHILDREN

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MEDICAL EMERGENCY ONLY, 24 HOUR SERVICE: 1-800-328-0026

ECONOMICS LABORATORY, INC.
St. Paul MN 55102

Product Information: 1-612-293-2233
Date of Issue: October 14, 1985

1.0 IDENTIFICATION /

1.1 Product Name: 92-S
1.2 Product Type: Alkaline Cleaner.

2.0 HAZARDOUS INGREDIENTS /

		%	TLV (mg/m3) TWA	STEL
2.1 Sodium carbonate (soda ash)	497-19-9	10-20	UNK	
2.2 Sodium metasilicate	6834-92-0	35-45	UNK	
2.3 Trisodium phosphate	7601-54-9	35-45	unk	

3.0 PHYSICAL DATA /

3.1 Appearance and Odor: Off-white powder ; odorless.
3.2 Solubility in Water: Complete
3.3 pH: (1%) 12.1

4.0 FIRE AND EXPLOSION DATA /

4.1 Special Fire Hazards: None
4.2 Fire Fighting Methods: Product does not support combustion.

5.0 REACTIVITY DATA /

5.1 Stability: Stable under normal conditions of handling.
5.2 Conditions to Avoid: No special requirements beyond standard industrial practices.

6.0 SPILL OR LEAK PROCEDURES / USE PROPER PROTECTIVE EQUIPMENT

6.1 Cleanup: Pick up without raising dust. Flush area with water.
6.2 Waste Disposal: Consult state and local authorities for restrictions on disposal of chemical waste.

UNK = Unknown at this time TLV = Threshold Limit Value
TWA = Time Weighted Average STEL = Short Term Exposure Level
C = Ceiling Limit, Not To Be Exceeded

7.0 HEALTH HAZARD DATA / DANGER

7.1 Effects of Overexposure:
Skin and Eyes: CAUSES SEVERE CHEMICAL BURNS. Eye contact may cause blindness. Harmful contact may not cause immediate pain.
++ Immediate water flushing is vital in case of eye contact. ++
If Swallowed: HARMFUL OR FATAL. Causes chemical burns of mouth, throat and stomach.
If Inhaled: Damages airways and lungs, depending upon amount and duration of exposure. Effects can vary from slight irritation to bronchitis or pneumonia. People with asthma or other lung problems may be more susceptible.

8.0 FIRST AID / GET MEDICAL ATTENTION IMMEDIATELY

8.1 Eyes: Immediately flush with plenty of cool running water. Remove contact lenses. Continue flushing for at least 15 minutes, holding eyelids apart to ensure rinsing of the entire eye. CALL A PHYSICIAN IMMEDIATELY.
8.2 Skin: Immediately flush skin with plenty of cool running water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.
8.3 If Swallowed: Rinse mouth at once; then drink 1 or two large glasses of water or milk. DO NOT induce vomiting. NEVER give anything by mouth to an unconscious person. CALL A PHYSICIAN IMMEDIATELY.
8.4 If Inhaled: Immediately move to fresh air.

9.0 SPECIAL PROTECTION INFORMATION /

9.1 Respiratory: Avoid misting conditions or dusts.
9.2 Skin: Rubber gloves - protective cuff or gauntlet type preferred.
9.3 Eyes: Splashproof glasses, goggles or face shield.

10.0 ADDITIONAL INFORMATION/PRECAUTIONS /

10.1 DOT Classification: Not DOT regulated.

KEEP OUT OF REACH OF CHILDREN

The above information is believed to be correct with respect to the formula used to manufacture the product. As data, standards and regulations change, and conditions of use and handling are beyond our control, NO WARRANTY, EXPRESS OR IMPLIED, IS MADE AS TO THE COMPLETENESS OR CONTINUING ACCURACY OF THIS INFORMATION.

MEDICAL EMERGENCY ONLY, 24 HOUR SERVICE: 1-800-328-0026

ECONOMICS LABORATORY, INC.
St. Paul MN 55102

Product Information: 1-612-293-2233
Date of Issue: October 28, 1985

1.0 IDENTIFICATION /

1.1 Product Name: Bright-Dip-S
1.2 Product Type: Acid Cleaner.

2.0 HAZARDOUS INGREDIENTS /

	%	TLV (mg/m3) TWA	STEL
2.1 Chromium trioxide 1333-82-0	30-40	0.1	-
2.2 Sodium bisulfate 7681-38-1	55-65	1	-
2.3 Sulfuric acid 7664-93-9	1-10	1	-

3.0 PHYSICAL DATA /

3.1 Appearance and Odor: Tan powder; sulfur odor
3.2 Solubility in Water: Complete
3.3 pH: (1%) 1.2

4.0 FIRE AND EXPLOSION DATA /

4.1 Special Fire Hazards: None
4.2 Fire Fighting Methods: Product does not support combustion.

5.0 REACTIVITY DATA /

5.1 Stability: Stable under normal conditions of handling.
5.2 Conditions to Avoid: Avoid storage with alkalis or reducing agents.

6.0 SPILL OR LEAK PROCEDURES / USE PROPER PROTECTIVE EQUIPMENT

6.1 Cleanup: Pick up without raising dust. Flush area with water.
6.2 Waste Disposal: Consult state and local authorities for restrictions on disposal of chemical waste.

UNK = Unknown at this time
TWA = Time Weighted Average
C = Ceiling Limit, Not To Be Exceeded
TLV = Threshold Limit Value
STEL = Short Term Exposure Level

7.0 HEALTH HAZARD DATA / Danger

7.1 Effects of Overexposure:
Skin and Eyes: CAUSES SEVERE CHEMICAL BURNS. Eye contact may cause blindness.
If Swallowed: HARMFUL OR FATAL. Causes chemical burns of mouth, throat and stomach.
If Inhaled: Vapors or mist cause irritation, including a burning taste, sneezing, coughing and difficulty breathing. People with asthma or other lung problems may be more susceptible.

7.2 Supplier information and NIOSH documents indicate that some hexa valent chromium compounds should be classified as suspect carcinogens. Repeated exposure should be avoided. Repeated exposure may also cause systemic reactions, primarily of the kidneys and liver.

8.0 FIRST AID / GET MEDICAL ATTENTION IMMEDIATELY

8.1 Eyes: Immediately flush with plenty of cool running water. Remove contact lenses. Continue flushing for at least 15 minutes, holding eyelids apart to ensure rinsing of the entire eye. CALL A PHYSICIAN IMMEDIATELY.

8.2 Skin: Immediately flush skin with plenty of cool running water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

8.3 If Swallowed: Rinse mouth at once; then drink 1 or two large glasses of water or milk. DO NOT induce vomiting. NEVER give anything by mouth to an unconscious person. CALL A PHYSICIAN IMMEDIATELY.

8.4 If Inhaled: Immediately move to fresh air.

9.0 SPECIAL PROTECTION INFORMATION /

9.1 Respiratory: Avoid misting conditions or dusts.
9.2 Skin: Rubber gloves - protective cuff or gauntlet type preferred.
9.3 Eyes: Splashproof glasses, goggles or face shield.

10.0 ADDITIONAL INFORMATION/PRECAUTIONS /

10.1 DOT Classification: /Oxidizer,NOS/UN1479; Chromic Acid;Sulfuric Acid

KEEP OUT OF REACH OF CHILDREN

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MEDICAL EMERGENCY ONLY, 24 HOUR SERVICE: 1-800-328-0026

ECONOMICS LABORATORY, INC.
St. Paul MN 55102

Product Information: 1-612-293-2233
Date of Issue: October 21, 1985

1.0 IDENTIFICATION /

1.1 Product Name: 614
1.2 Product Type: Caustic Cleaner.

2.0 HAZARDOUS INGREDIENTS /

		%	TLV (mg/m3) TWA	STEL
2.1 Sodium cresylate 34689-46-8		1-10	5	
2.2 Sodium carbonate (soda ash)	497-19-9	20-30	UNK	
2.3 Sodium hydroxide (caustic soda)	1310-73-2	50-60	2 C	

3.0 PHYSICAL DATA /

3.1 Appearance and Odor: Tan powder;odorless.
3.2 Solubility in Water: Complete
3.3 pH: (1%) 13.0

4.0 FIRE AND EXPLOSION DATA /

4.1 Special Fire Hazards: None
4.2 Fire Fighting Methods: Product does not support combustion.

5.0 REACTIVITY DATA /

5.1 Stability: Stable under normal conditions of handling.
5.2 Conditions to Avoid: Reacts violently with acids. Reacts with soft metals such as aluminum and zinc.
5.3 Can react vigorously with oxidizing material.

6.0 SPILL OR LEAK PROCEDURES / USE PROPER PROTECTIVE EQUIPMENT

6.1 Cleanup: Pick up without raising dust. Flush area with water.
6.2 Waste Disposal: Consult state and local authorities for restrictions on disposal of chemical waste.

7.0 HEALTH HAZARD DATA / Danger

7.1 Effects of Overexposure:
Skin and Eyes: CAUSES SEVERE CHEMICAL BURNS. Eye contact may cause blindness. Harmful contact may not cause immediate pain. ++ Immediate water flushing is vital in case of eye contact. ++
If Swallowed: HARMFUL OR FATAL. Causes chemical burns of mouth, throat and stomach.

UNK = Unknown at this time
TWA = Time Weighted Average
C = Ceiling Limit, Not To Be Exceeded
TLV = Threshold Limit Value
STEL = Short Term Exposure Level

If Inhaled: Damages airways and lungs, depending upon amount and duration of exposure. Effects can vary from slight irritation to bronchitis or pneumonia. People with asthma or other lung problems may be more susceptible.

8.0 FIRST AID / GET MEDICAL ATTENTION IMMEDIATELY

8.1 Eyes: Immediately flush with plenty of cool running water. Remove contact lenses. Continue flushing for at least 15 minutes, holding eyelids apart to ensure rinsing of the entire eye. CALL A PHYSICIAN IMMEDIATELY.
8.2 Skin: Immediately flush skin with plenty of cool running water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.
8.3 If Swallowed: Rinse mouth at once; then drink 1 or two large glasses of water or milk. DO NOT induce vomiting. NEVER give anything by mouth to an unconscious person. CALL A PHYSICIAN IMMEDIATELY.
8.4 If Inhaled: Immediately move to fresh air.

9.0 SPECIAL PROTECTION INFORMATION /

9.1 Respiratory: Avoid misting conditions or dusts.
9.2 Skin: Rubber gloves - protective cuff or gauntlet type preferred.
9.3 Eyes: Splashproof glasses, goggles or face shield.

10.0 ADDITIONAL INFORMATION/PRECAUTIONS /

10.1 DOT Classification: Corrosive Material UN 1759

KEEP OUT OF REACH OF CHILDREN

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FOR COATINGS, RESINS AND RELATED MATERIALS

(Approved by U.S. Department of Labor - Essentially Similar To Form OSHA-20)

DATE OF PREP. 12/07/72

Section I

MANUFACTURER'S NAME GENERAL ELECTRIC CO., PAINT OPERATION

STREET ADDRESS 305 EASTERN AVENUE CITY, STATE, AND ZIP CODE CHELSEA, MASS. 02150

EMERGENCY TELEPHONE NO. 617-884-6918, DIAL COMM: *8-263-2526

PRODUCT CLASS ELEC. EQUIPMENT FINISH MANUFACTURER'S CODE IDENTIFICATION CE 237

TRADE NAME CLYPTAL GLOSS BLACK ENAMEL

Section II — HAZARDOUS INGREDIENTS

INGREDIENT	PERCENT	TLV PPM	TLV mg/m³	LEL	VAP PRES
XYLENE	40.0	100	435	1.0	9.
V. M. & P. NAPHTHA	5.0	100	200	1.3	23.
OCTANE	< 5.0	500	2350	1.0	34.
SOLVESSO 100	< 5.0	100	200	.7	3.
BUTYL CELLOSOLVE	< 5.0	50	240	1.1	.

Section III — PHYSICAL DATA

BOILING RANGE 214-345 F VAPOR DENSITY [X] HEAVIER [ ] LIGHTER THAN AIR

EVAPORATION RATE [ ] FASTER [X] SLOWER THAN ETHER PERCENT VOLATILE BY VOLUME 60.7 WEIGHT PER GALLON 8.67

Section IV — FIRE AND EXPLOSION HAZARD DATA

DOT CATEGORY FLAMMABLE, RED LABEL FLASH POINT 32 F LEL .7

EXTINGUISHING MEDIA CARBON DIOXIDE OR DRY CHEMICAL

UNUSUAL FIRE AND EXPLOSION HAZARDS EXPLOSION HAZARD DUE TO PRESSURE BUILD-UP DUE TO HEAT

SPECIAL FIRE FIGHTING PROCEDURES

Section V — HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE See Section II.

EFFECTS OF OVEREXPOSURE

Inhalation: Respiratory irritation, dizziness, unconsciousness, death.
Eye Contact: Extreme irritation, burns.
Skin Contact: Mild irritation, burns and possible allergic reaction.

EMERGENCY AND FIRST AID PROCEDURES

Inhalation: Remove from exposure. Unconscious, but breathing: Administer oxygen.
Not Breathing: Artificial resuscitation.
Eye Contact: Flush with copious amounts of water. See physician.
Skin Contact: Wash thoroughly with soap and water. Use hand lotion. See physician.

Section VI — REACTIVITY DATA

STABILITY ☐ UNSTABLE ☒ STABLE CONDITIONS TO AVOID

INCOMPATABILITY (Materials to avoid) Strong Oxidizers Excessive heat, sparks and open flames.

HAZARDOUS DECOMPOSITION PRODUCTS

Carbon Monoxide will be formed by incomplete combustion.

HAZARDOUS POLYMERIZATION ☐ MAY OCCUR ☒ WILL NOT OCCUR

CONDITIONS TO AVOID Excessive heat, sparks and open flames.

Section VII — SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Provide adequate ventilation. Avoid excessive heat, sparks and open flames.
Clean up with rags, place dirty rags in container of water.

WASTE DISPOSAL METHOD

Distill off solvents under strictly safe conditions. Reuse distillate. Dispose of residue a
landfill.

Section VIII — SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION

Use Appropriate Respirators.

VENTILATION

Keep vapors below L.E.L. (Section IV) and T.L.V. (Section II) Solvent Vapors should be removed by dilution ventilation from lower levels. Eliminate all ignition sources (Open Motors, Switches, etc.)

PROTECTIVE GLOVES Yes

EYE PROTECTION Yes

OTHER PROTECTIVE EQUIPMENT As required to avoid skin contact.

Section IX — SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Store in a cool well ventilated area. Avoid excessive heat, sparks and open flames. Ground containers and transfer vessels. Keep free fall of liquid to a few inches to avoid ~~excessive~~ build up of static electricity. Do not take internally. Avoid prolonged contact with skin.

Form Approved
Budget Bureau No. 44-R1387
Approval Expires April 30, 1971

Form No. LSB-005-4
May 1969

U.S. DEPARTMENT OF LABOR

WAGE AND LABOR STANDARDS ADMINISTRATION
Bureau of Labor Standards

MATERIAL SAFETY DATA SHEET

SECTION I

MANUFACTURER'S NAME: General Electric Co., Insulating Materials Dept.	EMERGENCY TELEPHONE NO.: (518)374-2211 Ext. 53357
ADDRESS (Number, Street, City, State, and ZIP Code): One Campbell Road, Schenectady, N.Y.	
CHEMICAL NAME AND SYNONYMS: Alcohol solution of Phenolic resin	TRADE NAME AND SYNONYMS: GE 271 Varnish
CHEMICAL FAMILY: Spirit Varnish	FORMULA: N/A

SECTION II HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE	43		METALLIC COATINGS		
SOLVENTS	57		FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)
Vent contains: Toluene	3	375
Diacetone Alcohol	2	240
Alcohol	52	

SECTION III PHYSICAL DATA Based on Alcohol.

BOILING POINT (°F.)		173	SPECIFIC GRAVITY (H_2O=1)	.96
VAPOR PRESSURE (mm Hg.)	@25°C	50	PERCENT VOLATILE BY VOLUME (%)	57
VAPOR DENSITY (AIR=1)		1.6	EVAPORATION RATE (ether =1)	.7
SOLUBILITY IN WATER		Partial		
APPEARANCE AND ODOR	Black, odor of alcohol			

SECTION IV FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used): 43°F Closed cup	FLAMMABLE LIMITS	Lel: 3.3	Uel: 19
EXTINGUISHING MEDIA: Dry, CO_2, Alcohol Foam			
SPECIAL FIRE FIGHTING PROCEDURES			
UNUSUAL FIRE AND EXPLOSION HAZARDS			

*mg/M^3

SECTION V HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE	See Section II.
EFFECTS OF OVEREXPOSURE	Toluene - irritation, severe exposure - Narcosis
	Diacetone Alcohol - eye, nose, throat irritation.
EMERGENCY AND FIRST AID PROCEDURES	Remove to fresh air.

SECTION VI REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	

INCOMPATABILITY *(Materials to avoid)* Avoid strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS Not known.

HAZARDOUS POLYMERIZATION	MAY OCCUR	X	CONDITIONS TO AVOID Heat
	WILL NOT OCCUR		

SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Absorb with sand or other dry material.

WASTE DISPOSAL METHOD Controlled incineration.
Land fill.

SECTION VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION *(Specify type)*

VENTILATION	LOCAL EXHAUST Usually adequate	SPECIAL
	MECHANICAL *(General)*	OTHER

PROTECTIVE GLOVES Recommended EYE PROTECTION Yes

OTHER PROTECTIVE EQUIPMENT

SECTION IX SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

OTHER PRECAUTIONS Do not incinerate closed containers.

John J. Keane 8/6/72

John J. Keane, Manager, Research and Development

Approved
Bureau No. 44-R1387
Approval Expires April 30, 1971

Form No. LSB/OOS-4
May 1969

1 of 2

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U.S. DEPARTMENT OF LABOR

WAGE AND LABOR STANDARDS ADMINISTRATION
Bureau of Labor Standards

MATERIAL SAFETY DATA SHEET

SECTION I

MANUFACTURER'S NAME: General Electric Co. Insulating Materials Dept.	EMERGENCY TELEPHONE NO.: AC518 374-2211 Ext. 5-3357
ADDRESS (Number, Street, City, State, and ZIP Code): 1 Campbell Rd., Schenectady, N.Y. 12306	
CHEMICAL NAME AND SYNONYMS: Gilsonite Resin Solution	TRADE NAME AND SYNONYMS: 462 Varnish
CHEMICAL FAMILY: Oleoresinous Insulating Varnish	FORMULA: C, H, O, ~~an Mn Compounds~~

SECTION II HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS	0		BASE METAL		
CATALYST Manganese Resinate	.46		ALLOYS		
VEHICLE Natural Resins	56	5 ppm	METALLIC COATINGS		
SOLVENTS Toluene	43.5	100ppm	FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)

SECTION III PHYSICAL DATA Based on Toluene

BOILING POINT (°F.)	231	SPECIFIC GRAVITY (H_2O=1)	0.938
VAPOR PRESSURE (mm Hg.) at 30°C	36.7	PERCENT VOLATILE BY VOLUME (%)	52
VAPOR DENSITY (AIR=1)	3.14	EVAPORATION RATE (_____=1)	2.4
SOLUBILITY IN WATER	Slight		
APPEARANCE AND ODOR	Black solution with a slight petroleum odor.		

SECTION IV FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used) 65°F (ASTM D-1310 Tag Open Cup)	FLAMMABLE LIMITS	Lel 1.27%	Uel 7.0%

EXTINGUISHING MEDIA
CO_2, H_2O (Spray), Carbon tetrachloride, Foam, Dry chemical.

SPECIAL FIRE FIGHTING PROCEDURES
Treat like a gasoline or oil fire.

UNUSUAL FIRE AND EXPLOSION HAZARDS
h react rigorously with strong oxidizing materials.

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SECTION V HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE
100 ppm (vapors in air) based on Toluene (resin is Low Vapor Pressure).

EFFECTS OF OVEREXPOSURE
Skin: drying, redness. Eyes: burning sensation. Inhalation: coordination impairment, nausea, headache, loss of appetite. Ingestion: nausea and unconsciousness.

EMERGENCY AND FIRST AID PROCEDURES
Skin: wash with soap and water. Eyes: flush with water, report to a physician. Inhalation: remove person to a well-ventilated area. Ingestion: induce vomiting, report to a physician.

SECTION VI REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	

INCOMPATABILITY *(Materials to avoid)* Strong oxidizing materials.

HAZARDOUS DECOMPOSITION PRODUCTS

HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Avoid contact with skin and inhalation of vapors. Use sawdust or sand to cleanup.

WASTE DISPOSAL METHOD
Incineration.

SECTION VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION *(Specify type)*
Chemical cartridge (when concentration is 2-5 times TLV)

VENTILATION	LOCAL EXHAUST	SPECIAL
	MECHANICAL *(General)* Usually adequate.	OTHER

PROTECTIVE GLOVES yes

EYE PROTECTION Safety glasses.

OTHER PROTECTIVE EQUIPMENT

SECTION IX SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Store in a cool (below 90°F) area. Keep away from flames.

OTHER PRECAUTIONS

John J. Keane

John J. Keane, Manager, Research and Development

Form Approved
Budget Bureau No. 44-R1397
Approval Expires April 30, 1971

U.S. DEPARTMENT OF LABOR

WAGE AND LABOR STANDARDS ADMINISTRATION

Bureau of Labor Standards

MATERIAL SAFETY DATA SHEET

SECTION I

MANUFACTURER'S NAME: GENERAL ELECTRIC CO., Insulating Materials Product Section	EMERGENCY TELEPHONE NO.: (518) 385-3357
ADDRESS (Number, Street, City, State, and ZIP Code): Campbell Road, Schenectady, N.Y. 12345	
CHEMICAL NAME AND SYNONYMS	TRADE NAME AND SYNONYMS: 701A
CHEMICAL FAMILY: Unsaturated Polyester	FORMULA

SECTION II HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE: Unsaturated polyester	70		METALLIC COATINGS		
SOLVENTS: Vinyl toluene	30	100 ppm	FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES: Quinone	tr	0.1 ppm	OTHERS		
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)

SECTION III PHYSICAL DATA

BOILING POINT (°F.)	342	SPECIFIC GRAVITY (H_2O=1)	1.12
VAPOR PRESSURE (mm Hg.) 25°C	2	PERCENT VOLATILE BY VOLUME (%)	
VAPOR DENSITY (AIR=1)	4.1	EVAPORATION RATE (_____=1)	
SOLUBILITY IN WATER	no		
APPEARANCE AND ODOR: Clear amber styrene like odor			

SECTION IV FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used): 138°F ASTM D-1310-55T	FLAMMABLE LIMITS	Lel	Uel
EXTINGUISHING MEDIA: Foam, carbon dioxide, dry chemical			
SPECIAL FIRE FIGHTING PROCEDURES: Self-contained air supply.			
UNUSUAL FIRE AND EXPLOSION HAZARDS: May polymerize exothermally when exposed to fire.			

Form Approved
Budget Bureau No. 44-R1387
Approval Expires April 30, 1971

Form No. LSE 005-4
May 1963

U.S. DEPARTMENT OF LABOR

WAGE AND LABOR STANDARDS ADMINISTRATION
Bureau of Labor Standards

MATERIAL SAFETY DATA SHEET

SECTION I

MANUFACTURER'S NAME: GENERAL ELECTRIC CO., Insulating Materials Product Section
EMERGENCY TELEPHONE NO.: (518) 385-3357
ADDRESS (Number, Street, City, State, and ZIP Code): 1 Campbell Road, Schenectady, N.Y. 12345
CHEMICAL NAME AND SYNONYMS: t-butyl perbenzoate
TRADE NAME AND SYNONYMS: 7018
CHEMICAL FAMILY: Organic Peroxide (peroxyester)
FORMULA: $C_{11}H_{14}O_3$

SECTION II HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)
T-butyl perbenzoate	98.0 min.	
Oral LD ca 5000 mg/kg mouse -		
(HEW Toxic Substances Annual List 1971		

SECTION III PHYSICAL DATA

BOILING POINT (°F) Freezing Point - 48°F(8.5°C)		SPECIFIC GRAVITY (H_2O=1) 25/25°C	1.038
VAPOR PRESSURE (mm Hg.) at 50°C	.33	PERCENT VOLATILE BY VOLUME (%)	NA
VAPOR DENSITY (AIR=1)		EVAPORATION RATE (_____=1)	NA
SOLUBILITY IN WATER	Insoluble		
APPEARANCE AND ODOR	Light yellow to yellow liquid - mild aromatic odor.		

SECTION IV FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used) Micro open cup > 200°F	FLAMMABLE LIMITS	Lel Unknown	Uel Unknown

EXTINGUISHING MEDIA
CO_2, Foam, dry chemical

SPECIAL FIRE FIGHTING PROCEDURES
Evacuate area and fight fire from a safe distance, like an oil fire.

UNUSUAL FIRE AND EXPLOSION HAZARDS
t-butyl perbenzoate can decompose with force if confined during exposure to fire.

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE	100 ppm (vinyl toluene)
EFFECTS OF OVEREXPOSURE	Irritating to eyes, mucous membranes.
	Narcotic
EMERGENCY AND FIRST AID PROCEDURES	Call physician. Flood skin with water.
	Internal - Universal antidote, call Physician."

SECTION VI - REACTIVITY DATA

STABILITY	UNSTABLE	X	CONDITIONS TO AVOID	Heat, flame
	STABLE			

INCOMPATABILITY *(Materials to avoid)* Strong oxidants - transition metal halides

HAZARDOUS DECOMPOSITION PRODUCTS

HAZARDOUS POLYMERIZATION	MAY OCCUR	X	CONDITIONS TO AVOID Heat, flame
	WILL NOT OCCUR		

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED Absorb with dry material

WASTE DISPOSAL METHOD Sanitary landfill or controlled incineration

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION *(Specify type)*

VENTILATION	LOCAL EXHAUST usually adequate	SPECIAL
	MECHANICAL *(General)*	OTHER

PROTECTIVE GLOVES Yes	EYE PROTECTION Yes

OTHER PROTECTIVE EQUIPMENT

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING Avoid heat.

OTHER PRECAUTIONS

GPO 931-540

Form OSHA-20
Rev. May 72

MATERIAL SAFETY DATA SHEET

PREPARED BY:
GENERAL ELECTRIC COMPANY
COATING MATERIALS
1 RESEARCH ROAD
SCHENECTADY, NEW YORK 12345

EMERGENCY TELEPHONE:
DAILY 8:30-4PM (518) 385-0172
24 HRS (518) 385-2141
REVISED: 10/21/85
PREPARER: A.L.DRAKE

***** I PRODUCT IDENTIFICATION *****

PRODUCT IDENTIFICATION: 701A CHEMICAL FAMILY: UNSATURATED POLYESTER
CHEMICAL NAME: UNSATURATED POLYESTER FORMULA: MIXTURE

***** II PRODUCT COMPONENTS *****

PRODUCT COMPOSITION	APPROX. %	ACGIH TLV	OSHA PEL	UNITS	CAS REG NO.
A. HAZARDOUS					
STYRENE	< 40%	50	100	PPM	25013-15-4*
B. NON-HAZARDOUS					
ADDITIONAL INFORMATION	NA	NA	NA	NA	NA

***** III PHYSICAL DATA *****

BOILING POINT: NF (F) NF (C)
PHYSICAL STATE: LIQUID
VAPOR PRESSURE (20 C): NF MM HG
HYDROCARBON
VAPOR DENSITY (AIR=1): NF
COLOR: AMBER
SOLUBILITY IN WATER (20 C): NEGLIGIBLE PH: NA
SPECIAL SOLUBILITY INFORMATION: ACIDITY/ALKALINITY (%): MEQ/G
APPEARANCE AND ODOR:
FLASH POINT: >= 93(F) >=77 (C) DENSITY: LBS/GAL KG/LITER
VOC: LB/GAL (F) NF (C) SPECIFIC GRAVITY(WATER=1): 1.09
% VOLATILES BY VOLUME: NEGLIG EVAPORATION RATE (BUTYL ACETATE=1): <1

VISCOSITY:
FLASH POINT: NF 93((F) 199 (C)
VAPOR PRESSURE (20 C): 1.1 MM HG
VAPOR DENSITY (AIR=1): 4.08

***** IV FIRE AND EXPLOSION DATA *****

FLASH POINT: 199 (F) 93 (C) METHOD USED: PMCC AUTOIGNITION TEMP: NF (F)NF (C)
FLAMMABLE LIMITS IN AIR(%): LOWER: UPPER:
EXTINGUISHING MEDIA:
FOAM
CARBON DIOXIDE
DRY CHEMICAL
H2O
OTHER FIRE
SPECIAL FIRE FIGHTING PROCEDURES:

...POUR MAY FORM EXPLOSIVE MIXTURE WITH AIR.
...SOLUBLE.
...RESPIRATORY PROTECTION IF IN A CONFINED AREA.
...SITIVE PRESSURE, SELF-CONTAINED BREATHING APPARATUS
...POLYMERIZATION MAY TAKE PLACE DURING A FIRE DUE TO ELEVATED
...EMPERATURE WHERE CLOSED CONTAINERS COULD VIOLENTLY RUPTURE.
...EVACUATE AREA AND FIGHT FIRE FROM A SAFE DISTANCE.

***** V REACTIVITY DATA *****

...BILITY:
X STABLE UNSTABLE

HAZARDOUS:
POLYMERIZATION MAY OCCUR

...ARDOUS DECOMPOSITION PRODUCTS:
CARBON MONOXIDE.
CARBON DIOXIDE.
...EBRIC.
ORGANIC ACID VAPORS.
PHOSPHORUS ACIDS.
...PATIBILITY (MATERIALS TO AVOID):
AVOID CONTACT WITH ACIDIC/BASIC OR OXIDIZING AGENTS.
METAL SALTS SUCH AS ALUMINUM CHLORIDE.
...DITIONS TO AVOID:
KEEP AWAY FROM HEAT/SPARKS AND OPEN FLAME.

***** VI HEALTH HAZARD DATA *****

...TY SIGNS/EFFECTS OF OVEREXPOSURE:
...ESTION:
HARMFUL IF SWALLOWED.
CAUSES VOMITING/NAUSEA/AND DIARRHEA
MAY CAUSE GASTRIC DISTRESS.
MAY CAUSE PULMONARY EDEMA.
...IN CONTACT:
CAUSES MODERATE SKIN IRRITATION.
...ATION:
EXCESSIVE INHALATION CAUSES HEADACHE/DIZZINESS/NAUSEA AND
...OORDINATION.
...TACT:
CAUSES MILD EYE IRRITATION
...ICAL CONDITIONS AGGRAVATED:
NONE KNOWN.
...TY:
...OXIC DOSE.
...TE EFFECTS OF OVEREXPOSURE:
...CHRONIC DAMAGE.
...MAGE BY EDEMA.
THIS PRODUCT CONTAINS A COMPONENT THAT IS A SUSPECTED
...UTAGEN.
THIS PRODUCT CONTAINS A COMPONENT THAT IS A SUSPECTED
...TERATOGEN.
...EVIDENCE OF FETOTOXICITY POTENTIAL HAS BEEN REPORTED FOR VINYL
...ACETATE IN A RECENT INTRAPERITONEAL STUDY

...OSURE AND FIRST AID PROCEDURES:
...ESTION:

IF SWALLOWED DO NOT INDUCE VOMITING, GIVE LARGE QUANTITIES OF WATER TO DRINK AND GET MEDICAL ATTENTION. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

REMOVE CONTAMINATED CLOTHING AND LAUNDER BEFORE REUSE.
WASH WITH SOAP AND WATER.
GET MEDICAL ATTENTION IF IRRITATION PERSISTS.

IF INHALED, REMOVE TO FRESH AIR, IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION, PREFERABLY MOUTH-TO-MOUTH. IF BREATHING IS DIFFICULT GIVE OXYGEN. GET MEDICAL ATTENTION.

IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES & GET MEDICAL ATTENTION IF IRRITATION PERSISTS.

ASPIRATION MAY CAUSE SEVERE LUNG DAMAGE. EVACUATE STOMACH IN A WAY WHICH AVOIDS ASPIRATION.

TOXICITY:	VINYL TOLUENE	
ORAL ACUTE LD50	2000(RAT)MG/KG	MG/KG
DERMAL LD50 NE		MG/KG
INHALATION LC50	3020(MUS)MG/M3	

EYE AND SKIN IRRITANT.
SKIN SENS TEST: UNKNOWN
POTENTIAL ROUTES OF EXPOSURE:
ORAL.
DERMAL - SKIN.
EYES.
INHALATION.
MEDICAL CONDITIONS/PREEXISTING AGGRAVATED BY EXPOSURE:
NONE KNOWN.

**** SECTION VIII - SPECIAL PROTECTIVE EQUIPMENT ****

RESPIRATORY PROTECTION:
USE IN WELL VENTILATED AREA.
USE NIOSH APPROVED RESPIRATORY PROTECTION IF TLV EXCEEDED.
EYE PROTECTION:
GOGGLES.
SKIN PROTECTION:
IMPERVIOUS GLOVES.
OTHER PROTECTIVE EQUIPMENT:
EYE WASH.

**** SECTION IX - SPECIAL PRECAUTIONS ****

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:
USE ONLY IN WELL VENTILATED AREA.
MECHANICAL VENTILATION.

**** SECTION X - STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED ****

IN CASE OF SPILL, LEAK OR DISPOSAL PROCEDURES: IF MATERIAL IS RELEASED OR SPILLED, IT SHOULD BE COLLECTED AND PUT IN A SUITABLE CONTAINER FOR DISPOSAL.
WASTE DISPOSAL METHOD: USE PROPER PROTECTIVE EQUIPMENT AS SPECIFIED IN THE PROTECTIVE EQUIPMENT SECTION.

[illegible] SOURCES OF IGNITION.
[illegible] AIR-WORKERS OF SPILL.
[illegible] AREA VENTILATION.

[illegible] METHOD:
DISPOSAL SHOULD BE MADE IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.
INCINERATION RECOMMENDED.

**** IX SPECIAL PRECAUTIONS *****

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:
USE SAFETY STRAP.
STORE UPRIGHT IN A COOL PLACE BELOW 30°C (85°F).
KEEP CONTAINER CLOSED WHEN NOT IN USE.
AVOID BREATHING VAPORS, IF EXPOSED TO HIGH VAPOR CONCENTRATIONS, [illegible] AREA AT ONCE.
AVOID CONTACT WITH SKIN AND EYES.
USE ONLY IN A WELL VENTILATED AREA.
[illegible]TICALLY COMBUSTIBLE.
KEEP CONTAINER CLOSED WHEN NOT IN USE TO PREVENT CONTACT WITH [illegible] BASED OR OXIDIZING MATERIALS.
AVOID OVER-EXPOSURE, FOR [illegible] CAN CAUSE OFF HEADACHE MAY BE HARMFUL.
USE ONLY WHERE APPROPRIATE VENTILATION SYSTEMS EXIST.
KEEP AWAY FROM FOOD AND DRINKING MATERIALS.
WASH HANDS BEFORE EATING AND SMOKING.

ENGINEERING CONTROLS:
EXHAUST VENTILATION.
EYEWASH STATIONS.
USE IN A WELL VENTILATED AREA.

** X SHIPPING AND REGULATORY CLASSIFICATION DATA **

[illegible] SHIPPING NAME: [illegible] LIQUIDS NOT RESIN SOLUTION/NA NUMBER: NA1993
[illegible] CLASS: COMBUSTIBLE LIQUID
[illegible] TOTAL QUANTITY: COMBUSTIBLE OVER 110 GALS
[illegible] CODE:
[illegible] OF CLOSS: INITIATION
[illegible] IDENTIFICATION: --
[illegible] SPECIAL CLASS: [illegible] 3.3 PG 3153
RID (DOT E) --
ADR (RSID) --
RAR (CLASS) I, II, III
[illegible] SPECIFICATIONS REQUIRED [illegible]
[illegible] CONTAINER.
[illegible] OFFERED IN GOOD FAITH AS TYPICAL VALUES, NOT AS A PRODUCT SPECIFICATION. NO WARRANTY EITHER EXPRESSED OR IMPLIED IS MADE. THE FOREGOING SAFE HANDLING PROCEDURES ARE RECOMMENDED AS GENERALLY APPLICABLE. HOWEVER, EACH USER SHOULD REVIEW THESE RECOMMENDATIONS IN THE SPECIFIC CONTEXT OF THE INTENDED USE.

701B

SECTION I PRODUCT IDENTIFICATION

PRODUCT NAME: CAT 701B CHEMICAL FAMILY: ORGANIC PEROXID

SECTION II HAZARDOUS INGREDIENTS

INGREDIENTS	APPROX. PERCENT	TLV	PEL	UNITS	CAS NO
PEROXYESTER	> 80%	NA	NA	NA	614-45-9
SOLVENT	NA	NA	NA	NA	NA

SECTION III PHYSICAL DATA

PRODUCT INFORMATION
BOILING POINT >160 (F) 82 (C)
APPEARANCE & COLOR
VAPOR PRESSURE (20) 0.5 MM HG
ODOR SMALL ODOR
VAPOR DENSITY (AIR= 1) NA
SOLUBILITY IN WATER (20) SLIGHT
SOLUBILITY IN ORGANIC SOLVENT REDUCIBLE FM NA
(STATE SOLVENT) ACIDITY/ALKALINITY NA MEQ/G
VOLATILE ORGANIC COMPOUNDS (VOC) 0 (G) DENSITY NA LB/GAL
VOLATILE VOLUME NA (F) 0 (C) SPECIFIC GRAVITY (WATER=1) 0.9
EVAPORATION RATE (BUTYL ACETATE=1) <1

SECTION IV FIRE AND EXPLOSION DATA

FLASH POINT >200 ( ) >93 (C) METHOD USED TAG CLOSED CUP AUTOIGNITION TEMP NA (F) NA (C)
FLAMMABLE LIMITS IN AIR % BY VOL LOWER UPPER NA
EXTINGUISHING MEDIA
CARBON DIOXIDE
FOAM
WATER SPRAY
SPECIAL FIRE FIGHTING PROCEDURES
CONTAINERS EXPOSED TO FIRE SHOULD BE COOLED WITH WATER SPRAY AFTER EXTINGUISHING FLAME
LEAVE AREA IMMEDIATELY IF TANK OR VENT SAFETY DEVICE BECOMES DISCOLORED FROM A GREAT DISTANCE
ONLY TRAINED PERSONNEL SHOULD BE PRESENT
POTENTIAL FOR EXPLOSION HAZARDS UNDER ABNORMAL CONDITIONS

SECTION V REACTIVITY DATA

STABILITY HAZARDOUS

STAB . . TABLE POLYME . ATIO . ILL . . .
. . . . PRODUCTS.
. . . . .
. . . . .
. . . TO AVO .
. . . ACIDIC . SIC OR O. IDIZIN . AGENTS.
. . . ALUM . . CHLORIDE.
. . . .
. . . AS CO . . NAPHTHENATE O. . METALLIC.
. . . .
. . . SPA . . OPEN FLAME.
. . . ICA . .
. . . . . HAZARD DA . .
. . . POSU . .
. . . . .
. . . . . AN . . . .
. . . . . ATION.
. . . . .
. . . . .
. . . . .
. . . . . THAT IS . . ORGANIC.
. . . . . CLOS . .
. . . . .
. . . . .
. . .

MILD IRRI... SKIN (...).
ES TESTS ...
UNCEP... ...S OF ...OSURE.
...
... - SKI...
E...
I...
A... ... EYE.
...DUCT S...
NONE ...WN.

*** VII SPECIAL PROTECTIVE EQU...MENT *****
...ECTION.
... WELL VENTILATED ARE...
... ...OVED ...OSA RESPIRA... PROTECTION IF TLV EXCEEDED.
...
...
...
...
...
MECHA... AL V... LEAT...

... VII. SPILL, LEAK ... DISPOSAL PRO...DURES ***
...ION TO BE ...EN IF ...TERIAL IS RELEASED OR SPILLED.
LIBE... ...RAPE ... SCOOP UP IN ... INERT MATERIA... AND PUT IN A
CONTA...ER FOR ...SPOSAL.
WASH ... ...E SURFACE WITH DETERGENT AND WATER TO REDUCE RESIP-
PIRE...
...
...
...
...
...
...
...
...
DISPOS... SHOU... BE MADE IN ACCORDANCE WITH FEDERAL, STATE AND
LOCAL REGULATIONS.
INCINERATION RECOMMENDED.

***** IX SPECIAL PRECAUTIONS *****
...ITIONS TO BE TAKEN IN HANDLING AND STORAGE:
USE SAFETY STRAP.
AVOID CONTACT WITH SKIN AND EYES.
...R WITH PEROXIDE
KEEP CONTAINER CLOSED WHEN NOT IN USE TO PREVE... CONTACT WITH
ACIDIC, BASIC OR OXIDIZING MATERIALS.
KEEP AWAY FROM FOOD AND SMOKING MATERIALS.
WASH HANDS BEFORE EATING AND SMOKING.
UNCURED PRODUCT CONTACT IRRITATES EYES.
USE IN A WELL VENTILATED AREA TO PREVENT IRRITATION BY VAPORS.
AVOID CONTACT WITH EYES.
...INEERING CONTROLS:

EXHAUST VENTILATION
[illegible]
EMERGENCY SITUATIONS.
USE IN A WELL VENTILATED AREA.

** SHIPPING AND REGULATORY CLASSIFICATION DATA **

[illegible] NAME: ORGANIC PEROXIDE LIQUID, NOS UN/NA NUMBER: UN 3107
[illegible] CLASS: ORGANIC PEROXIDE
[illegible]S): ORGANIC PEROXIDE
[illegible] WASTE: --
[illegible] CLASS: IRRITANT
[illegible] SPECIFICATION: --
[illegible] CLASSIFICATION CLASS: IMO 5.2 PG 5135
RID (CCT) --
ADR (CLCD) --
RAM (CLAD) FORBIDDEN
[illegible] CLASSIFICATION: FLAMMABILITY 1 , REACTIVITY 1 , HEALTH 1
[illegible] INFORMATION:
THIS PRODUCT OR ITS COMPONENTS ARE ON THE EUROPEAN INVENTORY OF EXISTING COMMERCIAL CHEMICAL SUBSTANCES (EINECS).
THESE DATA ARE OFFERED IN GOOD FAITH AS TYPICAL VALUES AND NOT AS A PRODUCT SPECIFICATION. NO WARRANTY, EITHER EXPRESSED OR IMPLIED, IS MADE. THE RECOMMENDED HANDLING PROCEDURES ARE BELIEVED TO BE GENERALLY APPLICABLE. HOWEVER, EACH USER SHOULD REVIEW THESE RECOMMENDATIONS IN THE SPECIFIC CONTEXT OF THE INTENDED USE.

U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration

Form Approved
OMB No. 44-R1387

MATERIAL SAFETY DATA SHEET

Required under USDL Safety and Health Regulations for Ship Repairing, Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

SECTION I

MANUFACTURER'S NAME: General Electric Co., Insulating Materials Prod. Section	EMERGENCY TELEPHONE NO.: (518) 385-3357
ADDRESS (Number, Street, City, State, and ZIP Code): 1 Campbell Road, Schenectady, New York 12345	
CHEMICAL NAME AND SYNONYMS:	TRADE NAME AND SYNONYMS: 702 Permatil
CHEMICAL FAMILY: Unsaturated Polyester	FORMULA:

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE Unsaturated Polyester	70		METALLIC COATINGS		
SOLVENTS Vinyl Toluene	30	100 ppm	FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES Quinone	Tr	.1 ppm	OTHERS		
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)

SECTION III - PHYSICAL DATA

BOILING POINT (°F.)	334	SPECIFIC GRAVITY (H_2O=1)	1.02
VAPOR PRESSURE (mm Hg.)	1.1	PERCENT, VOLATILE BY VOLUME (%)	< 5%
VAPOR DENSITY (AIR=1)	4.1	EVAPORATION RATE (butyl acetate	< 1
SOLUBILITY IN WATER	nil		
APPEARANCE AND ODOR	Clear amber liquid - pungent odor		

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used): 115°F Pensky Martens	FLAMMABLE LIMITS	Lel: 8%	Uel: 11%
EXTINGUISHING MEDIA: Foam, Carbon Dioxide, Dry chemical, Water, Fog.			
SPECIAL FIRE FIGHTING PROCEDURES: Self-contained breathing apparatus.			
UNUSUAL FIRE AND EXPLOSION HAZARDS: Dense smoke. Hazardous polymerization.			

(Continued on reverse side)

SECTION V HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: NA

EFFECTS OF OVEREXPOSURE: Unknown

EMERGENCY AND FIRST AID PROCEDURES
For contact with eyes, flush with water.
For contact with skin, wash with soap and water.

SECTION VI REACTIVITY DATA

STABILITY	UNSTABLE	X	CONDITIONS TO AVOID: Extended exposure to 135°F or higher temperatures may lead to rapid decomposition with burning.
	STABLE		

INCOMPATABILITY (Materials to avoid)
Strong oxidizing and reducing agents.

HAZARDOUS DECOMPOSITION PRODUCTS
Decomposition products are flammable.

HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Spilled material should be absorbed with non-combustible absorbent such as vermiculite or perlite. Sweep up using non-sparking utensils.

WASTE DISPOSAL METHOD
Place absorbed material in a shallow trench and ignite from safe distance with a long torch (6 ft.-min)
Any disposal must comply with local, state and federal regulations.

SECTION VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type): None required - Avoid prolonged inhalation of vapors.

VENTILATION	LOCAL EXHAUST		SPECIAL
	MECHANICAL (General)	Yes	OTHER
PROTECTIVE GLOVES	Yes	EYE PROTECTION	Yes

OTHER PROTECTIVE EQUIPMENT

SECTION IX SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Do not store near innately hazardous materials. Do not store near sources of ignition.

OTHER PRECAUTIONS
Store below 100°F to maintain active oxygen content and above 50°F to prevent freezing. (Freezing does not damage the product.)

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MATERIAL SAFETY DATA SHEET

MANUFACTURED BY:
GENERAL ELECTRIC COMPANY
INSULATING MATERIALS
1 CAMPBELL ROAD
SCHENECTADY, NEW YORK 12345

EMERGENCY TELEPHONE:
DAILY 8AM-5PM (518) 385-0172
24HRS (518) 385-2141
REVISED: 10/21/85
PREPARER:A.L.DRAKE

***** I PRODUCT IDENTIFICATION *****

PRODUCT IDENTIFICATION 702C
CHEMICAL NAME: 702C FLEXIBLE VARNISH
CHEMICAL FAMILY:UNSATURATED POLYESTER
FORMULA: MIXTURE

***** II PRODUCT COMPONENTS *****

PRODUCT COMPOSITION	APPROX. %	ACGIH TLV	OSHA PEL	UNITS	CAS REG NO.
A. HAZARDOUS					
VINYL TOLUENE	< 30%	50	100	PPM	25013-15-4*
MELAMINE FORMALDEHYDE RESIN	< 10%	NF	NF	NA	68891-01-0*
XYLENE	< 05%	100	100	PPM	1330-20-7*
DICUMYL PEROXIDE	< 05%	NF	NF	NA	80-43-3*
B. NON-HAZARDOUS					
**PRODUCT INFORMATION	NA	NA	NA	NA	NA

***** III PHYSICAL DATA ******

PRODUCT INFORMATION
BOILING POINT NF (F) NF (C)
PHYSICAL STATE LIQUID
VAPOR PRESSURE (20 C) NF MM HG
ODOR HYDROCARBON
VAPOR DENSITY (AIR=1) NF
COLOR AMBER
SOLUBILITY IN WATER (20 C) NEGLIGIBLE PH NF
SOLUBILITY IN ORGANIC SOLVENT ACIDITY/ALKALINITY NF MEG/G
(STATE SOLVENT)NF
FREEZING POINT NA (F) NA (C) DENSITY NF KG/M3
MELTING POINT NA (F) NA (C) SPECIFIC GRAVITY(WATER=1) 1.06
% VOLATILE BY VOLUME NEGLIG EVAPORATION RATE (BUTYL ACETATE=1) <1

VINYL TOLUENE
BOILING POINT 334 (F) 168 (C)
VAPOR PRESSURE (20 C) 1.1 MM HG
VAPOR DENSITY (AIR=1) 4.08

MELAMINE FORMALDEHYDE RESIN
BOILING POINT NF (F) NF (C)
VAPOR PRESSURE (20 C) NF MM HG
VAPOR DENSITY (AIR=1) NF

XYLENE
BOILING POINT 280 (F) 138 (C)
VAPOR PRESSURE (20 C) 18 MM HG

POR DENSITY (AIR=1) 3.7

CUMYL PEROXIDE
ILING POINT NF (F) NF (C)
POR PRESSURE (20 C) NF MM HG
POR DENSITY (AIR=1) NF

***** IV FIRE AND EXPLOSION DATA *****

ASH POINT 115 (F) 46 (C) BY PMCC IGNITION TEMP NF (F)NF (C)
LAMMABLE LIMITS IN AIR(%): LOWER 1@5C UPPER 5@84C
XTINGUISHING MEDIA:
CARBON DIOXIDE
DRY CHEMICAL
FOAM
WATER MIST
SPECIAL FIREFIGHTING PROCEDURES:
VAPORS MAY FORM EXPLOSIVE MIXTURE WITH AIR.
COMBUSTIBLE.
WEAR RESPIRATORY PROTECTION IF IN A CONFINED AREA.
POSITIVE PRESSURE, SELF-CONTAINED BREATHING APPARATUS
POLYMERIZATION MAY TAKE PLACE DURING A FIRE DUE TO ELEVATED
TEMPERATURE WHERE CLOSED CONTAINERS COULD VIOLENTLY RUPTURE.
EVACUATE AREA AND FIGHT FIRE FROM A SAFE DISTANCE.
TOXIC VAPORS ARE EMITTED IN A FIRE CONDITION.
CONTAINERS CAN BUILD UP PRESSURE IF EXPOSED TO HEAT (FIRE).

***** V REACTIVITY DATA *****

TABILITY:
X STABLE UNSTABLE
HAZARDOUS:
POLYMERIZATION MAY OCCUR
AZARDOUS DECOMPOSITION PRODUCTS:
CARBON MONOXIDE.
CARBON DIOXIDE.
PHENOL.
OXIDES OF NITROGEN.
ALCOHOLS.
PHOSPHORUS ACIDS.
INCOMPATIBILITY (MATERIALS TO AVOID):
AVOID CONTACT WITH ACIDIC,BASIC OR OXIDIZING AGENTS.
METAL SALTS SUCH AS ALUMINUM CHLORIDE.
CONDITIONS TO AVOID:
KEEP AWAY FROM HEAT,SPARKS AND OPEN FLAME.
AVOID ANY SOURCE OF IGNITION.

***** VI HEALTH HAZARD DATA *****

ACUTE SIGNS/EFFECTS OF OVEREXPOSURE:
INGESTION:
HARMFUL IF SWALLOWED.
CAUSES VOMITING,NAUSEA,AND DIARRHEA
MAY CAUSE GASTRIC DISTRESS.
MAY CAUSE PULMONARY EDEMA.
SKIN CONTACT:
CAUSES MODERATE SKIN IRRITATION.

LATION:
EXCESSIVE INHALATION CAUSES HEADACHE,DIZZINESS,NAUSEA AND INCOORDINATION.

EYE CONTACT:
CAUSES MILD EYE IRRITATION

MEDICAL CONDITIONS AGGRAVATED:
NONE KNOWN.

OTHER:
NONE KNOWN.

CHRONIC EFFECTS OF OVEREXPOSURE:
CORNEAL DAMAGE.
PULMONARY EDEMA.
THIS PRODUCT CONTAINS A COMPONENT THAT IS A SUSPECTED MUTAGEN.
THIS PRODUCT CONTAINS A COMPONENT THAT IS A SUSPECTED TERATOGEN.
EVIDENCE OF FETOTOXICITY POTENTIAL HAS BEEN REPORTED FOR VINYL TOLUENE IN A RECENT INTRAPERITONEAL STUDY

EMERGENCY AND FIRST AID PROCEDURES:

INGESTION:
IF SWALLOWED DO NOT INDUCE VOMITING, GIVE LARGE QUANTITIES OF WATER TO DRINK AND GET MEDICAL ATTENTION, NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

SKIN:
REMOVE CONTAMINATED CLOTHING AND LAUNDER BEFORE REUSE.
WASH WITH SOAP AND WATER.
GET MEDICAL ATTENTION IF IRRITATION PERSISTS.

INHALATION:
IF INHALED, REMOVE TO FRESH AIR, IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION, PREFERABLY MOUTH-TO MOUTH. IF BREATHING IS DIFFICULT GIVE OXYGEN. GET MEDICAL ATTENTION.

EYES:
IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES AND GET MEDICAL ATTENTION IF IRRITATION PERSISTS.

NOTE TO PHYSICIAN:
ASPIRATION MAY CAUSE SEVERE LUNG DAMAGE. EVACUATE STOMACH IN A WAY WHICH AVOIDS ASPIRATION.

TOXICITY:	VINYL TOLUENE	
ACUTE ORAL LD50	4000(RAT)	MG/KG
ACUTE DERMAL LD50	NF	MG/KG
ACUTE INHALATION LC50	3020MG/M3(MUS)	

OTHER
EYE AND SKIN IRRITANT.

AMES TEST:	UNKNOWN	
TOXICITY:	MELAMINE FORMALDEHYDE RESIN	
ACUTE ORAL LD50	>1000(RAT)	MG/KG
ACUTE DERMAL LD50	>5000(RBT)	MG/KG
ACUTE INHALATION LC50	NF	

OTHER
EYE AND SKIN IRRITANT.
S TEST: UNKNOWN

JXICITY: XYLENE
ACUTE ORAL LD50 4300(RAT) MG/KG
ACUTE DERMAL LD50 >3950(RBT) MG/KG
ACUTE INHALATION LC50 5000PPM/4H(RAT)
OTHER
EYE AND SKIN IRRITANT.
AMES TEST: UNKNOWN
TOXICITY: DICUMYL PEROXIDE
ACUTE ORAL LD50 4100(RAT) MG/KG
ACUTE DERMAL LD50 NF MG/KG
ACUTE INHALATION LC50 NF
OTHER
NONE.
AMES TEST: UNKNOWN
PRINCIPAL ROUTES OF EXPOSURE:
ORAL.
DERMAL - SKIN.
EYES.
INHALATION.
PRODUCTS/INGREDIENTS:
NONE KNOWN.

***** VII SPECIAL PROTECTIVE EQUIPMENT *****

RESPIRATORY PROTECTION:
USE IN A WELL VENTILATED AREA.
USE APPROVED NIOSH RESPIRATORY PROTECTION IF TLV EXCEEDED.
OTECTIVE GLOVES:
NEOPRENE.
EYE AND FACE PROTECTION:
SAFETY GLASSES.
OTHER PROTECTIVE EQUIPMENT:
RUBBER APRON.
VENTILATION:
USE ONLY IN WELL VENTILATED AREA.
MECHANICAL VENTILATION.

*** VIII SPILL, LEAK AND DISPOSAL PROCEDURES ***

ACTION TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:
WIPE, SCRAPE OR SOAK UP IN AN INERT MATERIAL AND PUT IN A CONTAINER FOR DISPOSAL.
WEAR PROPER PROTECTIVE EQUIPMENT AS SPECIFIED IN THE PROTECTIVE EQUIPMENT SECTION.
REMOVE SOURCES OF IGNITION.
WARN OTHER WORKERS OF SPILL.
INCREASE AREA VENTILATION.
DISPOSAL METHOD:
DISPOSAL SHOULD BE MADE IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.
INCINERATION RECOMMENDED.

***** IX SPECIAL PRECAUTIONS *****

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:
USE GROUND STRAP.

STORE UPRIGHT IN A COOL PLACE BELOW 30'C (85'F).
KEEP CONTAINER CLOSED WHEN NOT IN USE.
AVOID BREATHING VAPORS, IF EXPOSED TO HIGH VAPOR CONCENTRATION, LEAVE AREA AT ONCE.
AVOID CONTACT WITH SKIN AND EYES.
USE ONLY IN A WELL VENTILATED AREA.
CAUTION! COMBUSTIBLE.
KEEP CONTAINER CLOSED WHEN NOT IN USE TO PREVENT CONTACT WITH ACIDIC, BASIC OR OXIDIZING MATERIALS.
DURING CURE, VAPORS ARE GIVEN OFF WHICH MAY BE HARMFUL.
CURE ONLY WHERE APPROPRIATE VENTILATION SYSTEMS EXIST.
KEEP AWAY FROM FOOD AND SMOKING MATERIALS.
WASH HANDS BEFORE EATING AND SMOKING.

ENGINEERING CONTROLS:
EXHAUST VENTILATION
EYEWASH STATIONS.
USE IN A WELL VENTILATED AREA.

** X SHIPPING AND REGULATORY CLASSIFICATION DATA **

DOT SHIPPING NAME: RESIN SOLUTION UN/NA NUMBER: UN2868
DOT HAZARD CLASS: COMBUSITBLE LIQUID
DOT LABEL(S): COMBUSTIBLE OVER 110 GALS
EPA HAZARD WASTE: D001
OSHA HAZARD CLASS: IRRITATION
CPSC CLASSIFICATION: --
TRANSPORTATION CLASS: IMO 3.3 PG 3153
RID (OCTI) --
ADR (ECE) --
RAR (IATA) 3,III
NFPA/HMIS CLASSIFICATION: FLAMMABILITY 2 , REACTIVITY 1 , HEALTH 2
ADDITIONAL INFORMATION:
THESE DATA ARE OFFERED IN GOOD FAITH AS TYPICAL VALUES AND NOT AS A PRODUCT SPECIFICATION. NO WARRANTY, EITHER EXPRESSED OR IMPLIED, IS MADE. THE RECOMMENDED HANDLING PROCEDURES ARE BELIEVED TO BE GENERALLY APPLICABLE. HOWEVER, EACH USER SHOULD REVIEW THESE RECOMMENDATIONS IN THE SPECIFIC CONTENT OF THE INTENDED USE.

MATERIAL SAFETY DATA SHEET
'Essentially Similar' to Form OSHA 20

SECTION I

GENERAL ELECTRIC COMPANY, INSULATING MATERIALS
1 Campbell Road, Schenectady, New York 12345
For information on Health Hazards: (518) 385-0172
Technical Information Phone: (518) 385-3357 or Off Hours: (518) 385-2211

EFFECTIVE DATE: October 26, 1983
PRODUCT NAME: 704 Catalyzed Unsaturated Polyester Varnish
FORMULA:

SECTION II HAZARDOUS INGREDIENTS OF MIXTURES

PRINCIPAL HAZARDOUS COMPONENT(S)	%(WT.)	TLV(units)
Vinyl Toluene	30	50 ppm
Quinone	Less than 5	0.1 ppm
Hydroquinone	Less than 5	2mg/cu.m
Cobalt	Less than 5	0.1mg/cu.m

SECTION III PHYSICAL DATA

INITIAL BOILING PT: Unknown
VAPOR PRESSURE: 1.1
VAPOR DENSITY: 4.0
(Air = 1)
SPECIFIC GRAVITY: Unknown
VOLATILE BY WEIGHT: NA
EVAPORATION RATE: Less than 1
(Ether = 1)
SOLUBILITY IN WATER: Negligible
APPEARANCE AND ODOR: Straw color viscous liquid/Styrene-like odor.

SECTION IV FIRE AND EXPLOSION HAZARD DATA

FLASH POINT[P-M,cc]: 110 F
FLAMMABLE LIMITS (most volatile component)
LEL: 0.8 UEL: 11
EXTINGUISHING MEDIA- Water, spray or fog, dry chemical, carbon dioxide, foam.
SPECIAL FIRE FIGHTING PROCEDURES- Self-contained breathing apparatus with positive pressure mode. Avoid spreading liquid and fire by water flooding.
UNUSUAL FIRE AND EXPLOSION PROCEDURES- Dense smoke and hazardous polymerization.

SECTION V HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE- (see SECTION II)
EFFECTS OF OVEREXPOSURE- Eye and nose irritation, dizziness, headache, possible nausea.
EMERGENCY AND FIRST AID PROCEDURES- Remove to fresh air. Eyes: flush with clean water for 15 mins. Skin: wash with mild soap and water for 15 mins. If irritation persists, seek medical attention.

SECTION VI REACTIVITY DATA

STABILITY- Stable under normal storage conditions.
INCOMPATIBILITY (materials to avoid)- Strong oxidizers.
HAZARDOUS DECOMPOSITION PRODUCTS- Aldehydes, carbon monoxide.
HAZARDOUS POLYMERIZATION- May occur if stored over 100 F for extended periods.
CONDITIONS TO AVOID- Heat and strong oxidizers

SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN WHEN MATERIAL IS RELEASED OR SPILLED-

Liquid Spill Procedure: Paints and Varnishes; Remove all sources of ignition, ventilate area well or wear self contained breathing apparatus. Cover spill area with inert material (fullers earth, vermi- culite, etc;) sweep, shovel or scoop up into disposal containers. Remove and wash all contaminated clothing before reuse.
WASTE DISPOSAL- COMPLY WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS

SECTION VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION- None required under normal operations. In case of a spill in a confined area wear a NIOSH approved organic vapor dual cartridge respirator or air supplied respirator.
VENTILATION-

LOCAL EXHAUST- Recommended	SPECIAL- Curing oven must have local exhaust ventilation.
MECHANICAL- Required	OTHER-

PROTECTIVE GLOVES- Polyvinyl Alcohol Type.
EYE PROTECTION- Safety glasses.
OTHER PROTECTIVE EQUIPMENT-

SECTION IX SPECIAL PRECAUTIONS

HANDLING AND STORAGE PRECAUTIONS- Store in cool area below 90 F and away from sources of heat and flame in original sealed container.
OTHER PRECAUTIONS-

The information contained herein is based on data which General Electric considers to be accurate; provided, however, that the company makes no warranty as to the accuracy of the data. Anyone intending to use the information contained herein shall assume sole and complete responsibility for the results of said use including loss or damage resulting from the handling of the material.

cc: AL Drake
CM King
JJ Keane

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704A

MANUFACTURED BY:
GENERAL ELECTRIC COMPANY
INSULATING MATERIALS
1 CAMPBELL ROAD
SCHENECTADY, NEW YORK 12345

EMERGENCY TELEPHONE:
DAILY 8AM-5PM (518) 385-0172
24HRS (518) 385-2141
REVISED: 3/04/86
PREPARER:A.L.DRAKE

***** I PRODUCT IDENTIFICATION *****

PRODUCT IDENTIFICATION: 704A CHEMICAL FAMILY:UNSATURATED POLYESTER
CHEMICAL NAME: UNSATURATED POLYESTER RESIN FORMULA: MIXTURE

***** II PRODUCT COMPONENTS *****

PRODUCT COMPOSITION	APPROX. %	ACGIH TLV	OSHA PEL	UNITS	CAS REG NO.
A. HAZARDOUS					
VINYL TOLUENE	< 30%	50	100	PPM	25013-15-4*
B. NON-HAZARDOUS					

***** III PHYSICAL DATA ******

**PRODUCT INFORMATION

BOILING POINT	: NA (F) NA (C)	% VOLATILE BY VOLUME	:NA
VAPOR PRESSURE(20 C)	: NA MM HG	EVAPORATION RATE (BUTYL ACETATE=1	:<1
VAPOR DENSITY(AIR=1)	: NA		
FREEZING POINT	: NA (F) NA (C)	SPECIFIC GRAVITY (WATER=1)	:1.07
MELTING POINT	: NA (F) NA (C)		
PHYSICAL STATE	: LIQUID	DENSITY	:NF KG/M3
ODOR	: HYDROCARBON	ACIDITY/ALKALINITY	:NA MEG/G
COLOR	: AMBER	PH	:NA

SOLUBILITY IN WATER(20 C):NEGLIGIBLE
SOLUBILITY IN ORGANIC SOLVENT:NA
(STATE SOLVENT)

VINYL TOLUENE
BOILING POINT: 334 (F) 168 (C)
VAPOR PRESSURE: (20 C) 1.1 MM HG
VAPOR DENSITY: (AIR=1) 4.08

***** IV FIRE AND EXPLOSION DATA *****

FLASH POINT: 110 (F) 43 (C) BY PM,CC IGNITION TEMP:NF (F)NF (C)
FLAMMABLE LIMITS IN AIR(%): LOWER 1.1 UPPER 5.2
EXTINGUISHING MEDIA:

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ALCOHOL FOAM
CARBON DIOXIDE
DRY CHEMICAL
FOAM
WATER MIST

SPECIAL FIREFIGHTING PROCEDURES:
VAPORS MAY FORM EXPLOSIVE MIXTURE WITH AIR.
COMBUSTIBLE.
WEAR RESPIRATORY PROTECTION IF IN A CONFINED AREA.
POSITIVE PRESSURE, SELF-CONTAINED BREATHING APPARATUS
POLYMERIZATION MAY TAKE PLACE DURING A FIRE DUE TO ELEVATED
TEMPERATURE WHERE CLOSED CONTAINERS COULD VIOLENTLY RUPTURE.
EVACUATE AREA AND FIGHT FIRE FROM A SAFE DISTANCE.

***** V REACTIVITY DATA *****

STABILITY:
X STABLE UNSTABLE

HAZARDOUS:
POLYMERIZATION MAY OCCUR

HAZARDOUS DECOMPOSITION PRODUCTS:
CARBON MONOXIDE.
CARBON DIOXIDE.
PHENOL.
ALCOHOLS.
PHOSPHORUS ACIDS.

INCOMPATIBILITY (MATERIALS TO AVOID):
AVOID CONTACT WITH ACIDIC,BASIC OR OXIDIZING AGENTS.
METAL SALTS SUCH AS ALUMINUM CHLORIDE.

CONDITIONS TO AVOID:
KEEP AWAY FROM HEAT,SPARKS AND OPEN FLAME.
AVOID ANY SOURCE OF IGNITION.

***** VI HEALTH HAZARD DATA *****

ACUTE SIGNS/EFFECTS OF EXPOSURE:
INGESTION:
HARMFUL IF SWALLOWED.
CAUSES VOMITING,NAUSEA,AND DIARRHEA
MAY CAUSE STOMACH DISCOMFORT.
MAY CAUSE PULMONARY EDEMA.

SKIN CONTACT:
CAUSES MODERATE SKIN IRRITATION.

INHALATION:
EXCESSIVE INHALATION CAUSES HEADACHE,DIZZINESS,NAUSEA AND
INCOORDINATION.

EYE CONTACT:
CAUSES MILD EYE IRRITATION

MEDICAL CONDITIONS AGGRAVATED:
NONE KNOWN.

OTHER:

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NONE KNOWN.

CHRONIC EFFECTS OF EXPOSURE:
CORNEAL DAMAGE.
PULMONARY EDEMA.
THIS PRODUCT CONTAINS A COMPONENT THAT IS A SUSPECTED MUTAGEN.
THIS PRODUCT CONTAINS A COMPONENT THAT IS A SUSPECTED TERATOGEN.
EVIDENCE OF FETOTOXICITY POTENTIAL HAS BEEN REPORTED FOR VINYL TOLUENE IN A RECENT INTRAPERITONEAL STUDY

EMERGENCY AND FIRST AID PROCEDURES:
INGESTION:
IF SWALLOWED DO NOT INDUCE VOMITING, GIVE LARGE QUANTITIES OF WATER TO DRINK AND GET MEDICAL ATTENTION, NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

SKIN:
REMOVE CONTAMINATED CLOTHING AND LAUNDER BEFORE REUSE.
WASH WITH SOAP AND WATER.
GET MEDICAL ATTENTION IF IRRITATION PERSISTS.

INHALATION:
IF INHALED, REMOVE TO FRESH AIR, IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION, PREFERABLY MOUTH-TO MOUTH. IF BREATHING IS DIFFICULT GIVE OXYGEN. GET MEDICAL ATTENTION.

EYES:
IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES AND GET MEDICAL ATTENTION IF IRRITATION PERSISTS.

NOTE TO PHYSICIAN:
ASPIRATION MAY CAUSE SEVERE LUNG DAMAGE. EVACUATE STOMACH IN A WAY WHICH AVOIDS ASPIRATION.

TOXICITY: VINYL TOLUENE
ACUTE ORAL LD50: 4000 (RAT) MG/KG
ACUTE DERMAL LD50: NF MG/KG
ACUTE INHALATION LC50: 3020 (MUS)MG/M3
OTHER: EYE AND SKIN IRRITANT.
AMES TEST: UNKNOWN
PRINCIPAL ROUTES OF EXPOSURE:
ORAL.
DERMAL - SKIN.
EYES.
INHALATION.
THIS PRODUCT OR ONE OF ITS INGREDIENTS PRESENT 0.1% OR MORE IS NOT LISTED AS A CARCINOGEN OR SUSPECTED CARCINOGEN BY NTP, IARC, OR OSHA.
PRODUCTS/INGREDIENTS:
THIS SPACE RESERVED FOR SPECIAL USE.

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***** VII SPECIAL PROTECTIVE EQUIPMENT *****

RESPIRATORY PROTECTION:
USE IN A WELL VENTILATED AREA.
USE APPROVED NIOSH RESPIRATORY PROTECTION IF TLV EXCEEDED.....
OR OVER EXPOSURE IS LIKELY.

PROTECTIVE GLOVES:
NEOPRENE.

EYE AND FACE PROTECTION:
SAFETY GLASSES.

OTHER PROTECTIVE EQUIPMENT:
RUBBER APRON.

VENTILATION:
USE ONLY IN WELL VENTILATED AREA.
MECHANICAL VENTILATION.

*** VIII SPILL, LEAK AND DISPOSAL PROCEDURES ***

ACTION TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:
WIPE, SCRAPE OR SOAK UP IN AN INERT MATERIAL AND PUT IN A CONTAINER FOR DISPOSAL.
WEAR PROPER PROTECTIVE EQUIPMENT AS SPECIFIED IN THE PROTECTIVE EQUIPMENT SECTION.
REMOVE SOURCES OF IGNITION.
WARN OTHER WORKERS OF SPILL.
INCREASE AREA VENTILATION.

DISPOSAL METHOD:
DISPOSAL SHOULD BE MADE IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.
INCINERATION RECOMMENDED IN APPROVED INCINERATOR ACCORDING TO FEDERAL, STATE, AND LOCAL REGULATIONS.

***** IX SPECIAL PRECAUTIONS *****

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:
USE GROUND STRAP.
STORE UPRIGHT IN A COOL PLACE BELOW 30°C (85°F).
KEEP CONTAINER CLOSED WHEN NOT IN USE.
AVOID BREATHING VAPORS, IF EXPOSED TO HIGH VAPOR CONCENTRATION, LEAVE AREA AT ONCE.
AVOID CONTACT WITH SKIN AND EYES.
USE ONLY IN A WELL VENTILATED AREA.
CAUTION! COMBUSTIBLE.
KEEP CONTAINER CLOSED WHEN NOT IN USE TO PREVENT CONTACT WITH ACIDIC, BASIC OR OXIDIZING MATERIALS.
DURING CURE, VAPORS ARE GIVEN OFF WHICH MAY BE HARMFUL.
CURE ONLY WHERE APPROPRIATE VENTILATION SYSTEMS EXIST.
KEEP AWAY FROM FOOD AND SMOKING MATERIALS.
WASH HANDS BEFORE EATING AND SMOKING.

ENGINEERING CONTROLS:

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EXHAUST VENTILATION
EYEWASH STATIONS.
USE IN A WELL VENTILATED AREA.

** X SHIPPING AND REGULATORY CLASSIFICATION DATA **

DOT SHIPPING NAME: COMBUST.LIQ.NOS,CONT.RESIN SOL
DOT HAZARD CLASS: COMBUSTIBLE LIQUID
DOT LABEL(S): COMBUSTIBLE OVER 110 GAL.
UN/NA NUMBER: NA1993
PLACARDS: NA
EXPORT: NA
EPA HAZARD WASTE: D001
OSHA HAZARD CLASS: IRRITATION
CPSC CLASSIFICATION: --
TRANSPORTATION CLASS: IMO 3.3 PG 3153
RID (OCTI) --
ADR (ECE) --
RAR (IATA) 3,III
NFPA/HMIS CLASSIFICATION: FLAMMABILITY 2 , REACTIVITY 1 , HEALTH 2
ADDITIONAL INFORMATION:

THIS PRODUCT OR ITS COMPONENTS ARE ON THE EUROPEAN INVENTORY OF EXISTING COMMERCIAL CHEMICALS (EINECS).....
.....

THESE DATA ARE OFFERED IN GOOD FAITH AS TYPICAL VALUES AND NOT AS A PRODUCT SPECIFICATION. NO WARRANTY, EITHER EXPRESSED OR IMPLIED, IS MADE. THE RECOMMENDED HANDLING PROCEDURES ARE BELIEVED TO BE GENERALLY APPLICABLE. HOWEVER, EACH USER SHOULD REVIEW THESE RECOMMENDATIONS IN THE SPECIFIC CONTENT OF THE INTENDED USE.....
.....

C =	CEILING LIMIT	NEGL =	NEGLIGIBLE
EST=	ESTIMATED	NF =	NONE FOUND
NA =	NOT APPLICABLE	UNKN =	UNKNOWN
NE =	NONE ESTABLISHED	REC =	RECOMMENDED
ND =	NONE DETERMINED	V =	RECOMM. BY VENDOR
TS =	TRADE SECRET	SKN =	SKIN
R =	RECOMMENDED		

.....

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MANUFACTURED BY:
GENERAL ELECTRIC COMPANY
INSULATING MATERIALS
1 CAMPBELL ROAD
SCHENECTADY, NEW YORK 12345

EMERGENCY TELEPHONE:
DAILY 8AM-5PM (518) 385-0172
24HRS (518) 385-2141
REVISED: 9/02/86
PREPARER:A.L.DRAKE

***** I PRODUCT IDENTIFICATION *****

PRODUCT IDENTIFICATION: 704B
CHEMICAL NAME: ORGANIC PEROXIDE
CHEMICAL FAMILY:ORGANIC PEROXIDE
FORMULA: MIXTURE

***** II PRODUCT COMPONENTS *****

PRODUCT COMPOSITION	%	APPROX. TLV	ACGIH PEL	OSHA UNITS	CAS REG NO.
A. HAZARDOUS					
T-BUTYL PERBENZOATE	< 30%	NF	NF	NA	614-45-9*
DIMETHYL PHTHALATE	< 40%	5.0	5.0	MG/M3	131-11-3*
TRIMETHYLPENTANEDIOLDIISOBUTYRATE	< 5%	NF	NF	NA	6846-50-0*
THYL ETHYL KETONE PEROXIDE	< 40%	0.2(C)	NF	PPM	1338-23-4*
NON-HAZARDOUS					

***** III PHYSICAL DATA ******

**PRODUCT INFORMATION

BOILING POINT	: NA (F) NA (C)	% VOLATILE BY VOLUME	:NEGLIG
VAPOR PRESSURE(20 C)	: NA MM HG	EVAPORATION RATE (BUTYL ACETATE=1	:>1
VAPOR DENSITY(AIR=1)	: NA		
FREEZING POINT	: NA (F) NA (C)	SPECIFIC GRAVITY (WATER=1)	:1.09
MELTING POINT	: NA (F) NA (C)		
PHYSICAL STATE	: LIQUID	DENSITY	:NF KG/M3
ODOR	: SLIGHTLY PUNGENT	ACIDITY/ALKALINITY	:NA MEG/G
COLOR	: SLIGHT YELLOW	PH	:NA

SOLUBILITY IN WATER(20 C):SLIGHT
SOLUBILITY IN ORGANIC SOLVENT:NF
(STATE SOLVENT)

T-BUTYL PERBENZOATE
BOILING POINT: 234DE(F) 112DE(C)
VAPOR PRESSURE: (20 C) <0.33MM HG
VAPOR DENSITY: (AIR=1) NF

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DIMETHYL PHTHALATE
BOILING POINT: 543 (F) 284 (C)
VAPOR PRESSURE: (20 C) <0.1 MM HG
VAPOR DENSITY: (AIR=1) 6.7

TRIMETHYLPENTANEDIOLDIISOBUTYRATE
BOILING POINT: NF (F) NF (C)
VAPOR PRESSURE: (20 C) NF MM HG
VAPOR DENSITY: (AIR=1) NF

METHYL ETHYL KETONE PEROXIDE
BOILING POINT: 155DE(F) 68DE (C)
VAPOR PRESSURE: (20 C) NF MM HG
VAPOR DENSITY: (AIR=1) NF

***** IV FIRE AND EXPLOSION DATA *****

FLASH POINT: 122 (F) 50 (C) BY PMCC IGNITION TEMP:NF (F)NF (C)
FLAMMABLE LIMITS IN AIR(%): LOWER 0.9 UPPER NF
EXTINGUISHING MEDIA:
WATER MIST
SPECIAL FIREFIGHTING PROCEDURES:
COOL EXPOSED CONTAINERS WITH WATER SPRAY AFTER EXTINGUSHING FIRE
POSITIVE PRESSURE, SELF-CONTAINED BREATHING APPARATUS
EVACUATE AREA AND FIGHT FIRE FROM A SAFE DISTANCE.
ORGANIC PEROXIDE
CONTAINERS CAN BUILD UP PRESSURE IF EXPOSED TO HEAT (FIRE).

***** V REACTIVITY DATA *****

STABILITY:
X STABLE UNSTABLE
HAZARDOUS:
POLYMERIZATION WILL NOT OCCUR
HAZARDOUS DECOMPOSITION PRODUCTS:
CARBON MONOXIDE.
CARBON DIOXIDE.
TOXIC FUMES.
INCOMPATIBILITY (MATERIALS TO AVOID):
AVOID CONTACT WITH ACIDIC,BASIC OR OXIDIZING AGENTS.
METAL SALTS SUCH AS ALUMINUM CHLORIDE.
CONDITIONS TO AVOID:
KEEP AWAY FROM HEAT,SPARKS AND OPEN FLAME.

***** VI HEALTH HAZARD DATA *****

ACUTE SIGNS/EFFECTS OF EXPOSURE:
INGESTION:
MAY BE FATAL IF SWALLOWED.
MAY CAUSE SEVERE DAMAGE OF GASTROINTESTINAL TRACT.
SKIN CONTACT:
MAY CAUSE SEVERE SKIN IRRITATION.

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INHALATION:
CAUSES IRRITATION OF THE MOUTH,NOSE,AND THROAT.
HARMFUL IF INHALED.
EYE CONTACT:
EYE CONTACT MAY CAUSE BLINDNESS.
CAUSES SEVERE EYE BURNS.
MEDICAL CONDITIONS AGGRAVATED:
RESPIRATORY
LIVER, KIDNEY
OTHER:
NONE KNOWN.
CHRONIC EFFECTS OF EXPOSURE:
DERMATITIS.
RESPIRATORY AILMENTS.
LIVER AND KIDNEY DAMAGE.
THIS PRODUCT CONTAINS A COMPONENT THAT IS A SUSPECTED MUTAGEN.
THIS PRODUCT CONTAINS A COMPONENT THAT IS A SUSPECTED TERATOGEN.
EYE DAMAGE.

EMERGENCY AND FIRST AID PROCEDURES:
INGESTION:
IF SWALLOWED DO NOT INDUCE VOMITING, GIVE LARGE QUANTITIES OF WATER TO DRINK AND GET MEDICAL ATTENTION, NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.
SKIN:
IN CASE OF CONTACT, IMMEDIATELY FLUSH SKIN WITH PLENTY OF SOAP AND WATER FOR AT LEAST 15 MINUTES. GET MEDICAL ATTENTION. REMOVE CONTAMINATED CLOTHING AND LAUNDER BEFORE REUSE.
INHALATION:
IF INHALED, REMOVE TO FRESH AIR, IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION, PREFERABLY MOUTH-TO MOUTH. IF BREATHING IS DIFFICULT GIVE OXYGEN. GET MEDICAL ATTENTION.
EYES:
IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES AND GET MEDICAL ATTENTION.
NOTE TO PHYSICIAN:
ASPIRATION MAY CAUSE SEVERE LUNG DAMAGE. EVACUATE STOMACH IN A WAY WHICH AVOIDS ASPIRATION.

TOXICITY: T-BUTYL PERBENZOATE
ACUTE ORAL LD50: >3600(RAT) MG/KG
ACUTE DERMAL LD50: NF MG/KG
ACUTE INHALATION LC50: NF
OTHER: EYE AND SKIN IRRITANT.
AMES TEST: UNKNOWN

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TOXICITY: DIMETHYL PHTHALATE
ACUTE ORAL LD50: 6900(RAT) MG/KG
ACUTE DERMAL LD50: NF MG/KG
ACUTE INHALATION LC50: 5.49MG/M3(RAT)
OTHER: EYE AND SKIN IRRITANT.
AMES TEST: UNKNOWN

TOXICITY: TRIMETHYLPENTANEDIOLDIISOBUTYRATE
ACUTE ORAL LD50: NF MG/KG
ACUTE DERMAL LD50: NF MG/KG
ACUTE INHALATION LC50: NF
OTHER: EYE AND SKIN IRRITANT.
AMES TEST: UNKNOWN

TOXICITY: METHYL ETHYL KETONE PEROXIDE
ACUTE ORAL LD50: 484(RAT) MG/KG
ACUTE DERMAL LD50: NF MG/KG
ACUTE INHALATION LC50: 200PPM/4H(RAT)
OTHER: EYE AND SKIN IRRITANT.
AMES TEST: UNKNOWN
PRINCIPAL ROUTES OF EXPOSURE:
ORAL.
DERMAL - SKIN.
EYES.
INHALATION.
THIS PRODUCT OR ONE OF ITS INGREDIENTS PRESENT 0.1% OR MORE IS NOT LISTED AS A CARCINOGEN OR SUSPECTED CARCINOGEN BY NTP, IARC, OR OSHA.
PRODUCTS/INGREDIENTS:
THIS SPACE RESERVED FOR SPECIAL USE.

***** VII SPECIAL PROTECTIVE EQUIPMENT *****

RESPIRATORY PROTECTION:
USE IN A WELL VENTILATED AREA.
USE APPROVED NIOSH RESPIRATORY PROTECTION IF TLV EXCEEDED.....
OR OVER EXPOSURE IS LIKELY.
PROTECTIVE GLOVES:
NBR NITRILE.
EYE AND FACE PROTECTION:
MONOGOGGLES.
FACE SHIELD.
OTHER PROTECTIVE EQUIPMENT:
RUBBER RAINCOAT.
RUBBER OVERCOAT.
WEAR EYE PROTECTION AND PROTECTIVE CLOTHING.
VENTILATION:
USE ONLY IN WELL VENTILATED AREA.

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MECHANICAL VENTILATION.

*** VIII SPILL, LEAK AND DISPOSAL PROCEDURES ***

ACTION TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:
WIPE, SCRAPE OR SOAK UP IN AN INERT MATERIAL AND PUT IN A CONTAINER FOR DISPOSAL.
WEAR PROPER PROTECTIVE EQUIPMENT AS SPECIFIED IN THE PROTECTIVE EQUIPMENT SECTION.
REMOVE SOURCES OF IGNITION.
WARN OTHER WORKERS OF SPILL.
INCREASE AREA VENTILATION.

DISPOSAL METHOD:
DISPOSAL SHOULD BE MADE IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.

***** IX SPECIAL PRECAUTIONS *****

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:
STORE UPRIGHT IN A COOL PLACE BELOW 30°C (85°F).
AVOID BREATHING VAPORS, IF EXPOSED TO HIGH VAPOR CONCENTRATION, LEAVE AREA AT ONCE.
AVOID CONTACT WITH SKIN AND EYES.
USE ONLY IN A WELL VENTILATED AREA.
ORGANIC PEROXIDE
KEEP CONTAINER CLOSED WHEN NOT IN USE TO PREVENT CONTACT WITH ACIDIC, BASIC OR OXIDIZING MATERIALS.
DURING CURE, VAPORS ARE GIVEN OFF WHICH MAY BE HARMFUL.
CURE ONLY WHERE APPROPRIATE VENTILATION SYSTEMS EXIST.
KEEP AWAY FROM FOOD AND SMOKING MATERIALS.
WASH HANDS BEFORE EATING AND SMOKING.
UNCURED PRODUCT CONTACT IRRITATES EYES.

ENGINEERING CONTROLS:
EXHAUST VENTILATION
SHOWERS.
EYEWASH STATIONS.
USE IN A WELL VENTILATED AREA.

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** X SHIPPING AND REGULATORY CLASSIFICATION DATA **

DOT SHIPPING NAME: ORGANIC PEROXIDE LIQUID,NOS
DOT HAZARD CLASS: ORGANIC PEROXIDE
DOT LABEL(S): ORGANIC PEROXIDE
UN/NA NUMBER: UN2550
PLACARDS: NA
EXPORT: NA
EPA HAZARD WASTE: --
OSHA HAZARD CLASS: TOXIC
CPSC CLASSIFICATION: --
TRANSPORTATION CLASS: IMO 5.2PG5186
RID (OCTI) --
ADR (ECE) --
RAR (IATA) 5.2,II
NFPA/HMIS CLASSIFICATION: FLAMMABILITY 2 , REACTIVITY 3 , HEALTH 2
ADDITIONAL INFORMATION:

THIS PRODUCT OR ITS COMPONENTS ARE ON THE EUROPEAN INVENTORY OF EXISTING COMMERCIAL CHEMICALS (EINECS).....

THESE DATA ARE OFFERED IN GOOD FAITH AS TYPICAL VALUES AND NOT AS A PRODUCT SPECIFICATION. NO WARRANTY, EITHER EXPRESSED OR IMPLIED, IS MADE. THE RECOMMENDED HANDLING PROCEDURES ARE BELIEVED TO BE GENERALLY APPLICABLE. HOWEVER, EACH USER SHOULD REVIEW THESE RECOMMENDATIONS IN THE SPECIFIC CONTENT OF THE INTENDED USE.....

C =	CEILING LIMIT	NEGL =	NEGLIGIBLE
EST=	ESTIMATED	NF =	NONE FOUND
NA =	NOT APPLICABLE	UNKN =	UNKNOWN
NE =	NONE ESTABLISHED	REC =	RECOMMENDED
ND =	NONE DETERMINED	V =	RECOMM. BY VENDOR
TS =	TRADE SECRET	SKN =	SKIN
R =	RECOMMENDED		

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U.S. DEPARTMENT OF LABOR

WAGE AND LABOR STANDARDS ADMINISTRATION
Bureau of Labor Standards

MATERIAL SAFETY DATA SHEET

R143

SECTION I

MANUFACTURER'S NAME: General Electric Company, Insulating Materials Dept.	EMERGENCY TELEPHONE NO.: (ACS18) 374-2211 Ext. 53357
ADDRESS (Number, Street, City, State, and ZIP Code): 1 Campbell Road, Schenectady, New York 12306	
CHEMICAL NAME AND SYNONYMS: Hydrocarbon solution of modified alkyd	TRADE NAME AND SYNONYMS: 1202 Glyptal
CHEMICAL FAMILY	FORMULA

SECTION II HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS Xylene	50	100*	FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)

SECTION III PHYSICAL DATA

BOILING POINT (°F)	281-285°F	SPECIFIC GRAVITY (H_2O=1)	1.04
VAPOR PRESSURE (mm Hg) psia @100°F	0.6	PERCENT VOLATILE BY VOLUME (%)	50
VAPOR DENSITY (AIR=1)	3.66	EVAPORATION RATE (n-Butyl Acetate=1)	0.8
SOLUBILITY IN WATER			
APPEARANCE AND ODOR	Clear - Colorless - Solvent odor.		

SECTION IV FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used) 81°F TCC	FLAMMABLE LIMITS	LEL 1.0	UEL 7.0
EXTINGUISHING MEDIA: Foam; carbon dioxide.			
SPECIAL FIRE FIGHTING PROCEDURES			
UNUSUAL FIRE AND EXPLOSION HAZARDS			

*ppm

SECTION V HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE	100 ppm
EFFECTS OF OVEREXPOSURE	Respiratory irritation, dizziness, unconsciousness.
EMERGENCY AND FIRST AID PROCEDURES	Remove from exposure. Oxygen under medical supervision. Artificial respiration if breathing has stopped.

SECTION VI REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	
INCOMPATABILITY (Materials to avoid)			
HAZARDOUS DECOMPOSITION PRODUCTS			
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Have adequate ventilation - avoid sparks or open flames - clean up with rags.

WASTE DISPOSAL METHOD Immerse dirty rags into container of water.

SECTION VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type)

VENTILATION	LOCAL EXHAUST	X	SPECIAL
	MECHANICAL (General)		OTHER

PROTECTIVE GLOVES Yes	EYE PROTECTION Yes

OTHER PROTECTIVE EQUIPMENT Should use suitable skin creams.

SECTION IX SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING Avoid heat, sparks, flame.

PROVIDE ADEQUATE VENTILATION. Refer to National Safety Council Bulletin #32.

OTHER PRECAUTIONS

John J. Reese

Section V — HEALTH HAZARD DATA

1202

THRESHOLD LIMIT VALUE See Section II.

EFFECTS OF OVEREXPOSURE

Inhalation: Respiratory irritation, dizziness, unconsciousness, death.
Eye Contact: Extreme irritation, burns.
Skin Contact: Mild irritation, burns and possible allergic reaction.

EMERGENCY AND FIRST AID PROCEDURES

Inhalation: Remove from exposure. Unconscious, but breathing: Administer oxygen.
Not Breathing: Artificial resuscitation.
Eye Contact: Flush with copious amounts of water. See physician.
Skin Contact: Wash thoroughly with soap and water. Use hand lotion. See physician.

Section VI — REACTIVITY DATA

STABILITY ☐ UNSTABLE ☒ STABLE CONDITIONS TO AVOID

INCOMPATABILITY (Materials to avoid) Strong Oxidizers Excessive heat, sparks and open flames.

HAZARDOUS DECOMPOSITION PRODUCTS

Carbon Monoxide will be formed by incomplete combustion.

HAZARDOUS POLYMERIZATION ☐ MAY OCCUR ☒ WILL NOT OCCUR

CONDITIONS TO AVOID Excessive heat, sparks and open flames.

Section VII — SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Provide adequate ventilation. Avoid excessive heat, sparks and open flames.
Clean up with rags, place dirty rags in container of water.

WASTE DISPOSAL METHOD

Boil off solvents under strictly safe conditions. Reuse distillate. Dispose of residue as

Section VIII — SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION

Use Appropriate Respirators.

VENTILATION

Keep vapors below L.E.L. (Section IV) and T.L.V. (Section II) Solvent Vapors should be removed by dilution ventilation from lower levels. Eliminate all ignition sources (Open Motors, Switches etc).

PROTECTIVE GLOVES Yes

EYE PROTECTION Yes

OTHER PROTECTIVE EQUIPMENT As required to avoid skin contact.

Section IX — SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Store in a cool well ventilated area. Avoid excessive heat, sparks and open flames. Ground containers and transfer vessels. Keep free fall of liquid to a few inches to avoid build up of static electricity. Do not take internally. Avoid prolonged contact with skin.

Form Approved
Budget Bureau No. 44-R1337
Approval Expires April 30, 1971

Form No. LS-0054 Pg 1 of 2
May 1959

U.S. DEPARTMENT OF LABOR

WAGE AND LABOR STANDARDS ADMINISTRATION
Bureau of Labor Standards

MATERIAL SAFETY DATA SHEET

SECTION I

MANUFACTURER'S NAME: General Electric Co., Insulating Materials Product Section	EMERGENCY TELEPHONE NO.: AC-518 385-3357
ADDRESS (Number, Street, City, State, and ZIP Code): 1 Campbell Rd., Schenectady, N.Y. 12345	
CHEMICAL NAME AND SYNONYMS: Diallyl Phthalate cut unsaturated polyester	TRADE NAME AND SYNONYMS: 3285/Permafil Portion
CHEMICAL FAMILY: Polyester	FORMULA:

SECTION II HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE	54	—	METALLIC COATINGS		
SOLVENTS	46		FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)
none		

SECTION III PHYSICAL DATA

BOILING POINT (°F.)	>	300°F	SPECIFIC GRAVITY (H_2O=1)		1.24
VAPOR PRESSURE (mm Hg.)	<	0.01 mm	PERCENT VOLATILE BY VOLUME (%)	~	45%
VAPOR DENSITY (AIR=1)		8.8	EVAPORATION RATE (_____=1)	>	10
SOLUBILITY IN WATER		nil			
APPEARANCE AND ODOR		Amber viscous liquid			

SECTION IV FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)	220°F (TCC)	FLAMMABLE LIMITS	Lel	Uel
		Not known		

EXTINGUISHING MEDIA: Water, foam, fog, spray, CO_2, dry

SPECIAL FIRE FIGHTING PROCEDURES: None

UNUSUAL FIRE AND EXPLOSION HAZARDS: May polymerize with liberation of heat.

SECTION V HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE > 500 ppm

EFFECTS OF OVEREXPOSURE none

EMERGENCY AND FIRST AID PROCEDURES none

SECTION VI REACTIVITY DATA

			CONDITIONS TO AVOID
STABILITY	UNSTABLE		
	STABLE	X	

INCOMPATABILITY (Materials to avoid)

HAZARDOUS DECOMPOSITION PRODUCTS

			CONDITIONS TO AVOID
HAZARDOUS POLYMERIZATION	MAY OCCUR	X	
	WILL NOT OCCUR		Heat

SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Drysorb

WASTE DISPOSAL METHOD per local regulations

SECTION VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type)

VENTILATION — LOCAL EXHAUST Usually adequate — SPECIAL

MECHANICAL (General) — OTHER

PROTECTIVE GLOVES Yes — EYE PROTECTION Yes

OTHER PROTECTIVE EQUIPMENT

SECTION IX SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING Do not incinerate closed containers.

OTHER PRECAUTIONS

Form Approved
Budget Bureau No. 44-R1387
Approval Expires April 30, 1971

Form No. [illegible]
May 1969

U.S. DEPARTMENT OF LABOR

WAGE AND LABOR STANDARDS ADMINISTRATION
Bureau of Labor Standards

MATERIAL SAFETY DATA SHEET

SECTION I

MANUFACTURER'S NAME: General Electric Co., Insulating Materials Product Section
EMERGENCY TELEPHONE NO.: AC-518 385-3357
ADDRESS (Number, Street, City, State, and ZIP Code): 1 Campbell Road, Schenectady, New York 12345
CHEMICAL NAME AND SYNONYMS: Talc and Tert. butyl perbenzoate
TRADE NAME AND SYNONYMS: 3285 Filler Portion
CHEMICAL FAMILY:
FORMULA:

SECTION II HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS Talc	99.4	20*	BASE METAL		
CATALYST	0.6		ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)

SECTION III PHYSICAL DATA

BOILING POINT (°F.)		SPECIFIC GRAVITY (H_2O=1)	
VAPOR PRESSURE (mm Hg.)		PERCENT VOLATILE BY VOLUME (%)	
VAPOR DENSITY (AIR=1)	Not applicable	EVAPORATION RATE (_____=1)	
SOLUBILITY IN WATER			
APPEARANCE AND ODOR			

SECTION IV FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)	FLAMMABLE LIMITS	Lel	Uel
EXTINGUISHING MEDIA			
SPECIAL FIRE FIGHTING PROCEDURES Not applicable			
UNUSUAL FIRE AND EXPLOSION HAZARDS			

*MPPCF

SECTION V HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE	20 MPPCF (Talc)
EFFECTS OF OVEREXPOSURE	
EMERGENCY AND FIRST AID PROCEDURES	Remove to fresh air.

SECTION VI REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	

INCOMPATABILITY *(Materials to avoid)*

HAZARDOUS DECOMPOSITION PRODUCTS

HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

WASTE DISPOSAL METHOD Landfill

SECTION VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION *(Specify type)* Not applicable

VENTILATION	LOCAL EXHAUST	SPECIAL
	MECHANICAL *(General)*	OTHER

PROTECTIVE GLOVES	EYE PROTECTION

OTHER PROTECTIVE EQUIPMENT

SECTION IX SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

None

OTHER PRECAUTIONS

MATERIAL SAFETY DATA SHEET

FOR COATINGS RESINS AND RELATED MATERIALS

Approved by U.S. Department of Labor - Essentially Similar to Form OSHA 20

DATE OF PREP November 1981

Section I

MANUFACTURER'S NAME
GLYPTAL, INC.

STREET ADDRESS
305 Eastern Avenue

CITY STATE AND ZIP CODE
Chelsea MA 02150

EMERGENCY TELEPHONE NO.
(617)884-6918

HAZARD INDEX

0-MINIMAL Hazard 1-SLIGHT Hazard 2-MODERATE Hazard 3-SERIOUS Hazard 4-SEVERE Hazard	HEALTH	2
	FLAMMABILITY	3
	REACTIVITY	0

PRODUCT CLASS
ALKYD

MANUFACTURERS CODE IDENTIFICATION
8012

TRADE NAME
GLYPTAL

Section II — HAZARDOUS INGREDIENTS

INGREDIENT	CAS #	PERCENT	TLV ppm	TLV mg/m³	LEL	VAPOR PRESSURE
XYLENE	1330-20-7	23.9	100	435	1.0	9.5
MINERAL SPIRITS	64742-47-8	7.0	100	0	.9	9.0
BUTOXYETHANOL	111-76-2	4.0	25	120	1.1	.6
V M & P NAPHTHA	64742-89-8	1.2	300	0	1.0	45.0
PETROLEUM HYDROCARBON	64742-95-6	1.2	300	0	1.0	38.0

Section III — PHYSICAL DATA

BOILING RANGE 200-390°F

VAPOR DENSITY [XX] HEAVIER [ ] LIGHTER THAN AIR

EVAPORATION RATE [ ] FASTER [XX] SLOWER THAN ETHER

PERCENT VOLATILE BY VOLUME 56.1

WEIGHT PER GALLON 9.90

Section IV — FIRE AND EXPLOSION HAZARD DATA

DOT CATEGORY PAINT, FLAMMABLE LIQUID
UN 1263 RED LABEL

FLASH POINT 80°F

LEL .9

EXTINGUISHING MEDIA CARBON DIOXIDE, DRY CHEMICAL, FOAM OR WATER SPRAY

UNUSUAL FIRE AND EXPLOSION HAZARDS EXPLOSION HAZARD IN CONTAINERS DUE TO PRESSURE BUILD-UP DUE TO HEAT. USE WATER TO KEEP CONTAINERS COOL.

SPECIAL FIRE FIGHTING PROCEDURES SELF-CONTAINED BREATHING APPARATUS WITH POSITIVE PRESSURE MODE SHOULD BE WORN. WATER SHOULD BE USED TO KEEP FIRE CONTAINERS COOL TO REDUCE PRESSURE.

Section V — HEALTH HAZARD DATA

See Section II

INHALATION: Anesthetic. Respiratory irritation, dizziness, headache, unconsciousness.

ACUTE: Skin and eye contact: Primary irritation.

CHRONIC: Material Safety Data Sheets of the MINERAL SPIRITS supplier lists a systemic effect of narcosis with high concentrations.

EMERGENCY AND FIRST AID PROCEDURES INGESTION: Consult a Physician IMMEDIATELY!

INHALATION: Remove from exposure. UNCONSCIOUS BUT BREATHING: administer oxygen.

NOT BREATHING: artificial resusitation.

EYE CONTACT: Flush with copious amounts of water, SEE PHYSICIAN.

SKIN CONTACT: Wash thoroughly with soap and water. Use hand lotion.

Section VI — REACTIVITY DATA

STABILITY ☐ UNSTABLE ☒ STABLE CONDITIONS TO AVOID Excessive heat, sparks and open flames.

INCOMPATABILITY (Materials to avoid) Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS Carbon Monoxide may be formed by incomplete combustion.

HAZARDOUS POLYMERIZATION ☐ MAY OCCUR ☒ WILL NOT OCCUR

CONDITIONS TO AVOID Excessive heat, sparks and open flame.

Section VII — SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED Use an absorbent material such as Vermiculite to remove spilled materials. Provide adequate ventilation. Avoid excessive heat, sparks and open flames.

WASTE DISPOSAL METHOD Solvents may be distilled off and removed. Dispose of waste paint and still residue as ignitible material D001, following all Local, State and Federal regulations.

Section VIII — SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION

In confined areas use: Approved self-contained respirators.

VENTILATION Keep vapors below LEL (Section IV) and TLV (Section II). Solvent vapors should be removed by dilution ventilation from lower levels. Eliminate all ignition sources (open motors, switches, etc.).

PROTECTIVE GLOVES Impervious gloves

EYE PROTECTION Chemical goggles

OTHER PROTECTIVE EQUIPMENT As required to avoid skin contact.

Section IX — SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING Store in a cool, well-ventilated area. Avoid excessive heat, sparks, and open flames. Ground containers and transfer vessels. Keep free fall of liquid to a few inches to avoid build-up of static electricity.

Do not take internally. Avoid prolonged breathing of vapors. Avoid prolonged contact with skin.

7471 (M7)

WAGE AND LABOR STANDARDS ADMINISTRATION
Bureau of Labor Standards

MATERIAL SAFETY DATA SHEET

SECTION I

MANUFACTURER'S NAME: General Electric Co. Insulating Materials Dept.	EMERGENCY TELEPHONE NO.: AC518 374-2211 Ext. 5-9393
ADDRESS (Number, Street, City, State, and ZIP Code): One River Road, Schenectady, New York 12345	
CHEMICAL NAME AND SYNONYMS:	TRADE NAME AND SYNONYMS: 9637 Varnish
CHEMICAL FAMILY: Polyester Phenolic	FORMULA:

SECTION II HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST MN/ZN	.07		ALLOYS		
VEHICLE	48		METALLIC COATINGS		
SOLVENTS mixed petroleum hydro-carbons	52	100ppm	FILLER METAL PLUS COATING OR CORE FLUX		
			OTHERS		
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)

SECTION III PHYSICAL DATA

BOILING POINT (°F.) Initial	286°F.	SPECIFIC GRAVITY (H_2O=1)	.9
VAPOR PRESSURE (mm Hg.)	20	PERCENT VOLATILE BY VOLUME (%)	50
VAPOR DENSITY (AIR=1)	3.9	EVAPORATION RATE (_____=1)	
SOLUBILITY IN WATER	NO		

APPEARANCE AND ODOR: Strong aromatic odor

SECTION IV FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used) 73°F (P-M)	FLAMMABLE LIMITS	Lel	Uel

EXTINGUISHING MEDIA: CO_2, foam, dry chemical, water spray or fog.

SPECIAL FIRE FIGHTING PROCEDURES: Use air-supplied rescue equipment. Cool exposed containers

UNUSUAL FIRE AND EXPLOSION HAZARDS:

SECTION V HEALTH HAZARD DATA

100 ppm for 8-hour working day,

EFFECTS OF OVEREXPOSURE

Inhalation of high concentrations may have results ranging from mild depression to convulsions and loss of consciousness.

EMERGENCY AND FIRST AID PROCEDURES

If overcome by vapor, remove from exposure immediately; call a physician. If breathing is irregular or stopped, start resuscitation, administer oxygen. Remove contaminated clothing. Flush eyes with water if irritation occurs. Wash skin.

SECTION VI REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	High temperature or heat

INCOMPATABILITY (Materials to avoid)
Oxygen and strong oxidants. May dissolve some plastics and rubber.

HAZARDOUS DECOMPOSITION PRODUCTS
Incomplete combustion produces carbon monoxide.

HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Remove all ignition sources. Keep people away. Recover free liquid. Add absorbant to spill area. Avoid breathing vapors. Ventilate enclosed spaces. Open all windows and doors.

WASTE DISPOSAL METHOD
Recover free liquid. Stay upwind and/or use personal protective equipment. Absorb with dry solids and incinerate. Run-off to waterway reates fire hazard. Notify fire and health agencies.

SECTION VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type)
Hydrocarbonvapor canister,supplied-air or a hose mask.

VENTILATION	LOCAL EXHAUST Face velocity> 60 fpm	SPECIAL Use only with adequate*ventilation.
	MECHANICAL (General) Explosim-proofventilation equipment	OTHER No smoking or open lights

PROTECTIVE GLOVES Hydrocarbon-insoluble rubber or plastic	EYE PROTECTION Chemical goggles or face splash shield

OTHER PROTECTIVE EQUIPMENT
Hydrocarbon-insoluble apron such as neoprene or equivalent.

SECTION IX SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Keep containers closed. Keep away from heat and open flame. Use only with adequate ventilation.*

OTHER PRECAUTIONS
Avoid prolonged or repeated breathing of vapors or contact with skin.

*Adequate means equivalent to outdoors ventilation.

John J. Keane

John J. Keane, Manager, Research and Development

WAGE AND LABOR STANDARDS ADMINISTRATION
Bureau of Labor Standards

MATERIAL SAFETY DATA SHEET

SECTION I

MANUFACTURER'S NAME: General Electric Co. Insulating Materials Dept.	EMERGENCY TELEPHONE NO.: AC518 374-2211 Ext. 5-9393
ADDRESS (Number, Street, City, State, and ZIP Code): One River Road, Schenectady, New York 12345	
CHEMICAL NAME AND SYNONYMS	TRADE NAME AND SYNONYMS: 9637 Varnish (also called 9522)
CHEMICAL FAMILY: Polyester Phenolic	FORMULA

SECTION II HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST MN/ZN	.07		ALLOYS		
VEHICLE	48		METALLIC COATINGS		
SOLVENTS mixed petroleum hydro-	52	100ppm	FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES cardons			OTHERS		
OTHERS Xylene added to thin					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)

SECTION III PHYSICAL DATA

BOILING POINT (°F.) Initial	286°F.	SPECIFIC GRAVITY (H_2O=1)	.9
VAPOR PRESSURE (mm Hg.)	20	PERCENT VOLATILE BY VOLUME (%)	50
VAPOR DENSITY (AIR=1)	3.9	EVAPORATION RATE (_____=1)	
SOLUBILITY IN WATER	NO		
APPEARANCE AND ODOR	Strong aromatic odor		

SECTION IV FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used) 73°F (P-M)	FLAMMABLE LIMITS	Lel	Uel
EXTINGUISHING MEDIA	CO_2, foam, dry chemical, water spray or fog.		
SPECIAL FIRE FIGHTING PROCEDURES	Use air-supplied rescue equipment. Cool exposed containers		
UNUSUAL FIRE AND EXPLOSION HAZARDS			

MATERIAL SAFETY DATA SHEET

FOR COATINGS RESINS AND RELATED MATERIALS

Approved by U.S. Department of Labor. Essentially Similar to Form OSHA 20

DATE OF PREP November 1985

Section I

MANUFACTURER'S NAME
GLYPTAL, INC.

STREET ADDRESS
305 Eastern Avenue

CITY STATE AND ZIP CODE
Chelsea MA 02150

EMERGENCY TELEPHONE NO
(617)884-6918

PRODUCT CLASS

TRADE NAME
GLYPTAL

HAZARD INDEX
0-MINIMAL Hazard
1-SLIGHT Hazard
2-MODERATE Hazard
3-SERIOUS Hazard
4-SEVERE Hazard

HEALTH 2
FLAMMABILITY 3
REACTIVITY 0

MANUFACTURERS CODE IDENTIFICATION
9921

ALKYD CATALYST

Section II — HAZARDOUS INGREDIENTS

INGREDIENT	CAS #	PERCENT	TLV PPM	TLV mg/m³	LEL	VAPOR PRESSURE
XYLENE	1330-20-7	47.5	100	435	1.0	9.5
V M & P NAPHTHA	64742-89-6	10.7	300	0	1.0	45.0
BUTOXYETHANOL	111-76-2	1.6	25	120	1.1	.6
AROMATIC PETROLEUM SOLVENT	64742-95-6	2.9	50	0	.9	9.0
GRAPHITE	7782-42-5	17.1		2.5*		

*Dust Particles

Section III — PHYSICAL DATA

BOILING RANGE 242-344°F

VAPOR DENSITY [XX] HEAVIER [ ] LIGHTER THAN AIR

EVAPORATION RATE [ ] FASTER [XX] SLOWER THAN ETHER

PERCENT VOLATILE BY VOLUME 74.8

WEIGHT PER GALLON 8.42

Section IV — FIRE AND EXPLOSION HAZARD DATA

DOT CATEGORY PAINT, FLAMMABLE LIQUID
UN 1263 RED LABEL

FLASH POINT 71°F

LEL .9

EXTINGUISHING MEDIA CARBON DIOXIDE, DRY CHEMICAL, FOAM OR WATER SPRAY

UNUSUAL FIRE AND EXPLOSION HAZARDS EXPLOSION HAZARD IN CONTAINERS DUE TO PRESSURE BUILD-UP DUE TO HEAT. USE WATER TO KEEP CONTAINERS COOL.

SPECIAL FIRE FIGHTING PROCEDURES SELF-CONTAINED BREATHING APPARATUS WITH POSITIVE PRESSURE MODE SHOULD BE WORN. WATER SHOULD BE USED TO KEEP FIRE CONTAINERS COOL TO REDUCE PRESSURE.

Section V — HEALTH HAZARD DATA

[illegible] See Section II

[illegible] ACUTE: This material contains a SMALL AMOUNT OF BUTOXYETHANOL which can be absorbed through the skin with possible damage to kidneys, liver, blood and/or bone marrow. Inhalation of high concentrations may cause respiratory irritation, headache, nausea, vomiting and dizziness. Prolonged contact with wet clothing may cause severe irritation. Corneal injury of the the eye is possible.

CHRONIC: Repeated overexposure may result in damage to the blood.

EMERGENCY AND FIRST AID PROCEDURES INGESTION: Consult a Physician IMMEDIATELY!

INHALATION: Remove from exposure. UNCONSCIOUS BUT BREATHING: administer oxygen.

NOT BREATHING: artificial resusitation.

EYE CONTACT: Flush with copious amounts of water, SEE PHYSICIAN.

SKIN CONTACT: Remove contaminated clothing; wash thoroughly with soap and water.

Section VI — REACTIVITY DATA

STABILITY ☐ UNSTABLE ☒ STABLE CONDITIONS TO AVOID Excessive heat, sparks and open flames.

INCOMPATABILITY (Materials to avoid) Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS Carbon Monoxide may be formed by incomplete combustion.

HAZARDOUS POLYMERIZATION ☐ MAY OCCUR ☒ WILL NOT OCCUR

CONDITIONS TO AVOID Excessive heat, sparks and open flame.

Section VII — SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Use an absorbent material such as Vermiculite to remove spilled material. Provide adequate ventilation. Avoid excessive heat, sparks and open flames.

WASTE DISPOSAL METHOD Comply with all Federal, State and Local regulations.

THIS IS NOT A REGULATED MATERIAL.

Section VIII — SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION

In outdoor areas with restricted ventilation use: approved organic vapor with particulate filter respirator to remove solid airborne particles of overspray during spray application.

VENTILATION

Keep vapors below TLV (Section II). Vapors should be removed by dilution ventilation from lower levels. Eliminate all ignition sources (open motors, switches, etc.).

PROTECTIVE GLOVES Required for prolonged and/or repeated contact.

EYE PROTECTION Use safety wear with splash guards or side shields.

OTHER PROTECTIVE EQUIPMENT none required.

Section IX — SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Store in a cool, well-ventilated area. Avoid excessive heat, sparks, and open flames. Ground containers and transfer vessels. Keep free fall of liquid to a few inches to avoid build-up of static electricity.

Do not take internally. Avoid prolonged breathing of vapors. Avoid prolonged contact with skin.

According to the latest test results, BUTOXYETHANOL appears to possess different biological activities from those observed in exposure of laboratory animals to the methyl and ethyl glycol ethers.

744A2(M7)

Form Approved
Budget Bureau No. 44-R1393
Expires April 30, 19

U.S. DEPARTMENT OF LABOR

WAGE AND LABOR STANDARDS ADMINISTRATION

Bureau of Labor Standards

MATERIAL SAFETY DATA SHEET

SECTION I

MANUFACTURER'S NAME: GENERAL ELECTRIC CO., Insulating Materials Product Section
EMERGENCY TELEPHONE NO.: (518) 385-3357

ADDRESS (Number, Street, City, State, and ZIP Code): 1 Campbell Road, Schenectady, N.Y. 12345

CHEMICAL NAME AND SYNONYMS: t-butyl perbenzoate
TRADE NAME AND SYNONYMS: 73517 Catalyst

CHEMICAL FAMILY: Organic Peroxide (peroxyester)
FORMULA: $C_{11}H_{14}O_3$

SECTION II HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)
T-butyl perbenzoate	98.0	min.
Oral LD ca 5000 mg/kg mouse -		
(HEW Toxic Substances Annual List 1971		

SECTION III PHYSICAL DATA

BOILING POINT (°F) Freezing Point - 48°F(8.5°C)		SPECIFIC GRAVITY (H_2O=1) 25/25°C	1.038
VAPOR PRESSURE (mm Hg.) at 50°C	.33	PERCENT VOLATILE BY VOLUME (%)	NA
VAPOR DENSITY (AIR=1)		EVAPORATION RATE (_____=1)	NA
SOLUBILITY IN WATER	Insoluble		

APPEARANCE AND ODOR: Light yellow to yellow liquid - mild aromatic odor.

SECTION IV FIRE AND EXPLOSION HAZARD DATA

	FLAMMABLE LIMITS	Lel	Uel
FLASH POINT (Method used) Micro open cup > 200°F		Unknown	Unknown

EXTINGUISHING MEDIA: CO_2, Foam, dry chemical

SPECIAL FIRE FIGHTING PROCEDURES: Evacuate area and fight fire from a safe distance, like an oil fire.

UNUSUAL FIRE AND EXPLOSION HAZARDS: t-butyl perbenzoate can decompose with force if confined during exposure to fire.

SECTION V HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: NE

EFFECTS OF OVEREXPOSURE: Unknown

EMERGENCY AND FIRST AID PROCEDURES
For contact with eyes, flush with water.
For contact with skin, wash with soap and water.

SECTION VI REACTIVITY DATA

STABILITY	UNSTABLE	X	CONDITIONS TO AVOID: Extended exposure to 135°F or higher temperatures may lead to rapid decomposition with burning.
	STABLE		

INCOMPATABILITY (Materials to avoid)
Strong oxidizing and reducing agents.

HAZARDOUS DECOMPOSITION PRODUCTS
Decomposition products are flammable.

HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Spilled material should be absorbed with non-combustible absorbent such as vermiculite or perlite. Sweep up using non-sparking utensils.

WASTE DISPOSAL METHOD
Place absorbed material in a shallow trench and ignite from safe distance with a long torch (6 ft.-min)
Any disposal must comply with local, state and federal regulations.

SECTION VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type) None required - Avoid prolonged inhalation of vapors.

VENTILATION	LOCAL EXHAUST		SPECIAL
	MECHANICAL (General)	Yes	OTHER

PROTECTIVE GLOVES	Yes	EYE PROTECTION	Yes

OTHER PROTECTIVE EQUIPMENT

SECTION IX SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Do not store near innately hazardous materials. Do not store near sources of ignition.

OTHER PRECAUTIONS
Store below 100°F to maintain active oxygen content and above 50°F to prevent freezing. (Freezing does not damage the product.)

U.S. DEPARTMENT OF LABOR
WAGE AND LABOR STANDARDS ADMINISTRATION
Bureau of Labor Standards

MATERIAL SAFETY DATA SHEET

SECTION I

MANUFACTURER'S NAME: General Electric Company
EMERGENCY TELEPHONE NO.: (518) 374-2211 Ext. 5-3357
ADDRESS (Number, Street, City, State, and ZIP Code): Insulating Materials Dept., 1 Campbell Rd., Schenectady, New York 12306
CHEMICAL NAME AND SYNONYMS: Polyester/Styrene Varnish
TRADE NAME AND SYNONYMS: Permafil (73517)
CHEMICAL FAMILY: Polymer/Monomer
FORMULA: Unsaturated Polyester/Styrene

SECTION II HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS?	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE Unsaturated Polyester	73	/	METALLIC COATINGS		
SOLVENTS Styrene	27	100 PPM	FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES Quinone (Tr)	Tr	/	OTHERS		
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)

SECTION III PHYSICAL DATA

BOILING POINT (°F.)	293	SPECIFIC GRAVITY (H_2O=1)	1.015-1.030
VAPOR PRESSURE (mm Hg.) 30.8°C	10	PERCENT VOLATILE BY VOLUME (%)	< 5%
VAPOR DENSITY (AIR=1)	3.6	EVAPORATION RATE (Butyl Acetate =1)	< 1
SOLUBILITY IN WATER	Tr		
APPEARANCE AND ODOR	Clear amber, styrene odor		

SECTION IV FIRE AND EXPLOSION HAZARD DATA

		FLAMMABLE LIMITS	Lel	Uel
FLASH POINT (Method used)	88°F TCC		1.1	9.1

EXTINGUISHING MEDIA: Foam, Carbon Dioxide, Dry Chemical

SPECIAL FIRE FIGHTING PROCEDURES:

UNUSUAL FIRE AND EXPLOSION HAZARDS: Vapors may explode when exposed to flame.

SECTION V HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: 100 ppm in air.

EFFECTS OF OVEREXPOSURE: Irritating to eyes, mucous membranes. Narcotic.

EMERGENCY AND FIRST AID PROCEDURES: Call physician.

Flood skin w/H_2O and alcohol.

Internal - Universal antidote, call physician.

SECTION VI REACTIVITY DATA

STABILITY	UNSTABLE	X	CONDITIONS TO AVOID: Heat, flame.
	STABLE		

INCOMPATABILITY (Materials to avoid): Strong oxidants - Transition metal halides.

HAZARDOUS DECOMPOSITION PRODUCTS:

HAZARDOUS POLYMERIZATION	MAY OCCUR	X	CONDITIONS TO AVOID: Heat, flame.
	WILL NOT OCCUR		

SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Water flood, Keep away from heat and flame.

WASTE DISPOSAL METHOD: Incinerate in approved manner.

SECTION VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type):

VENTILATION	LOCAL EXHAUST: Yes	SPECIAL
	MECHANICAL (General)	OTHER

PROTECTIVE GLOVES: Yes

EYE PROTECTION: Yes

OTHER PROTECTIVE EQUIPMENT:

SECTION IX SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Store in cool, dry place - Keep away from heat and flame.

OTHER PRECAUTIONS:

John J. Kent
9/11/72

MATERIAL SAFETY DATA SHEET

FOR COATINGS RESINS AND RELATED MATERIALS

Adapted for U.S. Department of Labor Essentially Similar to Form OSHA 20

DATE OF PREP November 1985

Section I

MANUFACTURER'S NAME
GLYPTAL, INC.

STREET ADDRESS
305 Eastern Avenue

CITY STATE AND ZIP CODE
Chelsea MA 02150

EMERGENCY TELEPHONE NO
(617)884-6918

PRODUCT CLASS
BUFF EPOXY PAINT

TRADE NAME
GLYPTAL

HAZARD INDEX

0-MINIMAL Hazard	HEALTH	2
1-SLIGHT Hazard		
2-MODERATE Hazard	FLAMMABILITY	3
3-SERIOUS Hazard		
4-SEVERE Hazard	REACTIVITY	0

MANUFACTURERS CODE IDENTIFICATION 74004

Section II — HAZARDOUS INGREDIENTS

INGREDIENT	CAS #	PERCENT	TLV PPM	TLV mg/m³	LEL	VAPOR PRESSURE
TOLUENE	108-88-3	9.5	100	435	1.0	9.5
ETHOXYETHANOL	110-80-5	9.1	5	9	1.8	3.8
METHYL ISOBUTYL KETONE	108-10-1	9.1	50	205	1.2	16.0
N-BUTYL ALCOHOL	71-36-1	0.4	50	150	1.7	4.4

Section III — PHYSICAL DATA

BOILING RANGE 237-287°F

VAPOR DENSITY [XX] HEAVIER [ ] LIGHTER THAN AIR

EVAPORATION RATE [ ] FASTER [XX] SLOWER THAN ETHER

PERCENT VOLATILE BY VOLUME 42.4

WEIGHT PER GALLON 10.96

Section IV — FIRE AND EXPLOSION HAZARD DATA

DOT CATEGORY PAINT, FLAMMABLE LIQUID
UN 1263 RED LABEL

FLASH POINT 71°F

LEL 1.0

EXTINGUISHING MEDIA CARBON DIOXIDE, DRY CHEMICAL, FOAM OR WATER SPRAY

UNUSUAL FIRE AND EXPLOSION HAZARDS EXPLOSION HAZARD IN CONTAINERS DUE TO PRESSURE BUILD-UP DUE TO HEAT. USE WATER TO KEEP CONTAINERS COOL.

SPECIAL FIRE FIGHTING PROCEDURES SELF-CONTAINED BREATHING APPARATUS WITH POSITIVE PRESSURE MODE SHOULD BE WORN. WATER SHOULD BE USED TO KEEP FIRE CONTAINERS COOL TO REDUCE PRESSURE.

Section V — HEALTH HAZARD DATA

See Section II

EFFECTS OF OVEREXPOSURE — ACUTE: Excessive contact will cause skin irritation and sensitization, dizziness, headache and possible nausea. CHRONIC: Animal Studies of ETHOXYETHANOL have shown anemia, bone marrow damage and damage to male reproductive tissue. Repeated overexposure to vapors has resulted in kidney and possible liver damage and yellow discoloration of the eyes. Birth defects have been observed in offspring of female animals exposed to conentrations of 150 PPM in air.

EMERGENCY AND FIRST AID PROCEDURES INGESTION: Consult a Physician IMMEDIATELY!
INHALATION: Remove from exposure. UNCONSCIOUS BUT BREATHING: administer oxygen.
NOT BREATHING: artificial resusitation.
EYE CONTACT: Flush with copious amounts of water, SEE PHYSICIAN.
SKIN CONTACT: Wash thoroughly with soap and water. Use hand lotion.

Section VI — REACTIVITY DATA

STABILITY ☐ UNSTABLE ☒ STABLE
CONDITIONS TO AVOID Excessive heat, sparks and open flames.
INCOMPATABILITY (Materials to avoid) Strong oxidizers
HAZARDOUS DECOMPOSITION PRODUCTS Carbon Monoxide may be formed by incomplete combustion.

HAZARDOUS POLYMERIZATION ☐ MAY OCCUR ☒ WILL NOT OCCUR
CONDITIONS TO AVOID Excessive heat, sparks and open flame.

Section VII — SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED Use an absorbent material such as Vermiculite to remove spilled materials. Provide adequate ventilation. Avoid excessive heat, sparks and open flames.
WASTE DISPOSAL METHOD Solvents may be distilled off and removed. Dispose of waste paint and still residue as ignitible material D001, following all Local, State and Federal regulations.

Section VIII — SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION In confined areas use: Approved self-contained respirators.

VENTILATION Keep vapors below LEL (Section IV) and TLV (Section II). Solvent vapors should be removed by dilution ventilation from lower levels. Eliminate all ignition sources (open motors, switches, etc.).

PROTECTIVE GLOVES Impervious gloves
EYE PROTECTION Chemical goggles
OTHER PROTECTIVE EQUIPMENT As required to avoid skin contact.

Section IX — SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING Store in a cool, well-ventilated area. Avoid excessive heat, sparks, and open flames. Ground containers and transfer vessels. Keep free fall of liquid to a few inches to avoid build-up of static electricity.

Do not take internally. Avoid prolonged breathing of vapors. Avoid prolonged contact with skin.

7521 (M7)

U.S. DEPARTMENT OF LABOR

WAGE AND LABOR STANDARDS ADMINISTRATION
Bureau of Labor Standards

MATERIAL SAFETY DATA SHEET

SECTION I

MANUFACTURER'S NAME: General Electric, Insulating Materials Product Section	EMERGENCY TELEPHONE NO.: 518 385-3357
ADDRESS (Number, Street, City, State, and ZIP Code): 1 Campbell Road, Schenectady, New York 12306	
CHEMICAL NAME AND SYNONYMS	TRADE NAME AND SYNONYMS: 7401DA
CHEMICAL FAMILY: Epoxy Resin Solution	FORMULA

SECTION II HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE	60		METALLIC COATINGS		
SOLVENTS	40		FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)
Xylene	14	100 ppm
Cellosolve	13	100 "
MIBK	13	100 "

SECTION III PHYSICAL DATA

BOILING POINT (°F.)		SPECIFIC GRAVITY (H_2O=1)	1.05
VAPOR PRESSURE (mm Hg.)		PERCENT VOLATILE BY VOLUME (%)	
VAPOR DENSITY (AIR=1)		EVAPORATION RATE (_____=1)	
SOLUBILITY IN WATER	none		
APPEARANCE AND ODOR			

SECTION IV FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used): 66°F P-M	FLAMMABLE LIMITS	Lel	Uel 15.7
EXTINGUISHING MEDIA: Dry CO_2, Foam, Water fog.			
SPECIAL FIRE FIGHTING PROCEDURES			
UNUSUAL FIRE AND EXPLOSION HAZARDS			

SECTION V HEALTH HAZARD DATA

[illegible] TLV 100 ppm

Skin irritation, prolonged breathing of vapors may cause nausea.

[illegible] EMERGENCY AND FIRST AID PROCEDURES
Wash for skin with soap and water. Remove to fresh air for over-exposure by inhalation.

SECTION VI REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	

INCOMPATABILITY (Materials to avoid) amines, oxidizing agents

HAZARDOUS DECOMPOSITION PRODUCTS

HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED Absorb with dry material

WASTE DISPOSAL METHOD Sanitary landfill or controlled incineration

SECTION VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type) Not usually required

VENTILATION	LOCAL EXHAUST Adequate	SPECIAL
	MECHANICAL (General)	OTHER

PROTECTIVE GLOVES X	EYE PROTECTION X

OTHER PROTECTIVE EQUIPMENT

SECTION IX SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING Avoid breathing smake due to irritant character.

OTHER PRECAUTIONS

Budget Bureau No. 44-R1387
Approval Expires April 30, 1971

U.S. DEPARTMENT OF LABOR

WAGE AND LABOR STANDARDS ADMINISTRATION
Bureau of Labor Standards

Form No. [illegible]
May 1968

74

MATERIAL SAFETY DATA SHEET

SECTION I

MANUFACTURER'S NAME: General Electric Co., Insulating Materials Dept.	EMERGENCY TELEPHONE NO.: AC518 374-2211, ext. 5-9393
ADDRESS (Number, Street, City, State, and ZIP Code): One River Road, Schenectady, New York 12345	
CHEMICAL NAME AND SYNONYMS:	TRADE NAME AND SYNONYMS: 74010 Hardener
CHEMICAL FAMILY:	FORMULA: A50A162B

SECTION II HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST (polyamine)	16	100	ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS (see below)	84		FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)
Toluene	33	100ppm
Butanol	33	100ppm
Xylene	6	100ppm
Ethyl Cellosolve 6% 200ppm — Methyl Isobutyl Ketone	6	100ppm

SECTION III PHYSICAL DATA

BOILING POINT (°F.)	232	SPECIFIC GRAVITY (H_2O=1)	.9
VAPOR PRESSURE (mm Hg.)		PERCENT VOLATILE BY VOLUME (%)	84
VAPOR DENSITY (AIR=1)		EVAPORATION RATE (Ether = 1)	4.5
SOLUBILITY IN WATER	partial		
APPEARANCE AND ODOR			

SECTION IV FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used) 40°F. (cc)	FLAMMABLE LIMITS	Lel 1	Uel 7
EXTINGUISHING MEDIA: Dry, CO_2, foam, water fog.			
SPECIAL FIRE FIGHTING PROCEDURES			
UNUSUAL FIRE AND EXPLOSION HAZARDS			

SECTION V HEALTH HAZARD DATA

SHOLD LIMIT VALUE: 100 ppm

.S OF OVEREXPOSURE: skin irritation, prolonged breathing of vaoprs may cause nausea dizziness.

EMERGENCY AND FIRST AID PROCEDURES: Wash from skin with soap and water. Remove to fresh air for overexposure by inhalation.

SECTION VI REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	

INCOMPATABILITY (Materials to avoid)

HAZARDOUS DECOMPOSITION PRODUCTS

HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Absorb with dry material.

WASTE DISPOSAL METHOD: Sanitary landfill, controlled incineration.

SECTION VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type): Not usually required

VENTILATION	LOCAL EXHAUST: adequate	SPECIAL
	MECHANICAL (General)	OTHER

PROTECTIVE GLOVES: YES

EYE PROTECTION: YES

HER PROTECTIVE EQUIPMENT

SECTION IX SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Avoid breathing smoke due to irritant character.

OTHER PRECAUTIONS

John J. Keane

John J. Keane, Manager, Research and Develop

U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration

Form Approved
OMB No. 44-R1367

MATERIAL SAFETY DATA SHEET

Required under USDL Safety and Health Regulations for Ship Repairing, Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

SECTION I

MANUFACTURER'S NAME: Magnaflux Corporation	EMERGENCY TELEPHONE NO.: (312) 867-8000
ADDRESS (Number, Street, City, State, and ZIP Code): 7300 W. Lawrence Ave. Chicago, Illinois 60656	
CHEMICAL NAME AND SYNONYMS	TRADE NAME AND SYNONYMS: SKC-NF Spotcheck Cleaner
CHEMICAL FAMILY	FORMULA: Aerosol

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE Methyl Choroform	97	350 ppm	METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS			Propellant: CO_2	3	5000

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)

SECTION III - PHYSICAL DATA

BOILING POINT (°F.)	165°	SPECIFIC GRAVITY (H_2O=1)	1.3
VAPOR PRESSURE (mm Hg.)	230 mm @ 100°F	PERCENT, VOLATILE BY VOLUME (%)	100%
VAPOR DENSITY (AIR=1)	4-5	EVAPORATION RATE (Ether =1)	5
SOLUBILITY IN WATER	Insoluble		
APPEARANCE AND ODOR	Clear, colorless liquid, sweet odor		

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method Used) None	FLAMMABLE LIMITS N/A	LEL	UEL
EXTINGUISHING MEDIA N/A			
SPECIAL FIRE FIGHTING PROCEDURES			
UNUSUAL FIRE AND EXPLOSION HAZARDS			

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: 350 ppm

EFFECTS OF OVEREXPOSURE: Dizziness initially, loss of consciousness eventually

EMERGENCY AND FIRST AID PROCEDURES: Remove to fresh air

SECTION VI - REACTIVITY DATA

STABILITY			CONDITIONS TO AVOID
	UNSTABLE		
	STABLE		Red heat, open flame, arcs around vapors

INCOMPATABILITY (Materials to avoid): Will soften many plastics and coatings

HAZARDOUS DECOMPOSITION PRODUCTS: Hydrochloric and Phosgene

HAZARDOUS POLYMERIZATION			CONDITIONS TO AVOID
	MAY OCCUR		
	WILL NOT OCCUR	X	

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Can be allowed to evaporate away, if spilled in aerosol can quantities

WASTE DISPOSAL METHOD

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type): If used in confined area, mask with seperate air supply

VENTILATION		
	LOCAL EXHAUST: Preferred	SPECIAL
	MECHANICAL (General)	OTHER

PROTECTIVE GLOVES

EYE PROTECTION: Desirable, where liquid may be splashed into eyes

OTHER PROTECTIVE EQUIPMENT

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Store away from heat. Avoid using near flame, arcs, red hot surfaces.

OTHER PRECAUTIONS

U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration

Form Approved
OMB No. 44-R1367

MATERIAL SAFETY DATA SHEET

Required under USDL Safety and Health Regulations for Ship Repairing, Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

SECTION I

MANUFACTURER'S NAME	EMERGENCY TELEPHONE NO.
MAGNAFLUX CORPORATION	312/867-8000
ADDRESS (Number, Street, City, State, and ZIP Code) 7300 W. Lawrence Ave, Chicago, Illinois 60656	
CHEMICAL NAME AND SYNONYMS	TRADE NAME AND SYNONYMS ZP-9 - Zyglo Developer (Aerosol)
CHEMICAL FAMILY	FORMULA

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS $CaCO_3$, TiO_2, SiO_2 Mg. Soap	8		BASE METAL		
CATALYST			ALLOYS		
VEHICLE Methyl Cloroform	62	350	METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES Ethoxylated Nonylphenol	2	unknown	OTHERS		
OTHERS			Propellant, CO_2, Dichloromethane	25	75

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)
		C

SECTION III - PHYSICAL DATA

BOILING POINT (°F.)	165°F	SPECIFIC GRAVITY (H_2O=1)	1.3
VAPOR PRESSURE (mm Hg.)	230mm at 100°F	PERCENT, VOLATILE BY VOLUME (%)	90%
VAPOR DENSITY (AIR=1)	4-5	EVAPORATION RATE (Ether = 1)	5
SOLUBILITY IN WATER	Insoluble		
APPEARANCE AND ODOR	White, mobile liquid, sweet odor		

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method Used)	FLAMMABLE LIMITS	LEL	UEL
Not flammable	N/A		
EXTINGUISHING MEDIA N/A			
SPECIAL FIRE FIGHTING PROCEDURES			
UNUSUAL FIRE AND EXPLOSION HAZARDS			

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: 350 ppm (Bulk M product) 75 ppm (Total aerosol)

EFFECTS OF OVEREXPOSURE: Dizziness, initially, loss of consciousness eventually

EMERGENCY AND FIRST AID PROCEDURES: Remove to fresh air

SECTION VI - REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID: Vapors contacting flames, arc, red hot surfaces
	STABLE	X	will soften some plastics, rubbers, coatings

INCOMPATABILITY (Materials to avoid): Hydrochloric acid, phosgene

HAZARDOUS DECOMPOSITION PRODUCTS:

HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Can be allowed to evaporate away if spilled in aerosol can quantities

Wipe up white residue with rag

WASTE DISPOSAL METHOD:

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type): If used in confined area mask with seperate air supply

VENTILATION	LOCAL EXHAUST: Preferred	SPECIAL
	MECHANICAL (General)	OTHER

PROTECTIVE GLOVES | EYE PROTECTION

OTHER PROTECTIVE EQUIPMENT

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Store away from heat. Avoid using near Flame, arcs, red hot surfaces

OTHER PRECAUTIONS: ZP-9 exerts drying action on skin, Wash or wipe off promptly

Occupational Safety and Health Administration

MATERIAL SAFETY DATA SHEET

Required under USDL Safety and Health Regulations for Ship Repairing, Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

SECTION I

MANUFACTURER'S NAME: MAGNAFLUX CORPORATION	EMERGENCY TELEPHONE NO.: 312/867-8000
ADDRESS (Number, Street, City, State, and ZIP Code): 7300 W Lawrence Ave, Chicago, Illinois 60656	
CHEMICAL NAME AND SYNONYMS	TRADE NAME AND SYNONYMS: ZC-7 Zyglo Cleaner (Aerosol)
CHEMICAL FAMILY	FORMULA

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE Methyl Chloroform	97	350ppm	METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS			Propellant: CO_2	3	5000

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)

SECTION III - PHYSICAL DATA

BOILING POINT (°F.)	165°	SPECIFIC GRAVITY (H_2O=1)	1.3
VAPOR PRESSURE (mm Hg.)	230 mm at 100°F	PERCENT, VOLATILE BY VOLUME (%)	100%
VAPOR DENSITY (AIR=1)	4-5	EVAPORATION RATE (Ether = 1)	5
SOLUBILITY IN WATER	Insoluble		
APPEARANCE AND ODOR	Clear, colorless liquid, sweet odor		

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used): None	FLAMMABLE LIMITS: N/A	LEL	UEL
EXTINGUISHING MEDIA: N/A			
SPECIAL FIRE FIGHTING PROCEDURES			
UNUSUAL FIRE AND EXPLOSION HAZARDS			

(Continued on reverse side)

360 ppm

EFFECTS OF OVEREXPOSURE: Dizziness initially, loss of consciousness eventually

EMERGENCY AND FIRST AID PROCEDURES: Remove to fresh air

SECTION VI - REACTIVITY DATA

STABILITY			CONDITIONS TO AVOID
	UNSTABLE		Red heat, open flame, arcs around vapors
	STABLE		

INCOMPATABILITY (Materials to avoid): Will soften many plastics, and coatings

HAZARDOUS DECOMPOSITION PRODUCTS: Hydrochloric and Phosgene

HAZARDOUS POLYMERIZATION			CONDITIONS TO AVOID
	MAY OCCUR		
	WILL NOT OCCUR	X	

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Can be allowed to evaporate away if spilled in aerosol can quantities

WASTE DISPOSAL METHOD:

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type): If used in confined area, mask with seperate air supply

VENTILATION			
	LOCAL EXHAUST: Preferred		SPECIAL
	MECHANICAL (General)		OTHER
PROTECTIVE GLOVES		EYE PROTECTION: Desirable, where liquid may be splashed into eyes	
OTHER PROTECTIVE EQUIPMENT			

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Store away from heat. Avoid using near flame, arcs, red hot surfaces.

OTHER PRECAUTIONS:

PERMATEX INDUSTRIAL DIVISION

MATERIAL SAFETY DATA

IF ISSUED AS A USE REPEATED AS NEW RENTAL: 80009, 10, 11, 12

SECTION I | MATERIAL IDENTIFICATION: Permatex Form-A-Gasket #2 | 2A, 2B, 2C, 2D, 2E, 2AR, 2BR

MANUFACTURER'S NAME: Permatex Industrial Division

EMERGENCY TELEPHONE NO.: (203) 27[illegible] 1286

ADDRESS (NUMBER, STREET, CITY, STATE AND ZIP CODE): 705 N. Mountain Rd., Newington, CT 06111

CHEMICAL NAME AND SYNONYMS

TRADE NAME AND SYNONYMS

CHEMICAL FAMILY

FORMULA NUMBER

SECTION II | CHEMICAL AND PHYSICAL PROPERTIES (AS ADDITIONAL SHEETS IF NECESSARY)

MOLECULAR WT.

BOIL. NO POINT: 180 °F

MELTING POINT: °F

SPECIFIC GRAVITY (WATER = 1) DENSITY: ~1.5 lb/gal °F

VAPOR DENSITY (AIR = 1)

VAPOR PRESSURE (mm Hg): 0 °F ? °F ? °F

SOLUBILITY

ODOR APPEARANCE: alcoholic/black paste

INDEX OF REFRACTION: ? °F

CORROSIVE ACTION ON MATERIALS (e.g. aluminum, carbon steel, copper, rubber, plastics, etc.)

DOES THE MATERIAL DECOMPOSE WHEN EXPOSED TO: AIR [X] YES [ ] NO; WATER [ ] YES [X] NO; HEAT [ ] YES [X] NO; STRONG OXIDIZERS [X] YES [ ] NO

POSSIBLE PRODUCTS PRODUCED ON DECOMP

SECTION III | FLAMMABILITY AND EXPLOSIVE PROPERTIES

FLASH POINT: CLOSED CUP 55 °F; SETAFLASH °F

IF FLASH POINT CHANGES DURING EVAPORATION GIVE DATA

EXPLOSIVE LIMITS (VOL. % IN AIR): LOWER 2 %; UPPER 12 %

SUSCEPTIBILITY TO SPONTANEOUS HEATING: [ ] YES [X] NO

FIRE POINT °F; AUTO-IGNITION TEMP °F

SUITABLE EXTINGUISHING AGENTS: CO_2, Foam, Dry Chemical

WHAT PRODUCTS MIGHT BE FORMED IN THE EVENT OF FIRE OR ABNORMAL TEMPERATURES?

UNUSUAL FIRE OR EXPLOSIVE HAZARDS

COMPRESSED GASES: [ ] YES [ ] NO; NAME; ROOM TEMPERATURE °F

SECTION IV | COMPOSITION GIVE CHEMICAL NAMES OF COMPONENTS IT IS IMPORTANT TO KNOW WHETHER ALCOHOL, METHANOL, AN AROMATIC HYDROCARBON IS BENZENE, A CHLORINATED MATERIAL IS CARBON TETRACHLORIDE.

HAZARDOUS MATERIALS
Must include any ingredients which are regulated or otherwise controlled due to their hazardous or toxic nature

	% by Weight	Permissible Exposure Limit	Oxidizer	Toxic	Flammable	Combustible	Corrosive	Radioactive	Sensitizer	Magnetic	Irritant
Isopropanol	~12	400			X						

Regulated by and reference number:

SECTION V | HEALTH HAZARD DATA

PERMISSIBLE EXPOSURE LIMITS: 400ppm (Solvent)

EFFECTS OF OVEREXPOSURE

EMERGENCY AND FIRST AID PROCEDURES
Inhalation: Remove to fresh air.

Ingestion: Obtain medical attention.

SECTION VI | REACTIVITY DATA

STABILITY: UNSTABLE [ ]; STABLE [X]; CONDITIONS TO AVOID

INCOMPATIBILITY (Materials to Avoid)

HAZARDOUS DECOMPOSITION PRODUCTS

HAZARDOUS POLYMERIZATION: MAY OCCUR [ ]; WILL NOT OCCUR [X]; CONDITIONS TO AVOID

SECTION VII | SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Soak up in any inert absorbent and clean residues with ispropanol.

WASTE DISPOSAL METHOD

Landfill or incinerate following EPA and local regulations.

SECTION VIII | SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (specify type)

VENTILATION	LOCAL EXHAUST	SPECIAL
	MECHANICAL (general) To avoid exceeding TLV	OTHER
PROTECTIVE GLOVES (type required) Not required	EYE PROTECTION Safety glasses recommended	

OTHER PROTECTIVE EQUIPMENT

SECTION IX | SHIPPING REGULATIONS FOR HAZARDOUS MATERIAL

A. IS THE ARTICLE SUBJECT TO SHIPPING REGULATION FOR HAZARDOUS MATERIAL UNDER EACH OF THE FOLLOWING MODES (1)
NOTE (1), (2), (3), (4) REFER TO INSTRUCTIONS MATERIAL SAFETY DATA SECTION IX

	YES	NO
RAIL	X	
TRUCK	X	
BUS	X	
AIR (2)	X	
PARCEL POST	X	
WATER CARRIER	X	
UNITED PARCEL	X	

B. IF ANY MODES IN A. IS ANSWER "YES", COMPLETE THIS SECTION (IF NECESSARY ATTACH ADDITIONAL DETAIL SHEET)

TYPE OR CLASS DESCRIBED IN THE REGULATIONS
DOT: ORM-D
IATA: Flammable Liquid

PROPER SHIPPING NAME (TRUE CHEMICAL OR OTHER NAME AS LISTED IN THE REGULATIONS) DOT: Consumer Commodity
IATA: Resin Solution, Flammable Liq.

TYPE OF PACKING CONTAINER

SIZE OR QUANTITY IN PACKAGE
1 qt. max.

OUTER CONTAINER DESCRIPTION (4)

SPEC NO. IF PUBLISHED IN REGULATIONS

MAXIMUM QUANTITY OR GROSS WEIGHT LIMITS FOR FOLLOWING MODES

RAIL	65 lb.	BUS	
TRUCK	65 lb.	PARCEL POST	
WATER CARRIER	65 lb.	UNITED PARCEL	
AIR	DOT 65 lb. IATA: 1 liter passenger 220 liters cargo		

MARKING REQUIREMENTS FOR OUTER CONTAINER

MODE	MARKING
X RAIL	ORM-D
X TRUCK	
X WATER CARRIER	
X AIR	Air: ORM-D (Flamm. Liq.)
BUS	
PARCEL POST	
UNITED PARCEL	

LABEL REQUIRED IF NOT EXEMPT

MODE	LABEL
RAIL	
TRUCK	
WATER CARRIER	
X AIR (IATA)	Flammable Liquid
BUS	
PARCEL POST	
UNITED PARCEL	

C. SHIPPING PAPERS OR DOCUMENTS INFORMATION: (USE ADDITIONAL SHEETS IF NECESSARY FOR DETAILS)

	YES	NO
CERTIFICATE REQUIRED	X	
SHIPPER'S DECLARATION (DOT)		X
SPECIAL PACKAGE REQUIREMENT OR INSTRUCTION (DOT)		X

OTHER INFORMATION SUCH AS RESTRICTIONS FOR SHIPMENT VIA CARGO AIRCRAFT ONLY

(SPECIFY ANY SPECIAL REQUIREMENT SUCH AS TEMPERATURE LIMITATION, CARRIER VEHICLE FOR ISSUE OR STORAGE, MARKING INSTRUCTIONS, ETC.)

SECTION X | SPECIAL PRECAUTIONS & CONCLUSION

OTHER PRECAUTIONARY INFORMATION, HANDLING, STORING
Store away from heat or flame.

ADDITIONAL COMMENTS

BY G. Sidney Sprague

TITLE Environmental Health & Safety Spec.

DATE 28 July 82

MATERIAL SAFETY DATA SHEET

CORPORATE RESEARCH & DEVELOPMENT
SCHENECTADY, N. Y. 12305
Phone: (518) 385-4085 DIAL COMM 8*235-4085

MATERIALS INFORMATION SERVICE

DYKEM LAYOUT FLUID

Date September 1978

SECTION I. MATERIAL IDENTIFICATION

MATERIAL NAME: DYKEM LAYOUT FLUIDS

DESCRIPTION: Specialty lacquers based on nitrocellulose (2%) and suitable solvent blends

MANUFACTURER: Dykem Company
8501 Delport Drive
St. Louis, MO 63114 Telephone: (314) 423-0100

SECTION II. INGREDIENTS AND HAZARDS	%	HAZARD DATA
Solvents:		
Denatured Alcohol	<57	8-hr TWA <1000
Butyl Acetate	<42	8-hr TWA 150
Butyl Alcohol	<20	8-hr TWA 100
Pigments	5	None established
Dyes	1	None established
Vehicle:		
Wet Nitrocellulose	2.0	None established

SECTION III. PHYSICAL DATA

Boiling point at 1 atm, deg F --- 167
Vapor pressure at 20 C, mm Hg --- 25.1
Vapor density (Air=1) (solvents) - >1.6
Solubility in water ---------- Partially Sol.

Specific gravity (H_2O=1) - 0.86-0.90
Volatiles, % ---------- ca 90
Evaporation rate (BuAc=1) - >1

Appearance & Odor: Intensely colored liquid with a mild solvent odor.

SECTION IV. FIRE AND EXPLOSION DATA

Flash Point and Method	Autoignition Temp.	Flammability Limits In Air Volume % (est. for solvent)	LOWER	UPPER
63 F (COC)			1.5	19

Extinguishing media: Carbon dioxide is recommended. Water can be used for cooling fire-exposed containers.

Material is highly flammable, an OSHA Class IB liquid. It is a moderate explosion hazard and a dangerous fire hazard when heated. Nitrocellulose solutions in alcohol may be like gasoline in burning characteristics.

Firefighters should use self-contained breathing apparatus.

SECTION V. REACTIVITY DATA

This flammable material is stable in closed containers at room temperature. Keep away from oxidizing agents, sources of ignition, and heat. Thermal-oxidative degradation can produce toxic vapors and gases including carbon monoxide and nitrogen oxides.

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SECTION VI. HEALTH HAZARD INFORMATION

TLV 200+ ppm (estimate; See Sect. II)

cessive exposure to vapors can be irritating to eyes and respiratory tract and can produce headache, drowsiness, nausea and narcosis. Ingestion can cause drunkeness and poisoning from solvents. Contact with liquid can cause skin or eye irritation and eye damage.

RST AID:

Eye contact: Thoroughly and promptly flush with plenty of running water; then get medical attention immediately.

Skin contact: Wipe off liquid with absorbent material. Flush exposed area of skin with plenty of water. Promptly remove contaminated clothing. Get medical assistance when large body areas are exposed or when irritation persists.

Inhalation: Remove to fresh air. Restore breathing if necessary. Get medical help for any severe exposure.

Ingestion: Get medical assistance promptly! When medical help is not immediately available, give three glasses milk or water and induce vomiting. Repeat.

SECTION VII. SPILL, LEAK, AND DISPOSAL PROCEDURES

For large spills evacuate area. Provide maximum explosion-proof ventilation. Eliminate sources of ignition. Contain fluid; pick up with absorbant solid and immediately remove from the work place. Clean up personnel should have protection against liquid contact and vapor inhalation. Safety personnel should be involved with large spills.

DISPOSAL: Burn scrap material in an approved high temperature incinerator in accordance with Federal, State and local regulations. Do not flush this material down the drain.

SECTION VIII. SPECIAL PROTECTION INFORMATION

Provide general ventilation and local exhaust ventilation to meet TLV requirements. Approved respirators should be available for emergency and non-routine use such as large spills.

Use protective gloves to avoid repeated or prolonged contact with liquid and chemical safety glasses for eye protection where splashing is possible.

An eye wash station should also be available where splashing is possible.

Use good housekeeping practices with this material. Deposits of dried lacquer are flammable nitrocellulose with pigment and dye.

SECTION IX. SPECIAL PRECAUTIONS AND COMMENTS

Store material in closed containers in a cool, dry, well-ventilated place, away from heat sources, ignition sources, and oxidizing agents.

Use explosion-proof electrical fixtures where vapors are present. Prevent static sparks. No smoking in areas of storage or use.

Avoid contact with liquid and inhalation of vapors.

DOT Classification - FLAMMABLE LIQUID; POISON

DATA SOURCE(S) CODE: 1, 2, 6, 12

Judgments as to the suitability of information herein for purchaser's purposes are necessarily purchaser's responsibility. Therefore, although reasonable care has been taken in the preparation of such information, General Electric Company extends no warranties, makes no representations and assumes no responsibility as to the accuracy or suitability of such information for application to purchaser's intended purposes or for consequences of its use.

APPROVALS: MIS, CRD	J. M. Nigon
Industrial Hygiene and Safety	
Corporate Medical Staff	Geo. F. Bartleson M.D.

GENERAL ELECTRIC

Occupational Safety and Health Administratic

MATERIAL SAFETY DATA SHEET

SEPT. 28, 1978

Required under USDL Safety and Health Regulations for Ship Repairing, Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

SECTION I

MANUFACTURER'S NAME	EMERGENCY TELEPHONE NO.
SIFCO METACHEMICAL DIV. OF SIFCO INDUSTRIES, INC.	(216) 881-8600
ADDRESS (Number, Street, City, State, and ZIP Code) 5708 SCHAAF ROAD, INDEPENDENCE, OHIO 44131	
CHEMICAL NAME AND SYNONYMS	TRADE NAME AND SYNONYMS CODE 2080 DALIC NICKEL PLATING SOLUTION
CHEMICAL FAMILY METAL-ORGANIC CHELATE	FORMULA PROPRIETARY

SECTION II · HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL NICKEL	up to 10	1mg/M^3
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)
FORMIC ACID (90%)	less than 10	5 PPM
NICKEL SALTS	up to 35	1mg/M^3
CONTAINS OTHER NON-HAZARDOUS INGREDIENTS.		

SECTION III · PHYSICAL DATA

BOILING POINT (°F.)	OVER 200	SPECIFIC GRAVITY (H_2O=1)	1.287 ± .01
VAPOR PRESSURE (mm Hg.)		PERCENT, VOLATILE BY VOLUME (%)	
VAPOR DENSITY (AIR=1)		EVAPORATION RATE (_____=1)	
SOLUBILITY IN WATER	COMPLETE	pH	2.2-2.6
APPEARANCE AND ODOR	DARK GREEN LIQUID, STRONG FORMIC ACID ODOR.		

SECTION IV · FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)	NONE	FLAMMABLE LIMITS	LEL / UEL
EXTINGUISHING MEDIA	STANDARD		

SPECIAL FIRE FIGHTING PROCEDURES
AVOID BREATHING OF FORMIC ACID FUMES, AVOID CONTACT OF LIQUID WITH EYES, SKIN AND CLOTHING.

UNUSUAL FIRE AND EXPLOSION HAZARDS
MAY FORM CORROSIVE VAPORS WHICH MAY UNDER CERTAIN CIRCUMSTANCES FORM EXPLOSIVE MIXTURES WITH AIR.

(Continued on reverse side)

Form OSHA-20
Rev. May 72

SECTION V · HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: 5 PPM or 9mg/M^3

EFFECTS OF OVEREXPOSURE: CORROSIVE TO EYES, SKIN AND MUCOUS MEMBRANES.

EMERGENCY AND FIRST AID PROCEDURES: EXTERNAL: WASH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES; FOR EYES, CONSULT OPHTHALMOLOGIST. INGESTION: DILUTE THE ACID IMMEDIATELY WITH LARGE QUANTITIES OF WATER, MILK, 100-200 ML MILK OF MAGNESIA, IF VOMITTING IS PERSISTENT, ADMINISTER FLUIDS REPEATEDLY. CONSULT A PHYSICIAN

SECTION VI · REACTIVITY DATA

STABILITY			CONDITIONS TO AVOID
	UNSTABLE		
	STABLE	X	

INCOMPATABILITY (Materials to Avoid): OXIDIZERS

HAZARDOUS DECOMPOSITION PRODUCTS:

HAZARDOUS POLYMERIZATION			CONDITIONS TO AVOID
	MAY OCCUR		
	WILL NOT OCCUR	X	

SECTION VII · SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: COVER WITH SODA ASH, SLURRY & MIX WITH WATER, SCOOP INTO BEAKER OF WATER, DECANT, NEUTRALIZE WITH DILUTE HCl AND FLUSH DOWN DRAIN WITH EXCESS WATER.

WASTE DISPOSAL METHOD: PRECIPITATION OF NICKEL HYDROXIDE/CARBONATE; DECANT, FILTER, DILUTION, DISPOSE OF SLUDGE AS A SOLID WASTE.

SECTION VIII · SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type): SPRAY/MIST RETENTION (ACT. CARBON)

VENTILATION		
	LOCAL EXHAUST: REQUIRED FOR PROLONGED EXPOSURE	SPECIAL
	MECHANICAL (General)	OTHER

PROTECTIVE GLOVES: RUBBER, VINYL

EYE PROTECTION: FACESHIELD, GOGGLES

OTHER PROTECTIVE EQUIPMENT: APRON, BOOTS (depending on job size & conditions)

SECTION IX · SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: STORE AT 50-90°F AWAY FROM STRONG OXIDIZERS. CORROSIVE LIQUID AND VAPOR HANDLE WITH CARE. PROTECT CONTAINER FROM SPILLAGE OR MECHANICAL INJURY.

OTHER PRECAUTIONS: DO NOT BREATHE VAPORS, AVOID CONTACT OF LIQUID WITH EYES, SKIN OR CLOTHING. USE ONLY WITH ADAEQUATE VENTILATION.

GPO 934-110

U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration

Form Approved
OMB No. 44-R1387

MATERIAL SAFETY DATA SHEET

Required under USDL Safety and Health Regulations for Ship Repairing, Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

SECTION I

MANUFACTURER'S NAME	EMERGENCY TELEPHONE NO.
Sifco Selective Plating	(216) 881-8600
ADDRESS (Number, Street, City, State, and ZIP Code) 5708 Schaaf Rd., Cleve., Ohio 44131	
CHEMICAL NAME AND SYNONYMS	TRADE NAME AND SYNONYMS Code 2056 Dalic Copper Alkaline Plating Soln.
CHEMICAL FAMILY Metal-Organic Chelate	FORMULA Proprietary

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL Copper Max.	6.8	
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)
Ethylenediamine Formate	Less than 50	

SECTION III - PHYSICAL DATA

BOILING POINT (°F.) Over	200	SPECIFIC GRAVITY (H_2O=1)	1.17±.01
VAPOR PRESSURE (mm Hg.)		PERCENT, VOLATILE BY VOLUME (%)	
VAPOR DENSITY (AIR=1)		EVAPORATION RATE (_____ =1)	
SOLUBILITY IN WATER Unlimited		pH	9.3±.3
APPEARANCE AND ODOR Purple liquid, characteristic ordor of amines.			

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)	FLAMMABLE LIMITS	Lel	Uel
NONE	NONE		

EXTINGUISHING MEDIA
Water

SPECIAL FIRE FIGHTING PROCEDURES
Avoid contact of liquid with skin or clothing.

UNUSUAL FIRE AND EXPLOSION HAZARDS
Avoid breathing of vapors.

(Continued on reverse side)

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: Formic Acid: 5 ppm or 9 mg/in^3; EDA: 10 ppm or 25 mg/in^3

EFFECTS OF OVEREXPOSURE: Solution may be irritating to skin & mucous membranes, careless exposure of skin to solution for extended periods of time may lead to sensitization allergy dermitilitis.

EMERGENCY AND FIRST AID PROCEDURES: External: Flush with plenty of water for at least 15 minutes. Ingestion: Call a physician at once. Give emetics such as warm salt water to induce vomitting, follow by demulents such as milk, raw eggs beaten in water.

SECTION VI - REACTIVITY DATA

STABILITY			CONDITIONS TO AVOID
	UNSTABLE		
	STABLE	X	

INCOMPATABILITY (*Materials to avoid*): Strong oxidizing agents, strong minoric acids and bases.

HAZARDOUS DECOMPOSITION PRODUCTS: Ethylenediamine, Formic and Copper.

HAZARDOUS POLYMERIZATION			CONDITIONS TO AVOID
	MAY OCCUR		
	WILL NOT OCCUR	X	

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Flush with plenty of water.

WASTE DISPOSAL METHOD: Neutralization with dilute acid, dilution

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (*Specify type*): Spray-mist retentive

VENTILATION		
	LOCAL EXHAUST: See below	SPECIAL
	MECHANICAL (*General*)	OTHER

PROTECTIVE GLOVES	EYE PROTECTION
Rubber vinyl	Goggles, faceshield

OTHER PROTECTIVE EQUIPMENT: Only required when plating with large anodes and at high current densities in areas with severely limited air movement.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Protect containers against spillage or mechanical injury. Avoid contact of solution with skin or clothing. Wash hands before eating and smoking.

OTHER PRECAUTIONS: Do not breathe vapors of solution hot from plating.

GPO 934-110

MATERIAL SAFETY DATA SHEET

Form Approved
Bureau Budget No. 45-R033

SECTION I

MANUFACTURER'S NAME AND FSCM (Federal Supply Code for Manufacturers): SIFCO SELECTIVE PLATING, DIV. OF SIFCO INDUSTRIES

EMERGENCY PHONE NO.: (216)881-8600

ADDRESS (Number, Street, City, State, and ZIP Code): 5708 SCHAAF RD., INDEPENDENCE, OH 44131

CHEMICAL NAME AND SYNONYMS:

TRADE NAME AND SYNONYMS: CODE 1023 DALIC #3 ETCHING SOLUTION

CHEMICAL FAMILY: CHELATING AGENT

FORMULA: PROPRIETARY

FEDERAL STOCK NUMBER (FSN):

GROSS WEIGHT (LBS): VARIABLE

OUTSIDE PACKAGE DIMENSIONS (Inches): VARIABLE

MIL-STD-1341/NATIONAL FIRE PROTECTION ASSOCIATION STD 704M SIGNAL

FLAMMABILITY 0 HEALTH 1 REACTIVITY 0 SPECIFIC HAZARD NONE

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, AND SOLVENTS	%	THRESHOLD LIMIT VALUE (Units)	ALLOYS AND METALLIC COATINGS	%	THRESHOLD LIMIT VALUE (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	THRESHOLD LIMIT VALUE (Units)
CITRIC ACID (C.A.S. #A445-2417) MAX.	10	
FORMALDEHYDE (C.A.S. #A854-3619)	TRACE	5 PPM

SECTION III PHYSICAL DATA

BOILING POINT (°F.)	OVER 200	SPECIFIC GRAVITY (H_2O=1)	1.13
VAPOR PRESSURE (mm Hg.)		PRECENT VOLATILE BY VOLUME (%)	
VAPOR DENSITY (AIR = 1)		EVAPORATION RATE (= 1)	
SOLUBILITY IN WATER	COMPLETE	pH	4.3-4.7

APPEARANCE AND ODOR: WATER-CLEAR LIQUID, SLIGHT SMELL OF FORMALDEHYDE.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)	FLAMMABLE LIMITS	LOWER EXPLOSIVE LIMIT	UPPER EXPLOSIVE LIMIT
NONE		NONE	NONE

EXTINGUISHING MEDIA:

SPECIAL FIRE FIGHTING PROCEDURES: NONE

UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE

DD FORM 1 JUN 71 1813 ☆ GPO 794/043/30

S/N 0102-028-1080

SECTION V HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE
NONE

EFFECTS OF OVEREXPOSURE
CAN CAUSE IRRITATION IF NOT TREATED.

EMERGENCY AND FIRST AID PROCEDURES
FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES, FOR EYES GET MEDICAL ATTENTION.

SECTION VI REACTIVITY DATA

STABILITY			CONDITIONS TO AVOID
	UNSTABLE		
	STABLE	X	

INCOMPATABILITY (Materials to avoid)
STRONG OXIDIZERS

HAZARDOUS DECOMPOSITION PRODUCTS
CO_2; CO

HAZARDOUS POLYMERIZATION			CONDITIONS TO AVOID
	MAY OCCUR		
	WILL NOT OCCUR	X	

SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
NEUTRALIZE WITH SODIUM BICARBONATE OR SODA ASH. FLUSH WITH PLENTY OF WATER.

WASTE DISPOSAL METHOD
NEUTRALIZATION, DILUTION

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type)
SPRAY/MIST RETENTION

VENTILATION	LOCAL EXHAUST	SPECIAL
	RECOMMENDED WHEN HIGH CURRENT DENSITIES CAUSE GASSING.	
	MECHANICAL (General)	OTHER

PROTECTIVE GLOVES	EYE PROTECTION
RUBBER, VINYL	FACESHIELD, GOGGLES

OTHER PROTECTIVE EQUIPMENT
APRON, BOOTS (DEPENDING ON JOB SIZE AND CONDITIONS)

SECTION IX SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
STORE AT 50-90°F AWAY FROM STRONG OXIDIZERS; GUARD CONTAINERS AGAINST SPILLAGE OR MECHANICAL INJURY. DO NOT GET IN EYES, ON SKIN OR CLOTHING.

OTHER PRECAUTIONS
WASH HANDS THOROUGHLY BEFORE EATING OR SMOKING.

SECTION X TRANS. DATA

PROPER SHIPPING (Article) NAME	DOT CLASSIFICATION
LIQUID, NOT RESTRICTED	NONE

DOT LABEL	DOT MARKING	EMERGENCY ACCIDENT PRECAUTIONS AND PROCEDURES
NONE	NONE	

DOT PLACARD	PRECAUTIONS TO BE TAKEN IN TRANSPORTATION
NONE	NO RELEASE OF CONTENTS TO ENVIRONMENT

U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration

Form Approved
OMB No. 44-R1387

MATERIAL SAFETY DATA SHEET

Required under USDL Safety and Health Regulations for Ship Repairing, Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

SECTION I

MANUFACTURER'S NAME: Sifco Metachemical Div. of Sifco Industries, Inc.	EMERGENCY TELEPHONE NO.: (216) 881-8600
ADDRESS (Number, Street, City, State, and ZIP Code): 5708 Schaaf Road Cleveland, OH 44131	
CHEMICAL NAME AND SYNONYMS	TRADE NAME AND SYNONYMS: Dalic Etching # 1 Solution #1024
CHEMICAL FAMILY: Inorganic Salt Solution	FORMULA: Proprietary

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS Distilled Water			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)
Hydrochloric Acid 36% (C.A.S. #A947-0591) up to	24	

SECTION III - PHYSICAL DATA

BOILING POINT (°F.) over	200	SPECIFIC GRAVITY (H_2O=1)	1.115- 1.125
VAPOR PRESSURE (mm Hg.)		PERCENT, VOLATILE BY VOLUME (%)	
VAPOR DENSITY (AIR=1)		EVAPORATION RATE (_____ =1)	
SOLUBILITY IN WATER		pH	0
APPEARANCE AND ODOR: Clear, water colored solution, slight HCl odor			

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used): None	FLAMMABLE LIMITS: None	Lel	Uel
EXTINGUISHING MEDIA: Water			
SPECIAL FIRE FIGHTING PROCEDURES: Do not breathe vapor, avoid contact of liquid with skin and clothing.			
UNUSUAL FIRE AND EXPLOSION HAZARDS: May libera'e corros've HCl-GAS. In contact with common metals may liberate hydrogen, which may form explosive mixtures with air.			

(Continued on reverse side)

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE (HCl-GAS) 5 ppm or 7 mg/m^3

EFFECTS OF OVEREXPOSURE
Liquid and vapors are very corrosive. May cause severe burns. May cause irritation to mucous membranes.

EMERGENCY AND FIRST AID PROCEDURES
EXTERNAL: Wash with plenty of water for at least 15 minutes. INTERNAL: DO NOT induce vomitting. DO NOT give carbonates or bicarbonates. Give Aluminum Hydroxide gel or milk of magnesia in large quantities, follow with milk or mixes of egg beaten with water. GET MEDICAL ATTENTION.

SECTION VI - REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	

INCOMPATABILITY (Materials to avoid) Phosphoric acid, Strong alkalines, Sulfuric Acid, Nitric Compounds

HAZARDOUS DECOMPOSITION PRODUCTS HCl-GAS

HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Flush with plenty of water or chemically basic substances such as soda or slaked lime.

WASTE DISPOSAL METHOD Neutralization, dilution

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type) Spray/Mist retention

VENTILATION	LOCAL EXHAUST	SPECIAL
	MECHANICAL (General) Necessary only when plating large areas or for extended periods of time.	OTHER

PROTECTIVE GLOVES Rubber, vinyl

EYE PROTECTION Goggles, faceshield

OTHER PROTECTIVE EQUIPMENT Apron, boots (depending of size of plating job).

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Protect containers against spillage or mechanical injury. Avoid contact with skin or clothing. Contact with common metals will cause corrosion with liberation of hydrogen, which may form explosive mixtures with air.

OTHER PRECAUTIONS
Wash hands thoroughly before eating or smoking.

MATERIAL SAFETY DATA SHEET

Form Approved Budget Bureau No. 45-R0338

SECTION I

MANUFACTURER'S NAME AND FSCM (Federal Supply Code for Manufacturers)
SIFCO METACHEMICAL DIVISION OF SIFCO INDUSTRIES, INC.

EMERGENCY PHONE NO.
(216)881-8600

ADDRESS (Number, Street, City, State, and ZIP Code)
5706 SCHAAF ROAD, INDEPENDENCE, OHIO 44131

CHEMICAL NAME AND SYNONYMS

TRADE NAME AND SYNONYMS CODE 1010
DALIC CLEANING & DEOXIDIZING SOLUTION

CHEMICAL FAMILY
CHELATING AGENT

FORMULA
PROPRIETARY

FEDERAL STOCK NUMBER (FSN)
NSN 6850-01-067-6670

GROSS WEIGHT (LBS)
VARIABLE

OUTSIDE PACKAGE DIMENSIONS (Inches)
VARIABLE

MIL-STD-1341/NATIONAL FIRE PROTECTION ASSOCIATION STD 704M SIGNAL

FLAMMABILITY 0 HEALTH 3 REACTIVITY 1 SPECIFIC HAZARD CORROSIVE

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, AND SOLVENTS	%	THRESHOLD LIMIT VALUE (Units)	ALLOYS AND METALLIC COATINGS	%	THRESHOLD LIMIT VALUE (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES		%	THRESHOLD LIMIT VALUE (Units)
SODIUM HYDROXIDE	(C.A.S.#1310-73-2) max.	5	2 mg/M³

SECTION III - PHYSICAL DATA

BOILING POINT (°F.)	over 212	SPECIFIC GRAVITY (H_2O=1)	1.049
VAPOR PRESSURE (mm Hg.)		PERCENT VOLATILE BY VOLUME (%)	
VAPOR DENSITY (AIR=1)		EVAPORATION RATE (=1)	
SOLUBILITY IN WATER	COMPLETE	pH	13 ± 1

APPEARANCE AND ODOR
WATER-CLEAR LIQUID, NO CHARACTERISTIC ODOR

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method Used)	FLAMMABLE LIMITS	LOWER EXPLOSIVE LIMIT	UPPER EXPLOSIVE LIMIT
NONE		NONE	

EXTINGUISHING MEDIA
Water

SPECIAL FIRE FIGHTING PROCEDURES
AVOID CONTACT OF LIQUID WITH EYES, SKIN OR CLOTHING.

UNUSUAL FIRE AND EXPLOSION HAZARDS
LIQUID IN CONTACT WITH ALUMINUM OR MAGNESIUM MAY LIBERATE HYDROGEN, WHICH MAY FORM EXPLOSIVE MIXTURES WITH AIR.

DD FORM 1 JUN 71 1813 S/N 0102-026-1060

PLATE NO. 22473 (FF 7)

2 mg/M³ (Spray/Mist)

SECTION V — HEALTH HAZARD DATA

EFFECTS OF OVEREXPOSURE

CORROSIVE, MAY CAUSE SEVERE BURNS.

EMERGENCY AND FIRST AID PROCEDURES

FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES, FOR EYES GET MEDICAL ATTENTION.

SECTION VI — REACTIVITY DATA

STABILITY			CONDITIONS TO AVOID
	UNSTABLE		
	STABLE	X	

INCOMPATABILITY (Materials to avoid)

ALUMINUM, MAGNESIUM, STRONG ACIDS, ORGANIC TISSUES

HAZARDOUS DECOMPOSITION PRODUCTS

CAUSTIC SODA

HAZARDOUS POLYMERIZATION			CONDITIONS TO AVOID
	MAY OCCUR		
	WILL NOT OCCUR	X	

SECTION VII — SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

NEUTRALIZE & MOP UP, OR USE WATER-VAC. FLUSH AREA AND DISCHARGE TO SEWER WITH LARGE EXCESS OF WATER.

WASTE DISPOSAL METHOD

NEUTRALIZATION, DILUTION

SECTION VIII — SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify Type)

SPRAY/MIST RETENTION

VENTILATION		
	LOCAL EXHAUST: RECOMMENDED WHEN HIGH CURRENT DENSITY CAUSES GASSING.	SPECIAL
	MECHANICAL (General)	OTHER

PROTECTIVE GLOVES	EYE PROTECTION
RUBBER, VINYL	FACESHIELD, GOGGLES

OTHER PROTECTIVE EQUIPMENT

APRON, BOOTS (DEPENDING ON JOB SIZE AND CONDITIONS)

SECTION IX — SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

STORE AT 50-90°F AWAY FROM ALUMINUM, MAGNESIUM & STRONG ACIDS; SAFEGUARD CONTAINERS AGAINST SPILLAGE & MECHANICAL INJURY. DANGER, CAUSES SEVERE BURNS. AVOID CONTACT OF LIQUID WITH EYES; SKIN OR CLOTHING. WASH HANDS THOROUGHLY BEFORE EATING OR SMOKING.

OTHER PRECAUTIONS

SECTION X — TRANS. DATA

PROPER SHIPPING (Article) NAME	DOT CLASSIFICATION
SODIUM HYDROXIDE SOLUTION	CORROSIVE

DOT LABEL	DOT MARKING	EMERGENCY ACCIDENT PRECAUTIONS AND PROCEDURES
CORROSIVE	CORROSIVE	

DOT PLACARD	PRECAUTIONS TO BE TAKEN IN TRANSPORTATION
CORROSIVE	49 CFR 173.249 173.245

LATE NO. 22473 (BAD)

APPENDIX C

ACTS TESTING LABS, INC.
3916 Broadway
Buffalo, NY 14227-1104
Tel (716) 684-3300
Fax (716) 684-3303

Technical Report 5B-5788E
PO# 015 001566

August 14, 1995

ELAP ID# 10247

Mr. Tony Hejmanowski
GENERAL ELECTRIC COMPANY

SUBJECT:

Analysis of one (1) water sample for EPA 8080 PCBs. The sample was received on August 10, 1995.

RESULTS:

	ACTS #5B-5788E 06595 JOB 33127
EPA 8080 (PCBs only)	
Polychlorinated Biphenyls as:	
Arochlor 1016	< 0.94
Arochlor 1221	< 0.94
Arochlor 1232	< 0.94
Arochlor 1242	< 0.94
Arochlor 1248	< 0.94
Arochlor 1254	< 0.94
Arochlor 1260	< 0.94

Results are reported as milligrams per kilogram (mg/Kg).

EXPERIMENTAL:

Polychlorinated Biphenyls (PCBs) in oil were determined according to United States Environmental Protection Agency Method 3580: Waste Dilution and Method 8080: Organochlorine Pesticides and PCBs.

ACTS TESTING LABS, INC.
Charles E. Hartke
Manager, Chemistry Laboratory

ACTS TESTING LABS, INC.
Elizabeth R. Hausler, Supervisor
Gas Chromatography Laboratory

ACTS TESTING LABS, INC.
Lisa M. Clerici, Supervisor
Wet Chemistry Laboratory

cme

Our reports and letters are for the exclusive use of the client to whom/which thaey are addressed. Communication of ACTS Testing Labs, Inc. reports and letters to any others and/or of the name of ACTS Testing Labs, Inc.requires our written approval. Our letters and reports are limited solely (i) to standards and procedures identified in them and (ii) to the sample(s) tested. Test results are not necessarily indicative nor representative (i) of the quality of the lot from which the sample was taken or (ii) of apparently similar or identical products. Unless otherwise stated, it is the responsibility of the client to insure the representativeness of the samples submitted to ACTS Testing Labs, Inc. for testing.

ACTS TESTING LABS, IN
3916 Broad
Buffalo, NY 14227-1
Tel (716) 684-3
Fax (716) 684-3

Technical Report 5B-3487E
PO# 015 001148

May 18, 1995

ELAP ID# 10247

Mr. Tony Hejmanowski
GENERAL ELECTRIC COMPANY

SUBJECT:

Analysis of one (1) oil sample for EPA 8080 PCBs. The sample was received on May 17, 1995.

RESULTS:

	ACTS #5B-3487E S/N U220P164/33223
EPA 8080 (PCBs only)	
Polychlorinated Biphenyls as:	
Arochlor 1016	< 0.89
Arochlor 1221	< 0.89
Arochlor 1232	< 0.89
Arochlor 1242	< 0.89
Arochlor 1248	< 0.89
Arochlor 1254	< 0.89
Arochlor 1260	< 0.89

Results are reported as milligrams per kilogram (mg/Kg).

EXPERIMENTAL:

Polychlorinated Biphenyls (PCBs) in oil was determined according to United States Environmental Protection Agency Method 8080: Organochlorine Pesticides and PCBs.

ACTS TESTING LABS, INC.
Charles E. Hartke
Charles E. Hartke
Manager, Chemistry Laboratory

ACTS TESTING LABS, INC.
Elizabeth R. Hausler
Elizabeth R. Hausler, Supervisor
Gas Chromatography Laboratory

ACTS TESTING LABS, INC.
Lisa M. Clerici
Lisa M. Clerici, Supervisor
Wet Chemistry Laboratory

cme

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ACTS TESTING LABS, INC.
3916 Broadway
Buffalo, NY 14227-1104
Tel (716) 684-3300
Fax (716) 684-3303

Technical Report 5B-3484E
PO# 015 001147

May 18, 1995

ELAP ID# 10247

Mr. Tony Hejmanowski
GENERAL ELECTRIC COMPANY

SUBJECT:

Analysis of one (1) water sample for EPA 8080 PCBs. The sample was received on May 17, 1995.

RESULTS:

	ACTS #5B-3484E O/W SEPARATOR WATER/05895
EPA 8080 (PCBs only)	
Polychlorinated Biphenyls as:	
Arochlor 1016	< 25.0
Arochlor 1221	< 25.0
Arochlor 1232	< 25.0
Arochlor 1242	< 25.0
Arochlor 1248	< 25.0
Arochlor 1254	< 25.0
Arochlor 1260	164

Results are reported as micrograms per liter (ug/L).

EXPERIMENTAL:

Polychlorinated Biphenyls (PCBs) in water were determined according to United States Environmental Protection Agency Method 608: Organochlorine Pesticides and PCBs.

ACTS TESTING LABS, INC.

Charles E. Hartke
Manager, Chemistry Laboratory

ACTS TESTING LABS, INC.

Elizabeth R. Hausler, Supervisor
Gas Chromatography Laboratory

ACTS TESTING LABS, INC.

Lisa M. Clerici, Supervisor
Wet Chemistry Laboratory

cme

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ACTS TESTING LABS, INC.
3916 Broadway
Buffalo, NY 14227-1104
Tel (716) 684-3300
Fax (716) 684-3303

Technical Report 5B-3486E
PO# 015 001147

May 18, 1995

ELAP ID# 10247

Mr. Tony Hejmanowski
GENERAL ELECTRIC COMPANY

SUBJECT:

Analysis of one (1) sludge sample for EPA 8080 PCBs. The sample was received on May 17, 1995.

RESULTS:

	ACTS #5B-3486E O/W SEPARATOR SLUDGE/06095
EPA 8080 (PCBs only)	
Polychlorinated Biphenyls as:	
Arochlor 1016	< 7.7
Arochlor 1221	< 7.7
Arochlor 1232	< 7.7
Arochlor 1242	< 7.7
Arochlor 1248	< 7.7
Arochlor 1254	< 7.7
Arochlor 1260	38.9

Results are reported as milligrams per kilogram (mg/Kg).

EXPERIMENTAL:

Polychlorinated Biphenyls (PCBs) in sludge were determined according to United States Environmental Protection Agency Method 3550: Sonication Extraction and Method 8080: Organochlorine Pesticides and PCBs.

ACTS TESTING LABS, INC.

Charles E. Hartke
Manager, Chemistry Laboratory

ACTS TESTING LABS, INC.

Elizabeth R. Hausler, Supervisor
Gas Chromatography Laboratory

ACTS TESTING LABS, INC.

Lisa M. Clerici, Supervisor
Wet Chemistry Laboratory

cme

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ACTS TESTING LABS, INC.
3916 Broadway
Buffalo, NY 14227-1104
Tel (716) 684-3300
Fax (716) 684-3303

Technical Report 5B-3485E
PO# 015 001147

May 18, 1995

ELAP ID# 10247

Mr. Tony Hejmanowski
GENERAL ELECTRIC COMPANY

SUBJECT:

Analysis of one (1) oil sample for EPA 8080 PCBs. The sample was received on May 17, 1995.

RESULTS:

	ACTS #5B-3485E O/W SEPARATOR OIL/05995
EPA 8080 (PCBs only)	
Polychlorinated Biphenyls as:	
Arochlor 1016	< 18.2
Arochlor 1221	< 18.2
Arochlor 1232	< 18.2
Arochlor 1242	< 18.2
Arochlor 1248	< 18.2
Arochlor 1254	< 18.2
Arochlor 1260	336

Results are reported as milligrams per kilogram (mg/Kg).

EXPERIMENTAL:

Polychlorinated Biphenyls (PCBs) in oil were determined according to United States Environmental Protection Agency Method 3580: Waste Dilution and Method 8080: Organochlorine Pesticides and PCBs.

ACTS TESTING LABS, INC.

Charles E. Hartke
Manager, Chemistry Laboratory

ACTS TESTING LABS, INC.

Elizabeth R. Hausler, Supervisor
Gas Chromatography Laboratory

ACTS TESTING LABS, INC.

Lisa M. Clerici, Supervisor
Wet Chemistry Laboratory

cme

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ACTS TESTING LABS, INC
3916 Broadway
Buffalo, NY 14227-1104
Tel (716) 684-3300
Fax (716) 684-3303

Technical Report #5B-3719E

June 12, 1995

ELAP ID# 10247

Mr. Tony Hejmanowski
GENERAL ELECTRIC COMPANY

SUBJECT:

Analysis of one (1) sludge sample for various parameters. The sample was received on May 23, 1995.

RESULTS:

See Page Two.

EXPERIMENTAL:

The Toxicity Characteristic Leaching Procedure for Organics were determined as defined in Title 40, Code of Federal Regulations, Part 268, Appendix 1. Toxicity Characteristic Leaching Procedures were conducted according to "Test Methods for the Examination of Solid Waste Physical/Chemical Methods", EPA SW-846.

The analyses were determined according to procedures listed in "Standard Methods for the Examination of Water and Wastewater," 17th Edition, 1989.

ACTS TESTING LABS, INC.

Charles E. Hartke
Manager, Chemistry Laboratory

ACTS TESTING LABS, INC.

Elizabeth R. Hausler, Supervisor
Gas Chromatography Laboratory

ACTS TESTING LABS, INC.

Lisa M. Clerici, Supervisor
Wet Chemistry Laboratory

cme

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RESULTS:

	ACTS #5B-3719E #06095 O/W SEPERATOR	LIMITS
Arsenic, Total	< 0.05	5.0
Barium, Total	1.20	100.0
Cadmium, Total	< 0.005	1.0
Chromium, Total	< 0.01	5.0
Lead, Total	0.12	5.0
Mercury, Total	< 0.0002	0.2
Selenium, Total	< 0.12	1.0
Silver, Total	< 0.02	5.0

Results are reported as milligrams per liter (mg/L).

EPA TCLP SEMI VOLATILES

	ACTS #5B-3719E #06095 O/W SEPERATOR	TCLP LIMIT
Vinyl Chloride	< 0.001	0.2
1,1-Dichloroethene	0.008	0.7
2-Butanone	< 0.001	200.0
Chloroform	< 0.001	6.0
Carbon Tetrachloride	< 0.001	0.5
1,2-Dichloroethane	< 0.001	0.5
Benzene	< 0.001	0.5
Trichloroethane	< 0.001	0.5
Tetrachloroethane	< 0.001	0.7
Chlorobenzene	< 0.001	100.0
1,4-Dichlorobenzene	0.003	7.5

Results are reported as milligrams per liter (mg/L).

EPA TCLP 8240 VOLATILES

	ACTS #5B-3719E #06095 O/W SEPERATOR	TCLP LIMIT
Pyridine	< 0.010	5.0
1,4-Dichlorobenzene	< 0.010	7.5
O-Cresol	< 0.010	200.0
M,P-Cresols	0.032	400.0
Hexachloroethane	< 0.010	3.0
Nitrobenzene	< 0.010	2.0
Hexachlorobutadiene	< 0.010	0.5
2,4,6-Trichlorophenol	< 0.010	2.0
2,4,5-Trichlorophenol	< 0.010	400.0
2,4-Dinitrotoluene	< 0.010	0.13
Hexachlorobenzene	< 0.010	0.13
Pentachlorophenol	< 0.010	100.0

Results are reported as milligrams per liter (mg/L).

RECRA
ENVIRONMENTAL
INC.

Chemical and Environmental Analysis Services

October 2, 1992

Mr. Anthony Hejamanowski
General Electric
175 Milens Road
Tonawanda, NY 14150

RE: Analytical Results

Dear Mr. Hejamanowski:

Please find enclosed results concerning the analyses of the samples recently submitted by your firm. The Pertinent Information regarding these analyses is listed below:

Quote #: NY91-219
P.O. #: 015-M6750-526
Matrix: Solid Abrasive Sand\ Sludge
Samples Received: 9/15/92
Sample Date: 9/11/92

If you have any questions concerning these data, please contact Ms. Candace Steady, Project Manager at (716) 691-2600 and refer to the I.D. number listed below. It has been our pleasure to provide General Electric with Environmental Testing Services. We look forward to serving you in the future.

Sincerely,

RECRA ENVIRONMENTAL, INC.

Deborah J Kinecki /KPK

Deborah J. Kinecki
Vice President

AJH/DJK/ah
Enclosure

I.D. #92-2831
#NY1A3312

ANALYTICAL RESULTS

Prepared For

General Electric
175 Milens Road
Tonawanda, New York 14150

Prepared By

Recra Environmental, Inc.
10 Hazelwood Drive, Suite 106
Amherst, New York 14228-2298

METHODOLOGIES

The specific methodology employed in obtaining the enclosed analytical results is indicated on the specific data tables. The method number presented refers to the following U.S. Environmental Protection Agency reference.

* U.S. Environmental Protection Agency "Test Methods for Evaluating Solid Waste-Physical/Chemical Methods." Office of Solid Waste and Emergency Response. November 1986, SW-846, Third Edition.

* The Toxicity Characteristic Leaching Procedure was performed for Total Metals in accordance with method 1311, 40CFR, Appendix II to Part 261, June 1990.

COMMENTS

Comments pertain to data on one or all pages of this report.

The enclosed data has been reported utilizing data qualifiers (Q) as defined on the Organic and Inorganic Data Comment Pages.

Quality control analysis was performed on a batch basis. All results were within acceptable limits.

Results of the analyses of soil samples, except for Sample #02092 which was reported on a wet weight basis, have been corrected for moisture content and are reported on a dry weight basis.

The dry weight (103°C) was as follows on each individual data page.

TCLP Matrix spike quality control analysis was performed on sample #01992 MS. The measured values for sample #01992 on the enclosed TCLP data have been corrected for analytical bias based upon the matrix spike results from sample #01992 MS as required by the referenced TCLP protocol.

Quantitation limits are not corrected for analytical bias.

ORGANIC DATA COMMENT PAGE

Laboratory Name RECRA ENVIRONMENTAL, INC.

USEPA Defined Organic Data Qualifiers:

U - Indicates compound was analyzed for but not detected.

J - Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.

C - This flag applies to pesticide results where the identification has been confirmed by GC/MS.

B - This flag is used when the analyte is found in the associated blank as well as in the sample.

E - This flag identifies compounds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis.

D - This flag identifies all compounds identified in an analysis at a secondary dilution factor.

G - The TCLP Matrix Spike recovery was greater than the upper limit of the analytical method.

L - The TCLP Matrix Spike recovery was lower than the lower limit of the analytical method.

T - This flag is used when the analyte is found in the associated TCLP extraction as well as in the sample.

INORGANIC DATA COMMENT PAGE

Laboratory Name RECRA ENVIRONMENTAL, INC.

USEPA Defined Inorganic Data Qualifiers:

B - Indicates a value greater than or equal to the instrument detection limit but less than the contract required detection limit.

U - Indicates element was analyzed for but not detected. Report with the detection limit value (e.g., 100).

E - Indicates a value estimated or not reported due to the presence of interference.

S - Indicates value determined by Method of Standard Addition.

N - Indicates spike sample recovery is not within control limits.

* - Indicates duplicate analysis is not within control limits.

+ - Indicates the correlation coefficient for method of standard addition is less than 0.995.

M - Indicates duplicate injection results exceeded control limits.

W - Post digestion spike for Furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50% of spike absorbance.

G - The TCLP Matrix Spike recovery was greater than the upper limit of the analytical method.

L - The TCLP Matrix Spike recovery was lower than the lower limit of the analytical method.

GENERAL ELECTRIC

METHOD 8080 - POLYCHLORINATED BIPHENYLS

Laboratory:	Recra Environmental, Inc. - RECNY	Matrix:	Other Sc
Lab Job No:	A92-2831	Dilution Factor:	1
Lab Sample ID:	AS017825	Sample Date:	09/11/92
Client Sample ID:	#01992	Analysis Date:	09/30/92
		Extraction Date:	09/21/92
		% Dry Weight:	99.40

Parameter	Units = UG/KG	Result	Q
Aroclor 1016		40	U
Aroclor 1221		80	U
Aroclor 1232		40	U
Aroclor 1242		40	U
Aroclor 1248		40	U
Aroclor 1254		40	U
Aroclor 1260		120	

GENERAL ELECTRIC

METHOD 8080 - POLYCHLORINATED BIPHENYLS

Laboratory:	Recra Environmental, Inc. - RECNY	Matrix:	Other Sc
Lab Job No:	A92-2831	Dilution Factor:	1
Lab Sample ID:	AR004607		
Client Sample ID:	METHOD BLANK	Analysis Date:	09/25/92
		Extraction Date:	09/21/92

Parameter	Units = UG/KG	Result	Q
Aroclor 1016		40	U
Aroclor 1221		80	U
Aroclor 1232		40	U
Aroclor 1242		40	U
Aroclor 1248		40	U
Aroclor 1254		40	U
Aroclor 1260		40	U

GENERAL ELECTRIC

METHOD 8080 - POLYCHLORINATED BIPHENYLS
% Surrogate Recovery

Laboratory: Recra Environmental, Inc. - RECNY
Lab Job No: A92-2831

Client Sample ID	Lab Sample ID	S1 HBB	#
METHOD BLANK	AR004607	88	
#02092	AS017824	0	D
#01992	AS017825	103	

S1 HBB = Hexabromobenzene

\# Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogates diluted out

GENERAL ELECTRIC

Toxicity Characteristic Leaching Procedure
TCLP METALS TESTING

Laboratory: Recra Environmental, Inc. - RECNY
Lab Job No: A92-2831
Lab Sample ID: AS017825
Client Sample ID: #01992

Matrix: Other Solid
Sample Date: 09/11/92
Dilution Factor: 1

EPA HW Number	Parameter	Method	Digestion Date	Analysis Date	Regulatory Level (MG/L)	Uncorrected Result (MG/L)	Bias Corrected Result (MG/L)	Q
D004	Arsenic - Total	7060	09/28/92	10/01/92	5.0000	0.0050	0.0050	U
D005	Barium - Total	6010	09/28/92	10/01/92	100.0000	0.35	0.35	G
D006	Cadmium - Total	6010	09/28/92	10/01/92	1.0000	0.0050	0.0050	U
D007	Chromium - Total	7190	09/28/92	09/29/92	5.0000	0.16	0.16	G
D008	Lead - Total	7420	09/28/92	09/29/92	5.0000	1.5	1.6	
D009	Mercury - Total	7470	09/28/92	09/28/92	0.2000	0.00040	0.00040	U
D010	Selenium - Total	7740	09/28/92	09/29/92	1.0000	0.0050	0.0050	U
D011	Silver - Total	7760	09/28/92	10/01/92	5.0000	0.0010	0.0010	U

GENERAL ELECTRIC

Toxicity Characteristic Leaching Procedure
TCLP METALS TESTING

Laboratory: Recra Environmental, Inc. - RECNY
Lab Job No: A92-2831
Lab Sample ID: AR004605
Client Sample ID: EXTRACTOR BLANK

Matrix: Other Solid

Dilution Factor: 1

EPA HW Number	Parameter	Method	Digestion Date	Analysis Date	Regulatory Level (MG/L)	Uncorrected Result (MG/L)	Bias Corrected Result (MG/L)	Q
D004	Arsenic - Total	7060	09/28/92	10/01/92	5.0000	0.0050	0.0050	U
D005	Barium - Total	6010	09/28/92	10/01/92	100.0000	0.050	0.050	U
D006	Cadmium - Total	6010	09/28/92	10/01/92	1.0000	0.0050	0.0050	U
D007	Chromium - Total	7190	09/28/92	09/29/92	5.0000	0.010	0.010	U
D008	Lead - Total	7420	09/28/92	09/29/92	5.0000	0.080	0.080	U
D009	Mercury - Total	7470	09/28/92	09/28/92	0.2000	0.00040	0.00040	U
D010	Selenium - Total	7740	09/28/92	09/29/92	1.0000	0.0050	0.0050	U
D011	Silver - Total	7760	09/28/92	10/01/92	5.0000	0.0010	0.0010	U

GENERAL ELECTRIC

Toxicity Characteristic Leaching Procedure
TCLP METALS TESTING

Laboratory: Recra Environmental, Inc. - RECNY
Lab Job No: A92-2831
Lab Sample ID: AR004606
Client Sample ID: METHOD BLANK

Matrix: Other Solid
Dilution Factor: 1

EPA HW Number	Parameter	Method	Digestion Date	Analysis Date	Regulatory Level (MG/L)	Uncorrected Result (MG/L)	Bias Corrected Result (MG/L)	Q
D004	Arsenic - Total	7060	09/28/92	10/01/92	5.0000	0.0050	0.0050	U
D005	Barium - Total	6010	09/28/92	10/01/92	100.0000	0.050	0.050	U
D006	Cadmium - Total	6010	09/28/92	10/01/92	1.0000	0.0050	0.0050	U
D007	Chromium - Total	7190	09/28/92	09/29/92	5.0000	0.010	0.010	U
D008	Lead - Total	7420	09/28/92	09/29/92	5.0000	0.080	0.080	U
D009	Mercury - Total	7470	09/28/92	09/28/92	0.2000	0.00020	0.00020	U
D010	Selenium - Total	7740	09/28/92	09/29/92	1.0000	0.0050	0.0050	U
D011	Silver - Total	7760	09/28/92	10/01/92	5.0000	0.0010	0.0010	U

QUALITY CONTROL INFORMATION - ACCURACY
AQUEOUS MATRIX
METHOD 8080

LAB NAME RECRA ENVIRONMENTAL INC.
EXTRACTION DATE: 9/21/92
ANALYSIS DATE : 9/30/92
RECRA SAMPLE IDENTIFICATION AS017825 MS AND MSD
CLIENT SAMPLE IDENTIFICATION #01992 MATRIX SPIKE AND MATRIX SPIKE DUPLICATE

COMPOUND	NG OF SPIKE ADDED	MS PERCENT RECOVERY	MSD PERCENT RECOVERY	Q
Aroclor 1242	0.1	93	89	
Aroclor 1254	0.1	120	90	
SURROGATE (%RECOVERY) Hexabromobenzene		111	103	

ID # 92-2831

QUALITY CONTROL INFORMATION- PRECISION
TCLP EXTRACT
TOTAL METALS

LAB NAME RECRA ENVIRONMENTAL INC.
RECRA SAMPLE IDENTIFICATION AS017825 MD
CLIENT SAMPLE IDENTIFICATION #01992 MATRIX DUPLICATE

PARAMETER UNITS FOR MEASURE (MG\L)	METHOD NUMBER	VALUE 1	Q	VALUE 2	Q	MEAN	Q	S.D.
Total Arsenic	7060	0.005	U	0.005	U	0.005	U	--
Total Barium	6010	0.35		0.36		0.36		0.0071
Total Cadmium	6010	0.005	U	0.005	U	0.005	U	--
Total Chromium	7190	0.16		0.15		0.16		0.0071
Total Lead	7420	1.5		1.5		1.5		0
Total Selenium	7740	0.005	U	0.005	U	0.005	U	--
Total Silver	7760	0.001	U	0.001	U	0.001	U	--

S.D.=Standard Deviation
ID# 92-2831

MATRIX SPIKE RECOVERY
TCLP EXTRACT
TOTAL METALS

LAB NAME RECRA ENVIRONMENTAL INC.
RECRA SAMPLE IDENTIFICATION AS017824 MS
CLIENT SAMPLE IDENTIFICATION #01992 MATRIX SPIKE

PARAMETER	METHOD NUMBER	MICROGRAMS OF SPIKE	PERCENT RECOVERY	Q
Total Arsenic	7060	40	65	L
Total Barium	6010	2000	124	G
Total Cadmium	6010	50	102	G
Total Chromium	7190	200	113	G
Total Lead	7420	20	96	
Total Mercury	7470	0.4	104	G
Total Selenium	7740	10	100	
Total Silver	7760	50	15	L

ID# 92-2831

ATTACHMENT II

SECURITY

SECURITY

In order to prevent spills that would result from accident or vandalism on the Shop site, the following measures are taken:

* The master flow and drain valves and any other valves that will permit direct outward flow of a tank's contents to the surface are securely locked in the closed position when in non-operating status.

* The starter control on all oil/PCB pumps is locked in the "OFF" position or located at a site accessible only to authorized personnel when the pumps are in a non-operating status.

* The loading-unloading connections of oil/PCB pipelines is securely capped or blank-flanged when not in service or on standby service for an extended time.

* Facility lighting is commensurate with the type and location of the facility. Lighting is of sufficient capacity to ensure adequate security and safe operations, considering discovery of spills occurring during hours of darkness and prevention of spills occurring through acts of vandalism.

* The facility is fully fenced. Refer to site plan drawing located in topographic map section for fence lines. Entrance gates are locked when facility is closed. Locked gates are located at facility main entrance off Milens Road. Also, at Southeast corner roadway entrance along east side of facility, and railroad siding entrance at Northeast corner.

ATTACHMENT III

INSPECTIONS

Revised 4/20/94

INSPECTIONS

INSPECTION SCHEDULE

ITEM TO BE INSPECTED	FREQUENCY OF INSPECTION	INSPECTION
Loaded/Unload Areas	Daily	Check for any leaks or spills
Container Storage	Weekly	Check for signs of leaks or deterioration. Check covers and bungs. Check labels, aisle space, check flooring and curbs.
Spill Control and Emergency Response Equipment	Weekly	Check condition and availability of equipment, to include Intercom system, fire prevention equipment, sprinkler and emergency exits.
Facility Transfer Areas	Weekly	Check tank fill points, valves, piping and pipe supports. Check floor and curbing.
Security Systems	Weekly	Check condition of fences and proper posting of warning signs.
Oil Water Separators	Other	To begin inspection schedule, units will have levels checked weekly. If review of weekly inspections indicate small variations from week to week, scheduled inspections will be changed to monthly

INSPECTIONS

The following inspection plan applies to the existing storage at the General Electric Buffalo Service Center.

1. Daily Inspections

The following inspections will be performed at least once each operating day using Form 2 of Appendix A, Daily Inspection Report, and will include but not be limited to the following:

Inspect the discharge control equipment (pump, piping, waste feed cutoff system, and tanks) to ensure that it is not leaking. Determine the level of liquid in each tank. Inspect facility loading/unloading areas for leaks or spills.

2. Weekly Inspections

The following inspections will be performed at least once per week using Forms 1, 2, 3, and 4 of Appendix A, and will include, but not be limited to, the following:

A. Facility Personal Safety Equipment/Emergency Response Equipment

Personal safety equipment/spill control kits will be checked for completeness and availability. Emergency response equipment consisting of portable fire extinguishers, shop sprinkler system, public address system will be inspected for proper operation. Emergency exits will be checked for operation and access. (See Inspection Forms 1 and 4).

B. Drainage

Diked areas and storage areas will be inspected for accumulations of oil/PCBs that may have escaped from small leaks. Any escaped oil/PCBs will be collected and returned to waste storage tanks or drums. (see Inspection Form 3).

C. Inspection of Drum Storage Areas

Drum storage areas will be visually inspected for signs of leakage. Inspection will verify the integrity of the drums (no rupture or leakage bungs) and an orderly arrangement of the area to prevent accidents in handling. Storage areas will be checked to verify storage capacity is not exceeded and that proper aisle clearances are maintained. (See Inspection Form 3).

D. Facility Transfer Operations

All areas of oil/PCB transfer including but not limited to tank fill points, transformer fill points, and waste oil/PCB draining area, will be inspected to insure the integrity of all above-ground valves, pipelines, flange points, drip pans, pipe supports, etc. (See Inspection Form 3).

INSPECTIONS

E. Security

Check condition of fence along perimeter of facility and proper operation of entrance gates. Check and verify that warning signs are in place.

3. Annual Inspection

A. The following inspections will be performed at least once per year using Form 5 of Appendix A, and will include the entire tank for:

1. Rust or other physical deterioration.
2. Leakage and/or accumulation of oil within diked area.

B. The annual inspections of diked areas will be conducted by a registered professional engineer who is qualified to evaluate the condition of concrete.

1. Where possible all surfaces will be completely exposed in preparation for the annual inspection.

2. Exposed surfaces will be checked for cracks, failed joint filler or sealant, differential settlement and any other defects which may decrease the relative impermeability of the containment areas or reduce the effectiveness of collecting spilled wastes.

3. Upon completion of the diked area inspection a detailed written report will be provided. The report will contain the following:

- Specify nature and content of the inspection
-Observation made during inspection
-Details of defects if found. Including photos if necessary
-Evaluation of adequacy of any repairs made during the year
-Details of any remedial action taken including methods, procedures and material specifications
-Certification that all repairs made in response to the inspection were made in accordance with the descriptions contained within the report

4. The annual inspections report will be submitted to the USEPA and NYSDEC.

5. Any deterioration of equipment or structures revealed by inspections where a hazard is imminent or has already occurred will be remedied immediately.

INSPECTIONS

C. Temporary Storage Containers

The storage containers will be thoroughly inspected once per year. A detailed inspection should include an examination of the entire container for signs of corrosion, paint loss, leaking, proper markings, etc. (See Inspection Form 4).

4. Other Inspections

A. Oil Water Separators

On a weekly or monthly basis both, East and South, oil water separators will be inspected. The inspection will include removal and covers to gain access to interceptor and waste oil compartments. Skimmers will be visually inspected to ensure free flow of oil to oil storage compartments. Using dip sticks the level of sludge in the interceptor and oil storage compartment swill be checked to determine when clean out is required. (See Inspection Form 6).

Inspection Personnel

RCRA Waste Collection, Storage Areas and Communication Systems:

Inspector - Shop Maintenance
Alternate - Stockroom Keeper

Spill Control, Emergency Response Equipment and Process Monitoring Equipment:

Inspector - Shop Maintenance
Alternate - Stockroom Keeper

PCB Storage and Work Area:

Inspector - EHS Coordinator
Alternate - Stockroom Keeper

Remedial Actions

Deficiencies noted during course of inspections will be corrected as required. Leaks in containers or spills in storage or work areas will be corrected immediately following spill procedures outlined in SPCC Plan.

Deficiencies found in equipment such as pumps, hoses, tanks, piping, curbing, etc. will be repaired or replaced. Equipment requiring repairs will be tagged and removed from service until repairs are made. Equipment that requires replacement will be tagged and in no-use status until new equipment arrives.

APPENDIX A

RECORDS AND REPORT FORMS

EXHIBIT 1

WEEKLY HAZARDOUS WASTE INSPECTION FORM

BUFFALO SERVICE CENTER

EPA ID. NO. NYD057539940

INSPECTION ITEMS/AREAS	AVAILABLE AND IN GOOD CONDITION	CORRECTIVE ACTION REQUIRED
Personal Safety		
Gloves		
Boots		
Coveralls		
Face Shields		
Respirators		
Eye Wash and Shower		
Spill Control		
Absorbent Material		
Plastic Sheeting		
Brooms		
Shovels		
Empty Drums		
Emergency Response		
Fire Extinguishers		
Internal Communication		
External Communication		
Hazardous Waste Drums		
Number in Storage		
Drums Properly Labeled/Dated		
Not Leaking or Damaged		
Drum Storage Area		
Warning Signs in Place		
Fence or Other Security Measures		
Curb, Drip Trays or Other Means to Contain Spills		

Corrective Actions taken for identified items:

Inspected by: _____ Date: _____

Signature Time: _____

FORM 3
WEEKLY INSPECTION REPORT

DATE: _____ INSPECTOR: _____

TANK	MATERIAL	SIGNS OF DETERIORATION	LEAKS YES/NO	CONDITION OF FOUNDATION/SUPPORTS	DEFICIENCIES	CORRECTIVE ACTION	DATE
OT-1	10 CA OIL						
OT-2	10 CA OIL						
T-5	SCRAP OIL STORAGE						

DIKED AREAS	LEAKS	CONDITION OF DRUMS			AISLE	DEFICIENCIES	CORRECTIVE	DATE
	Location	Ruptures	Leaking Bungs	Arrangement	SPACING		ACTIONS	
T-5 STORAGE AREA								
OT-1 & OT-2								
PCB STORAGE AREA								
PCB WORK AREA								
OUTDOOR STORAGE AREA								

WEEKLY INSPECTION OF FIRE PROTECTIVE EQUIPMENT

Plant Location: Buffalo Service Center
175 Milens Road
Tonawanda, NY 14150

Date: _____

Instructions to Inspector:

Fill out form while making inspection. Send copy to _____ for review and any necessary action. Original report to be filed for review by Factory Mutual ENgineer. Before making the test of sprinkler system as listed below, call 854-0974 or 1-800-232-0974 and alert ADT that a test will be made on System #222-320. Call ADT when test is completed.

1st Notification at: _____, Test complete: _____

1. North Riser SPRINKLER SYSTEM WATER FLOW ALARM TEST

   Record water pressure on TOP GAUGE _____
   Record water pressure on BOTTOM GAUGE _____
   With valve open and water flowing _____
   Fire alarm gong ringing with valve open? _____
   Alarm stops with valve closed? _____
   Main sprinkler valve locked open? _____

   SPARE SPRINKLER HEADS: 165 ____ 285 ____ 212 ____ 500 ____ 400 ____

   FIRE DOOR INSPECTED? _____

   Open line drain valve in North East corner of building.
   After 2 minutes transmitter should indicate F-1 Alarm.
   Close valve and reset transmitter. _____

2. South Riser SPRINKLER SYSTEM WATER FLOW ALARM TEST

   Record water pressure on TOP GAUGE _____
   Record water pressure on BOTTOM GAUGE _____
   With valve open and water flowing _____
   Fire alarm gong ringing with valve open? _____
   Alarm stops with valve closed? _____
   Main sprinkler valve locked open? _____

   SPARE SPRINKLER HEADS: 212 ____

   Open line drain valve in East Wall or plant in PCB Area.
   After 2 minutes transmitter should indicate F-1 Alarm.
   Close valve and reset transmitter. _____

3. Curb box open - check weekly _____
   S-W Riser (in yard) valve open _____

4. 2 1/2 inch valve open and locked to oil storage building _____

5. Spray booth sprinkler valve open and sealed (Column 2E) _____

6. Inspect all sprinkler heads in dryout ovens for buildup of varnish or other insulating coating _____

WEEKLY INSPECTION OF FIRE PROTECTIVE EQUIPMENT

FLAMMABLE LIQUIDS:

Safety grounds used? _____

Areas needing attention: _____

ELECTRICAL EQUIPMENT:

Defects noted: _____

General order and neatness throughout work areas: _____

_____

Note any specific areas that need improvement: _____

_____

Note any hazardous conditions? Remarks: _____

_____

Are all aisles clear? _____

REMARKS: _____

_____

_____

_____

_____

Inspector: _____ **Supervisor:** _____

Date: _____ Date: _____

WEEKLY EMERGENCY EXIT DOORS INSPECTION

LOCATION	OPERATING	CLEAR OF OBSTRUCTIONS	COMMENTS
(HI BAY) 1C			
(EAST WALL) 1F			
1K			
(NORTH WALL) 4L			
(WEST WALL) CAFETERIA			
5J			
5A			
5X			
(OFFICE) NORTH			
WEST			
(SOUTH WALL) RANDOM			
SHIPPING			
HI BAY			

INSPECTOR _____ DATE _____

SUPERVISOR _____ DATE _____

WEEKLY INSPECTION OF FIRE PREVENTION EQUIPMENT

LOCATION	IN POSITION	SEALED	LOCATION	IN POSITION	SEALED
Random Dept. STEAM BOOTH			COLUMN 4J		
GE-GARD			COLUMN 3J		
FIRE BLANKET-GEGARD			WELD-SHOP WALL		
COLUMN 4 - Z			WELD-SHOP BLANKET		
COLUMN 5 - X			COLUMN 3 - K		
COLUMN 5 - Z			COLUMN 2 - 3L		
SWITCHGEAR (SHOP)			ENGINE #3 (2-K)		
EXIT DOOR 5-A			COLUMN I - J		
UPSTAIRS RECORD-ROOM			HOSE 2-J		
COLUMN 4 - B-C			ENGINE #2 (2-F)		
FIRE BLANKET (F. Aid)			HOSE 2-E		
STRECHER (F. Aid)			OUTSIDE of TEST FLOOR CAGE (n. WEST CORNER)		
MEDICAL OXYGEN	IN USE	SPARE	COLUMN 2-C		
FRONT OFFICE: MAIN ENTRANCE			HI BAY BOOTH - LEFT		
MEN'S LAVATORY			HI BAY BOOTH - RIGHT		
COMPUTER ROOM			HOSE - 2A		
PLANT ENTRANCE DOOR			COLUMN 1A		
DIP TANK - CO-2			COLUMN 1X		
DIP TANK - WALL			HOSE 2W		
STOCK ROOM #1			SHIPPING ROOM		
STOCK ROOM #2			FORK TRUCK		
COLUMN 4F			UPSTAIRS OFF.- SOUTH		
ENGINE #1 COMPRESSOR ROOM			UPSTAIRS OFF. - NORTH		

SPARE EXTINGUISHERS:
(STOCKROOM)

INSPECTOR: _____

FORM 5

ANNUAL INSPECTION REPORT

An authorized employee shall make a visual inspection of each of the storage tanks on an ANNUAL basis and complete this report.

TANK/ STORAGE CONTAINER	LIQUID DEPTH	RUST SPOTS YES/NO	AIR PRESSURE YES/NO	FOUNDATION CRACKS OR SETTLEMENT YES/NO	LEAKAGE YES/NO	INSPECTED BY (INITIALS)	DATE	DEFICIENCIES NOTED	CORRECTIVE ACTION	DATE

GE COMPANY
BUFFALO SERVICE CENTER

EAST OIL/ WATER SEPARATOR -- INSPECTION LOG

INSPECTION DATE	OIL SKIMMER FLOW		INTERCEPTOR COMPARTMENT (SLUDGE LEVEL - INCHES) -a)	OIL STORAGE COMPARTMENT (OIL LEVEL - INCHES) -b)	COMMENTS	INSPECTOR'S SIGNATURE
	FREE	OBSTRUCTED				

GE COMPANY
BUFFALO SERVICE CENTER

SOUTH OIL/ WATER SEPARATOR -- INSPECTION LOG

INSPECTION DATE	OIL SKIMMER FLOW		INTERCEPTOR COMPARTMENT (SLUDGE LEVEL - INCHES) -a)	OIL STORAGE COMPARTMENT (OIL LEVEL - INCHES) -b)	COMMENTS	INSPECTOR'S SIGNATURE
	FREE	OBSTRUCTED				

ATTACHMENT IV

PERSONNEL TRAINING

Revised 4/20/94

PERSONNEL TRAINING

1. Training Outline	Required Training	Schedule
All Employees	Hazardous waste menagement program overview/objectives Hazardous waste identification waste collection, store, transportation and disposal - Review contingency and emergency procedure plan. Review of shop specific hazardous waste management procedures	Annually
New Employees	Same as above	Within six months of hiring date
All Employees	General safety meetings with Reminders on chemical safety and Hazardous Waste controls	Monthly
PCB Supervisors	Classroom instruction, examination and certification per GE Company procedure AP-HS-30.2 "PCB Servicing Procedures & Controls"	Annually
Facility Manager, Emergency & Alternate Emergency Coordinator, Employees with Emergency Activities	Review contingency and emergency procedures - plans Review of specific duties with employees having specific emergency response duties as outlined in the Buffalo Shop contingency & emergency procedures plan Review of equipment designated for emergency activities.	As required as plans change At a minimum annually
Employees with Specific Hazardous Waste duties (Hazardous Materials Identification, Shop Hazarrdous Waste Control, Inspections).	Review of specific materials used by shop and specific wastes generated by shop. Review of shop procedures on hazardous waste control. Review of required inspection and inspection practices.	Annually

PERSONNEL TRAINING

1. Training Outline (continued)

	Required Training	Schedule
Employees with training responsibilities	Classroom training examination and certification on PCB control.	Annually
	GE-ASD audio-visual module on RCRA hazardous waste control	
	Review of GE - ASD hazardous waste management manual.	

2. Training Director

The GE-Buffalo Center training program is directed by Anthony Hejmanowski who is thoroughly familiar with the Hazardous Waste Management Program.

3. Relevance of Training Given

In addition to the training program administered to all GE-Buffalo Center employees additional training is given to those employees having specific hazardous waste duties. This additional training is designed to cover in depth the requirements of the specific assignment. The chart given below shows the assigned hazardous waste assignment and the related specific training provided:

Job Position	Hazardous Waste Management Assignment	Specific Training
Stockroomkeeper	Hazardous material identification: Shop hazardous waste control	Review of specific materials used by shop and specific wastes generated by shop; identification of stock materials which require hazardous waste control when discarded; collection and proper storage of hazardous waste.

PERSONNEL TRAINING

3. Relevance of Training Given (continued)

Job Position	Assignment	Hazardous Waste Management Specific Training
Shop Maintenance/ Transformer	Shop hazardous waste control, Emergency activity responsibility (Area Operator) Inspection	Review of procedures for compliance with proper segregation of hazardous waste; collection and proper storage of hazardous waste; review of required inspection for inspection practices At a minimum, annual review of contingency and emergency procedure plan with detailed review of specific duty (area operator) as outlined in the GE Buffalo Center Contingency and Emergency Procedure Plan.
Transformer Repair	Inspection	Review of required inspections and inspection practices.
	Emergency activity responsibility (Area Operator)	At a minimum, annual review of contingency procedure plan with detailed review of the specific duty (Area Foreman) as outlined in the GE-Buffalo Shop Contingency and Emergency Procedure Plan.

PERSONNEL TRAINING

3. Relevance of Training Given (continued)

Job Position	Hazardous Waste Management Assignment	Specific Triaining
EHS Coordinator	Emergency Coordinator Training, Inspection	Classroom training and certification on PCB control. GE-ASD audio-visual presentation on RCRA hazardous waste control. Review of GE-ASD Hazardous Waste Management Manual. At a minimum, annual review of contingency and emergency plan as outlined in the GE-Buffalo Center Contingency and Emergency Procedure Plans.
Purchasing/ EHS Coordinator	Overall responsibility for administration of GE-Buffalo Center hazardous waste program with individual duties (Hazardous matrial identification, hazardous waste control, emergency activities, training, inspection recordkeeping)	Classroom training and certification on PCB control. GE-ASD audio-visual program on RCRA hazardous waste control. Review of GE-ASD manual. At a minimum, annual review of contingency and emergency procedures.

4. Emergency Response Training - (continued)

The GE-Buffalo Center Hazardous Waste Management Annual Training Program includes specific training of personnel with assigned emergency activity duties.

The objective of this program is to ensure that the shop emergency response organization is able to respond effectively in the event of a spill, fire, explosion or other incident that could release hazardous wate.

Annually, or every time the GE Buffalo Center Contingency and Emergency Procedure Plan changes, review takes place for familization with the emergency procedures and emergency equipment outlined in the Plan.

The GE-Buffalo Center Emergency Coordinator, Alternate Emergency Coordinator, Plant Manager and other personnel with assigned duties (Area Foreman, Area Operators, and Shop Emergency Response Team) will be present at this review. All aspects of the plans will be discussed:

- Emergency procedures to be implemented in the event of a spill, fore or explosion that could release hazardous waste. Specific duties of each individual with assigned duty.

- Review of alarms and emergency communication systems, emergency equipment available at the facility.

- Review of the shop emergency response team function, state of readiness, and equipment availability necessary to contain the emergency (absorbent material , shovel, fire extinguishers, personnel protective equipment).

- Review of the specific procedures addressing container spill and leakage, tank spills and leakage, loading and unloading spills.

- Review of procedures in place to inspect and replace (if needed) the emergency response equipment and the measures to prevent the escape of hazardous wastes into the environment.

- Review of the evacuation plan.

- Facility tour with physical inspection of the alarms, emergency communication system, emergency equipment (personnel protective equipment, spill kits).

PERSONNEL TRAINING

TRAINING REQUIREMENTS:

- Annual classroom training will be conducted for all shop personnel. This training will include hazardous waste identification, waste collection, storage, transportation, treatment and diposal. The trinaing program is designed to insure that shop personnel are familiar with procedures and equipment so that they can effectively respond to emergencies. See appendix A training script.

- Shop personnel involved with PCB servicing activities must attend additional training sessions on "PCB Servicing Procedures and Controls." Personnel attending these sessions and passing quizzes upon completion of session become certified PCB supervisors. Any shop or on-site work that requires handling of any transformer insulating liquid must be done by or under the direct supervision of a certified PCB Supervisor. No shop employee will be allowed to perform any shop PCB work unless he/she is a Certified PCB Supervisor or is working under supervision of a PCB Certified Supervisor. See Appendix B, PCB Servicing Procedures and Controls.

- Shop personnel involved with PCB servicing activities must attend additonal training sessions on "PCB Servicing Procedures and Controls." Personnel attending these sessions and passing quizzes upon completion of session become certified PCB supervisors. Any shop or on-site work that requires handling of any transfomrer insulating liquid must be done by or under the direct supervision of a certified PCB Supervisor. No shop employee will be allowed to perform any shop PCB work unless he/she is a Certified PCB Supervisor or is working under supervision of a PCB Certified Supervisor. See Appendix B, PCB Servicing Procedures and Controls.

- Meetings will be held between the Shop Manager or designated employee in charge of spill pervention and control, and other employees at the General Electric Company, at regular intervals, frequent enough to assure an adequate understanding of the SPCC Plan, but at intervals not to exceed one year. The date of these meetings will be recorded. The agenda at these meetings should include:

    - A briefing of recently developed precautionary or response measures.

    - A brief review of the proper operating procedures for PCB Liquid Waste Storage. The nature of materials being handled and potential health hazards. Capabilities of storage tanks. Location and operation of all safety equipment and spill response material. Spill response procedures outlined in SPCC Plan.

PERSONNEL TRAINING

6. TRAINING REVIEW:

- All service center personnel must take part in an annual review of the initial hazardous waste training.

- New personnel must be instructed in hazardous waste control and emergency procedures as they are hired.

- PCB supervisors will be re-certified on a yearly basis.

7. HAZARDOUS WASTE MANAGEMENT RESPONSIBILITY:

- Roy Satzman and Anthony Hejmanowski are responsible for the administration of Hazardous Waste Management at the Buffalo Service Center. These duties include the establishment and maintenance of procedures as defined in the ASD Hazardous Waste Management Manual and the Regulation of the State of New York for the following waste activities.

    - Material Analysis
    - Facility Requirements
    - Shop Floor Control
    - Inspection
    - Manifests
    - Contingency and Emergency
    - Training

- The EHS Coordinator and Stockroom Keeper are responsible for the identification of stock materials which will require Hazardous Waste Control when discarded.

- Shop Maintenance and EHS Coordinator are responsible for compliance with shop floor procedures for the accumulation and segregation of Hazardous Waste.

- Shop Maintenance and Stockroom Keeper are responsible for the collection and proper storage of hazardous wastes.

- EHS Coordinator and Customer Service are responsible for the preparation of hazardous waste shipping manifests.

PERSONEL TRAINING

7. HAZARDOUS WASTE MANAGEMENT RESPONSIBILITY

- Anthony Hejmanowski is designated as the emergency coordinator with the authority and responsibility for the implementation of contingency and emergency procedures.

- The above individuals are familiar with the Hazardous Waste requirements as defined in the ASD Hazardous Waste Management Manual and in the Buffalo Service Center Procedures.

- The shop employees have received training on hazardous waste regulations and on the Buffalo Service Center's Hazardous Waste Management. Procedures Training is conducted by Anthony Hejmanowski, and other management designees at in-shop employee training sessions. Records of these training sessions are maintained in the hazardous waste training file.

HAZARDOUS WASTE MANAGEMENT PERSONNEL

The following Shop personnel are presently assigned duties/responsibilities for proper handling and control of hazardous materials:

HAZARDOUS MATERIAL IDENTIFICATION		
Designee	Anthony Hejmanowski	Purchasing
Alternate	Ronald Riggs	Stockroom Keeper
SHOP HAZARDOUS WASTE CONTROL		
Designee	Jim Horbett	Maintenance
Alternates	Ronald Riggs	Stockroom Keeper
	Anthony Hejmanowski	EHS Coordinator
EMERGENCY ACTIVITIES		
Emergency Coordinator	Anthony Hejmanowski	EHS Coordinator
Shop Manager	Roy Satzman	Manager
Alternate Coodinator	David Toelsin	Mgr. Curstomer Ser
Area Foreman	Michael Domagala	Foreman
Area Operator	Henry Haase	Switchgear
Area Operator	Kenneth Berger	Transformer B
TRAINING		
Designee	Anthony Hejmanowski	EHS Coordinator
Alternate	Theresa Hinman	Region EHS Specialist
INSPECTION		
Designee	Anthony Hejmanowski	EHS Coordinator
Alternate	David Toelsin	Mgr. Customer Service
Designee	Jim Horbett	Maintenance
Alternate	Ron Riggs	Stockroom keeper
RECORD KEEPING		
Designee	Anthony Hejmanowski	EHS Coordinator

HAZARDOUS WASTE MANAGEMENT

JOB DESCRIPTION

HAZARDOUS MATERIAL IDENTIFICATION

Perform review of stock materials believed to be hazardous.

Review purchase of new material.

HAZARDOUS WASTE CONTROL

Properly distribute, collect and have analyzed wastes identified as hazardous.

EMERGENCY ACTIVITIES

Emergency Coordinator and Alternates will be thoroughly familiar with contingency and emergency procedures plans. All duties as defined in plans will be performed by designated personnel.

TRAINING

Designated employees will be familiar with inspection plan. Employees will be responsible to perform inspection duties as outlined in plan.

RECORD KEEPING

Designted employees will be responsible for all files and reports required by Federal , State and Local and department regulations.

TRAINING

APPENDIX -A-

GE Industrial & Power Systems

Administrative Procedure

PCB Servicing — Procedures and Control

This Document Assigned To:

COMPANY PROPRIETARY INFORMATION

This document is considered Company Proprietary Information and is restricted to use by GE Industrial & Power System (GE I&PS) employees only. The document is not to be read by, copied for, or otherwise released to non-GE I&PS personnel, such as contractor foremen, customer engineers, architect-engineering consultants, other GE product department engineers, etc.

GE Industrial & Power Systems

PCB SERVICING — PROCEDURES AND CONTROL

Notice of Intent

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This document is the property of GE I&PS and must be returned to the Company upon request, or when it is no longer needed to suport GE I&PS service work activities, or when its custodian leaves GE I&PS employment.

IF THIS DOCUMENT IS LOST, PLEASE RETURN IT TO:

Communication Services
General Electric
705 Corporations Park
Scotia, New York 12302

II. CERTIFIED PCB SUPERVISORS

A. CERTIFICATION CRITERIA -

1. To become "certified" a person's name must be submitted to the Manager Power Delivery Services (Region) who will review the need of the nominating component and the credentials of the individual for participation in the certification program.

2. The nominee must attend and satisfactorily complete an I&PS approved course covering EPA/DOT/I&PS regulations and procedures. He must pass the written examinations.

3. Certification is good for a maximum of 12 months.

4. To be recertified the PCB Certified supervisor must attend an approved recertification course and satisfactorily pass the written examinations. Recertification will be done on a yearly basis. The course will be administered by persons designated by the Headquarters Manager, PCB Risk Control.

5. A current list of Certified PCB Supervisors will be maintained by the Area Managers, PCB Risk Control.

B. RESPONSIBILITIES/WORKSCOPE

1. Any work activity (on-site or in-shop) on any liquid filled electrical equipment that requires the handling, removal or exposure of the dielectric liquid will be done by or under the direct supervision of a "Certified PCB Supervisor". Such activities include but are not limited to:

   - In-Shop Repairs and Servicing
   - On-Site Repairs and Servicing
   - Taking Liquid Samples
   - Disposal Activities
   - Transportation

2. The inspections of PCB equipment and PCB storage areas required by I&PS procedures and EPA regulations will be done by a Certified PCB Supervisor.

3. All customer quotations relating to PCBs will be prepared in writing and signed by a Certified PCB Supervisor.

II. CERTIFIED PCB SUPERVISORS (Cont'd.)

4. All activities relating to the training or educating of customer or I&PS personnel will be done by a Certified PCB Supervisor.

5. All activities relating to the shipping and transporting (in any manner) of PCB Items will be done by or under the direct supervision of a Certified PCB Supervisor.

6. Where the PCB activity involves several individual workers, the Certified PCB Supervisor who is supervising the PCB work activity should avoid being engaged in the hands-on activities of the job. He should remain free to do the ongoing planning, supervising and constant vigilance required to assure a spill-free, accident-free professional job.

TRAINING

APPENDIX -B-

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EHS AUDIO-VISUAL LOAN LIBRARY PROGRAMS

The following audio-visual presentations are available.

PROGRAM KEY

V = 1/2" VHS video * = Part of one video ST = slide tape

TITLE & ACCESS CODE	DESCRIPTION	MEDIUM /TIME
	Asbestos	
Asbestos Abatement: A Video Guide to the Process AS-001	Reviews the latest tools and techniques necessary for asbestos abatement. Identifies the various types of asbestos applications found in buildings, describes testing for asbestos hazards. Discusses encapsulation and step-by-step removal processes.	V 63:00
Asbestos Awareness AS-002	Provides an overview of asbestos as a health hazard. Reviews the roles of OSHA and EPA in asbestos abatement. Defines asbestos and the characteristics of the fibers and identifies the various uses of asbestos and the potential for particular forms to release asbestos.	V 20:45
Asbestos: Understanding the Hazards AS-003	Covers facts about asbestos: government regulations, long-term health effects, and basic safe work practices for working with asbestos. Assists in compliance with OSHA's employee training requirements. Includes Leader's Guide.	V 23:00
Understanding the Asbestos Hazards (added 11/92)	This title comes in 2 versions:	
AS-004 (long)	1. Covers the dangers of asbestos and indentification of it. Demonstrates actual asbestos removal from steam pipes using glove bags and isolated space removal. It is geared towards supervisors and workers.	V 19:00
AS-005 (short)	2. An awareness level video. The program discusses the dangers of asbestos and demonstrates how to identify asbestos using examples of it in different locations.	V 9:00

TITLE & ACCESS CODE	DESCRIPTION	MEDIUM TIME
	Back & Lifting	
B-A-C-K - Posture. Mechanics. Exercise BK-031	This video explains to the employee how to prevent back injuries by demonstrating how the back works. how to lift and handle materials safely and how a healthy lifestyle can protect one's back.	V 19:00
Back Safety: The Natural Curve (added 3/93) BK-034	This program from GE Medical systems shows ways to avoid on-the-job back injuries. While it is geared toward the Field Service Engineers of that business. its principles are applicable across the board.	V 12:00
Minimizing Back Strain On The Job BK-032	An explanation of the structure of the back. how it works and how to protect the back. including: lifting techniques. rules for lifting and common hazards to avoid.	V 24:45
Safe Lifting and Carrying BK-033	Describes 5 steps to safe lifting and good posture. and provides exercises to keep back muscles in shape.	V 24:00
Smart Lifting (GE Appliances. 10/93) BK-035	Produced by GE Appliances. Dr. Ted Swirat looks at job tasks performed by an appliance repairman to suggest safer and more comfortable lifting techniques and back positioning. The setting is specific to Appliances. but the discussions on pulling. lifting. sitting. kneeling and reaching are applicable to most businesses.	V 23:46

TITLE & ACCESS CODE	DESCRIPTION	MEDIUM /TIME
	Bloodborne Pathogens	
AIDS and Hepatitis (Added 7/93) BL-059	Produced by GE Appliances. This video-taped broadcast features Dr. Ted Swirat who discusses AIDS and Hepatitis B. The 2nd segment addresses safe work practices, and is followed by a question and answer period.	V 55:00
Bloodborne Pathogens (added 10/92) BL-056	In response to OSHA's standard (29 CFR 1910.1030) requiring training to protect employees against diseases transmitted by contact with infectious blood:	
1. What Would You Do?	Review of bloodborne viruses for Hepatitis B and HIV: what they are, what is meant by "bloodborne," and what constitutes a proper protective barrier.	*V 10:05
2. Safe Emergency Response Practices	A simulated accident, demonstrating the use of "Universal Precautions," reviewing personal protective equipment and its use, proper labeling and disposal of possibly infectious waste, and clean-up and decontamination of the accident site.	*V 11:04
Bloodborne Pathogens: Protect Yourself (Added 7/93) BL-057	This program was developed to help employees learn the facts about bloodborne diseases and how to protect themselves from infection on the job.	V 15:00
Bloodborne Pathogens: Workplace Precautions For Industry (Added 7/93) BL-058	Demonstrates how to apply "universal precautions" to emergency and first aid procedures, clean-up of accident sites, janitorial activities and waste disposal, in order to prevent the transmission of bloodborne diseases.	V 18:40

TITLE & ACCESS CODE	DESCRIPTION	MEDIUM TIME
	Confined Space Safety	
Confined Space Safety (GE Internal) - CS-077	A 3-part audio-visual program on one tape.	
1. Confined Space Entry)	This section explains what is involved in safe confined space entry - from identifying a confined space to planning for a safe rescue. Demonstrates safe entry procedures.	*V 26:00
2. Testing Confined Spaces	A thorough look at testing confined space atmospheres. It introduces the types of test equipment on the market and explains how and why the equipment must be calibrated. It demonstrates the correct testing procedures.	*V 25:00
3. Working in Confined Spaces	Shows how atmospheric hazards can be controlled by purging and ventilating a space. explains special requirements where potential fire or explosion hazards may exist. and demonstrates the use of various safety and personal protective equipment.	*V 21:00
Confined Space Entry (Summit) CS-076	This program trains workers on what a confined space is. the associated hazards. proper entry procedures. attendant responsibilities. emergency rescue procedures.	V 22:00
Confined Space Permit Entry Program (Coastal) (added 3/93)	There are 5 videos in this series. They all show actual work situations in confined space settings.	
1. Confined Space Entry CS-078	Explains the general requirements of OSHA's Confined Space Safety Standard (4/93): the definition and hazards of confined spaces. employer responsibilities. preparation of spaces. permit systems. atmospheric testing, and proper work. protection and rescue equipment.	V 21:00
2. Confined Space Atmospheric Testing CS-079	A review of conducting atmospheric testing: use of electronic equipment. calibration. how to test. what to test for.	V 17:00

TITLE & ACCESS CODE	DESCRIPTION	MEDIUM /TIME
	Confined Space Safety	
3. Confined Space Hotwork CS-081	Focuses on the specific dangers of hotwork in confined spaces. It reviews general confined space information, atmospheric testing, properly filling out permits and having the appropriate equipment to do the work safely.	V 20:00
4. Confined Space Rescue CS-080	An enactment of a real-life confined space accident, explaining each event as it occurred. It focuses on the dangers of attempting an unprepared rescue, and demonstrates how to properly plan for and execute an emergency rescue.	V 31:00
5. Confined Space Ventilation CS-082	An in-depth demonstration of the proper methods of ventilating confined spaces. It takes into account size and shape of the space, location of openings to the space, and characteristics of the atmospheric hazards, showing different configurations for a variety of spaces.	V 18:00
When You Least Expect It (GE 9/93) CS-083	A GE International employee describes a near-miss situation he experienced related to confined space hazards.	V 5:00

TITLE & ACCESS CODE	DESCRIPTION	MEDIUM /TIME
	Driving Safety	
Choices: Attitude Awareness - A Driver Safety Program DV-106	This program explores driving in terms of the driver's attitudes and awareness. It builds on participants' driving experience, allowing them to adapt key concepts to their own driving situations. The program does not directly address driving skills or rules of the road. It is not intended to replace defensive driving or driving skill programs. It does, however, help participants choose and maintain attitudes that support safe driving and to heighten awareness prior to and while driving. NOTE: This video requires classroom presentation with a discussion leader present. Request the Leaders' Guide and Participant Workbook when setting up class.	V 22:00
Drinking and Driving DV-107	Discusses alcohol-related accidents, and shares experiences from many victims and families.	V 25:00
Drive For Life, Emergency Situations DV-108	Describes proper reactions to such situations as tire blowouts, skids, adverse road conditions, accidents or even encountering a hazardous spill.	V 11:00

TITLE & ACCESS CODE	DESCRIPTION	MEDIUM /TIME
	Electrical Safety	
Electrical Safety: Down to the Wire ES-207	A description of how electricity works, and some of the factors that create electrical hazards resulting in fires, burns, shock and other injuries. Steps for protection at home and work are also included.	V 31:00
Electrical Safety Programs (GE Internal)	A 7-Part Program on 2 videos	
1. Introduction to Electrical Safety ES-202	A case study of an employee who did not follow established safety procedures and was seriously injured. The program stresses the necessity of following GE's Safety Procedures when working on electrical equipment.	*V 15:00
2. Anatomy of Electrical Shock ES-202	This program focuses on the direct physical effects of electrical shock on the human body. The destructive capacity of shock, even at low voltage levels, is strongly emphasized throughout.	*V 10:00
3. Electrical Safety Attitudes ES-202	This presentation stresses the importance of a good attitude toward safety. It evaluates four common attitudes and the relation between attitudes, behavior and safety. The program examines three mandatory steps for triple protection that are required by GE employees when working on electrical equipment.	*V 25:00
4. Electrical Safety Planning & Preparation ES-202	Focuses on the safety planning responsibilities of the site safety representative as related to assignments involving electrical equipment. A step-by-step approach to electrical safety planning is outlined. Safety planning both prior to departing for the job site and at the job site prior to commencing work are covered in detailed sequences.	*V 22:00
5. Electrical Safety Equipment ES-202	A review of the specific required and recommended procedures for safety in electrical jobs. Proper use of safety equipment and test instrumentation is detailed.	*V 20:00

TITLE & ACCESS CODE	DESCRIPTION	MEDIUM /TIME
Electrical Safety Programs (cont'd)		
6A. High Voltage Safety Procedures ES-203	Centers on the major activities involved in working with high voltage equipment: identifying energized parts, de-energizing and isolating equipment, tagging and locking out parts, using a voltage detector to test for zero voltage, grounding the equipment to be worked on, working safely, and re-energizing equipment after work is completed.	*V 27:00
6B. Low Voltage Safety Procedures ES-203	Centers on the major activities involved in working on low voltage equipment: identifying energized parts, de-energizing and isolating equipment, tagging and locking out parts, using a voltage detector to test for zero voltage, grounding the equipment to be worked on, working safely and re-energizing the equipment after work is completed.	*V 18:00
Electrical Safety Training Program (Summit)(added 9/91)	A 3-part series complying with the federal regulation of August 1991. It is designed for both Qualified & Non-Qualified workers. Each title is available separately.	
1. What is Electricity? ES-204	Gives a basic description of what electricity is and how it works, and covers associated hazards and safe usage.	V 13:23
2. Safe Work Practices ES-205	Reviews appropriate personal protective equipment and selection of tools and their proper use; also reviews grounding and other safe work procedures.	V 13:00
3. Qualified Employee ES-206	Covers identifying exposed live parts, working with energized circuits, and determining nominal voltage; also reinforces the importance of Lockout procedures.	V 11:15

TITLE & ACCESS CODE	DESCRIPTION	MEDIUM /TIME
	Electrical Safety	
Electrical Safety Related Work Practices (Gulf - added 10/92)	A 6-part series, each title available separately.	
1. Effects of Electric Shock ES-196	Explains the relationship between voltage, current, resistance, and time of exposure to electric shock. Covers recommended safety procedures for avoiding electric shock.	V 10:30
2. Electrical Protective Equipment ES-197	Discusses the most common types of electrical protective equipment in use today - inspection, use, application, and safety.	V 11:25
3. Safe Testing of Electrical Equipment ES-198	Explains the hazards associated with testing electrical equipment. Demonstrates recommended techniques and procedures for minimizing these hazards.	V 10:17
4. Uninterruptible Power Supply Systems ES-199	Illustrates how to work safely around UPS systems, the danger of electrical shock and arc, and the special safety concerns posed by the battery banks in the systems.	V 8:16
5. Electrical Switching Procedures ES-200	Discusses safe electrical switching procedures, including the importance of safety one-line diagrams proving cleared zones for protection, and obtaining written work orders.	V 10:11
6. Rotating Equipment ES-201	Discusses the mechanical and electrical hazards associated with rotating equipment, and the importance of lockout/tagout procedures when working on this type of equipment.	V 8:54
I&C Safety - Electrical Hazards ES-208	Explains electrical hazards associated with Instrumentation & Control systems. Demonstrates techniques and personal protection equipment used for working safely on electrical systems.	V 10:02

TITLE & ACCESS CODE	DESCRIPTION	MEDIUM /TIME
	Environmental	
Environmental Awareness	6-videos to be used as a set only by persons completing the Environmental Awareness Train-the-Trainer session. For specifics, call 8*235-4358 (518-385-4358).	
Environmental Liability (Added 1/93) EN-167	A review of the new climate in enforcement of environmental regulations. It is designed to inform employees of the personal dangers faced if environmental regulations are ignored.	V 20:00
Handling Hazardous Waste	5 Modules, each title available separately and includes a Leader's Guide.	
1. Introduction EN-173	An introduction to the issues of hazardous waste: the responsi-bilities of generators, transporters, disposal facilities, or any organization that produces or handles hazardous waste; the varying degree of hazards associated with wastes; the potential liabilities of failure to handle hazardous waste properly.	V 15:25
2. Lab Pack EN-174	Describes the purpose of special lab packing, and details appropriate packing methods, container use, and the labeling requirements.	V 13:00
3. Liquid Hazardous Waste EN-175	Designed to explain the handling, packaging and storage of liquid hazardous wastes.	V 19:47
4. Packaging Hazardous Waste EN-176	Explains how to containerize and label solid hazardous waste for storage, transportation and eventual disposal. This also includes selecting the proper container and the use of personal protective equipment.	V 18:45
5. Uniform Hazardous Waste Manifest EN-177	This explains that the hazardous waste management process is surrounded by a complex "paper trail" that follows a waste shipment from cradle to grave, and explains the importance of the Uniform Hazardous Waste Manifest.	V 13:00

TITLE & ACCESS CODE	DESCRIPTION	MEDIUM /TIME
	Environmental	
Hazardous Materials: DOT Regulations for Shippers (added 3/93) EN-180	Introduction and overview of the revised Hazardous Materials Regulations: requirements for preparing hazardous materials for highway transport, including requirements for HM-181 revised to make U.S. standards compatible with United Nations classifications.	V 15:30
Hazardous Waste: On-Site Management (added 3/93) EN-183	Supplements an appropriate training program for the management of on-site hazardous wastes. Designed to help employees recognize a hazardous waste and become familiar with requirements for proper handling, labeling, and storage of hazardous wastes	V 12:30
Hazardous Waste: Shipping Requirements for Generators (added 3/93) EN-181	Basic information is provided to assist employees in the proper preparation of hazardous waste for shipment.	V 14:40
Hazardous Waste Control EN-178	Discusses the Resource Conservation and Recovery Act (RCRA). Describes waste handling from moment of generation, subsequent storage, transportation and disposal. Shows EPA grouping of waste, hazardous waste analysis plan, drum labeling (DOT), protective clothing, contingency plan, recordkeeping, and shop floor control plan.	V 25:00
The Heat's On (added 1/93) EN-179	This video reviews 6 important areas of environmental compliance, and is to be used for managerial training or refresher courses.	V 23:00
Our Environment: The Law and You (added 1/93) EN-168	Summarizes the major environmental laws. It discusses the importance of personal compliance with them and the personal liability associated with failing to do so.	V 22:30
Protecting the Environment: It's Everybody's Business (added 10/92) EN-166	Gives employees an overview of the Resource Conservation and Recovery Act (RCRA). It explains the requirements, including personnel training, facility inspections, waste identification and analysis, emergency response planning, security, record keeping.	V 14:00

TITLE & ACCESS CODE	DESCRIPTION	MEDIUM /TIME
	Ergonomics	
Repeat Offenders (Disorders of Cumulative Motion) EG-136	A discussion of carpal tunnel syndrome, tennis elbow, tendonitis, trigger finger, etc., and other disorders caused by cumulative trauma in the workplace. Includes: signs and symptoms, treatment, prevention.	V 13:00
Safety by Design (Ergonomic Design) EG-137	Study of workers in relation to the physical design of their work stations. Discusses problems encountered when work stations are poorly designed and how to correct the situation.	V 15:00
The Way We Work (GE Internal) (Added 9/93) EG-138	A user's guide to office ergonomics and body mechanics. This program looks at the risk factors of office work such as positioning, repetition and force, and also at workplace issues that need to be addressed relating to work stations, visual comfort and noise.	V 16:00

TITLE & ACCESS CODE	DESCRIPTION	MEDIUM /TIME
	Fire	
BLEVE FR-257	This video from the National Fire Protection Association is specific to fighting fires in railway tankers containing flammable liquids, but it does include good real life footage of BLEVEs (Boiling Liquid Expanding Vapor Explosions) and an explanation of why they take place.	V 20:00
Flash Point FR-258	Explains the potential problems that exist when working with flammable/combustible materials, including vapor, ignition and ventilation. Includes 32 slides with script.	ST 11:00
Fire Extinguishers: First Line of Defense (added 3/93) FR-260	This live-action video program informs employees about the nature and classifications of fire and the type of fire extinguisher needed. It also emphasizes the importance of size-up procedures and proper extinguishing methods.	V 25:30
Fire Extinguishers: Fight or Flight FR-256	From the NFPA, this video is designed to teach the safe and effective operation of portable fire extinguishers. Provides instruction on the different types and uses of extinguishers, evaluates when you can safely fight a fire with an extinguisher. Includes Instruction Guide.	V 17:00
Portable Fire Extinguishers (Added 9/93) FR-261	This program reviews the chemistry and categories of fire, and explains how to select and use appropriate fire extinguishers.	V 14:00
Safety Without Compromise (added 10/92) FR-259	Protectoseal's demonstration of its safety cans and flammable materials storage cabinets. It covers such features as flash arresters and fusible links, and reviews procedures for safe transfer of flammable liquids.	V 11:00

TITLE & ACCESS CODE	DESCRIPTION	MEDIUM /TIME
	General Safety & Equipment	
Commitment To Safety: Safety Orientation GS-286	This video focuses on ten key safety areas including personal protective equipment, signs and tags, material handling and storage.	V 36:00
Construction Contractor Safety GS-287	This video and accompanying manual will assist in complying with safety requirements in a construction project. A review of safety techniques, personal protection, tools, equipment, radioactive materials and job requirements with specific situations are provided.	V
Disaster Preparedness: What To Do If It Happens GS-288	Being prepared for any type of disaster helps avoid panic and prevents further disaster. This video provides basic information one needs to know to prepare for various types of disasters.	V 19:00
Drum Handling II GS-289	A short, very clear video on the proper methods of drum moving. Includes checks to make before handling drums, necessary protective equipment, methods of breaking the drum (pushing, pulling, drag/pull, push/pull) alone, or with the help of another person, rolling a drum, positioning and palletizing. Clearly explains how to avoid any physical injury connected with drum movement.	V 15:00
Eye Safety (Hazard Alert Series) (added 3/93) GS-321	A short look at accidents that may injure your sight: types of protective equipment worn to prevent injury.	V 5:00
The Facts About Fly Ash GS-298	Teaches the realities of fly ash hazards and safe work practices. The video covers handling hazardous residue, atmospheric testing, personal protective equipment and regulated spaces.	V 15:00
5 Minutes Worth (added 10/92) GS-317	"5 Minutes Worth" and "Wheel of Misfortune" - Two brief looks (one serious, one satiric) at unsafe shortcuts and what is gained by them.	*V 5:00 each

TITLE & ACCESS CODE	DESCRIPTION	MEDIUM /TIME
	General Safety & Equipment	
Gas Monitor Model CGM Dynamation GS-290	Video provides a description of the features and capabilities of the CGM gas monitor.	V 15:00
Grinding Wheel Safety (Bench) GS-291	This program explains the precautions that should be taken when selecting and mounting a grinding wheel. It discusses the personal protective equipment to be used while grinding and demonstrates how grinding should be done safely. Includes 4 different tests with answer key.	V 42:46
Hand Safety (Hazard Alert Series) (added 3/93) GS-320	Shows how accidents happen to hands and types of protective equipment that should be used to work safely.	V 5:00
Hand Tools GS-306	This program discusses the necessity of selecting the proper tool for a job, for maintaining it in good condition, and for using the tool correctly.	ST 10:30
Heat Stress GS-292	This video describes those at risk, the hazards of heat stress and how to cope with these hazards. It demonstrates how the body handles heat and what bodily disorders can result from overexposure.	V
Heat Stress Prevention GS-293	Describes the symptoms of major heat disorders, shows proper first aid techniques and addresses issues of electrolyte supplements and salt tablets.	V 11:50
Hot Work Permits (added 3/93) GS-318	This program is intended for personnel who perform hot work or fire watch duties during hot work operations. It describes hot work, areas in which hot work permits are required, the duties of a fire watch, and illustrates a typical hot work procedure.	V 9:36
Industrial Air Tools GS-307	This program explains the safety precautions to follow when working with air systems, emphasizing special precautions necessary with compressors and petroleum solvents. It also includes the safe use of portable grinders, percussion tools, impact wrenches, drills, hoists and balancers.	ST 25:00

TITLE & ACCESS CODE	DESCRIPTION	MEDIUM /TIME
	General Safety & Equipment	
It's Up to You (Grinder Portable air) GS-308	This program explains the precautions to be taken when selecting and mounting a grinding wheel. discusses personal protective equipment to be used while grinding, and demonstrates how grinding should be done.	ST 14:30
Machine Tech I GS-294	Hand tool familiarization for beginners.	V 17:00
Portable Electric Power Tools GS-310	This program explains safe use of portable electric power tools. Included in the program are: proper grounding of tools. use of Ground Fault Circuit Interrupters. double insulated tools. disconnecting tools before working on them. inspection of tools and cords and the use of personal protective equipment.	ST 10:30
Preventing Hand Injury GS-295	This video describes ten rules for hand safety including inspecting materials. wearing suitable gloves. and ensuring safety guards are in place.	V 25:00
The Pro's Play It Safe (Hand Tools) GS-313	This program discusses the safe use of hand tools. including selecting and using punches and chisels. hammers. screwdrivers. ratches. sockets and attachments. wrenches and clamps. Includes 129 slides.	ST 24:00
Safe Use of Chains. Wire Ropes and Slings GS-296	Discussion of welded chain. master links. hooks. chain slings, wire rope slings, synthetic web slings, hitches. load angle. fiber rope slings and wire mesh slings.	V 40:00
The Safe Way Around Machines GS-314	Safety points to consider when working around machinery. including learn your machine. don't touch moving parts. guards protect you. proper dress and personal protective equipment and neutralize all energy sources before working on equipment. Includes 32 slides.	ST 9:00
Safety and Substance Abuse GS-297	Drugs and alcohol usage in the workplace affect safety. This video describes how one can keep drugs from putting safety at risk.	V 11:00

TITLE & ACCESS CODE	DESCRIPTION	MEDIUM /TIME
	General Safety & Equipment	
Safety Attitudes GS-311	Discusses the need for employees to develop a positive attitude toward safety. Attitudes, it indicates, influence behavior; unsafe attitudes lead to unsafe acts that causes accidents. Includes 31 slides.	ST 9:30
Safety Awareness GS-312	Explains the need for good mental/physical disciplines toward safety by the employee, including keeping the mind on the work at hand, being aware of your physical condition and making sure that the surrounding area and equipment are safe. Includes 69 slides.	ST 11:00
Trenching and Shoring: Safe Procedures/Emergency Response (Coastal) GS-299	This video is designed to protect one's life by helping understand the OSHA Trenching and Shoring Standard. It demonstrates how to excavate and shore safely and what to do in an emergency.	V 18:00
Trenching and Shoring (NUS Training Corp.) (added 3/93) GS-319	Identifies conditions that require shoring, presents the basic requirements for safely shoring trenches, and identifies safe alternatives to shoring. An introduction to the OSHA guidelines on trenching for new employees and a refresher for experienced employees.	V 12:30
Walking and Working Surfaces GS-300	Complies with OSHA 1910.21-.32. Defines types of walking or working surfaces, describes proper use of ramps, scaffolds, and elevated work platforms.	V 19:00
Work Environment Safety Training WVT-1 GS-301	Unit 17 Best of the West - Includes highlights of the 16 WEST tape units. Good for review or an introduction to construction site safety.	*V 12:00
	Unit 1 Planning to Prevent Falls - overview of hazardous situations which contribute to falls on construction sites.	*V 16:00
	Unit 9 Watch Your Step - floors, openings, covers, rails & nets - hazards most often associated with floor openings, perimeter guarding and walking/working surfaces.	*V 10:30

TITLE & ACCESS CODE	DESCRIPTION	MEDIUM /TIME
	General Safety & Equipment	
Work Environment Safety Training WVT-1 (cont'd) GS-301	Unit 8 Or A Couple Of Seconds To Die - Belts. Lanyards. Lifelines - importance of regular inspection. proper hook up and storage.	*V 10:30
	Unit 3 Ladders and Stairways - looks at hazards specifically related to the use of ladders and stairways, including job-built ladders and incomplete stairs.	*V 9:30
Work Environment Safety Training WVT-2 GS-302	Unit 4 1001 Things Can Happen To That Scaffold - examines the factors which most often result in scaffold related accidents and injuries.	*V 10:30
	Unit 5 Know How To Rig Safely - covers slings, chokers. load balance and communication between the signalman and the operator.	*V 11:45
	Unit 11 Material Handling And Manual Lifting - the importance of planning and control when sorting or moving materials by hand or with manually operated mechanical assistance.	*V 10:00
	Unit 12 Trenching And Excavations - presents planning and a working knowledge of soil characteristics as the two most critical elements in the prevention of trenching related accidents.	*V 11:30
	Unit 15 Housekeeping - emphasizes the important role that good housekeeping plays in maintaining a safe and productive jobsite.	*V 12:00
Work Environment Safety Training WVT-3 GS-303	Unit 2 This One Body, The Value of Personal Protective Equipment - presents an overview of personal protective equipment most often found on construction job sites.	*V 11:45

TITLE & ACCESS CODE	DESCRIPTION	MEDIUM /TIME
	General Safety & Equipment	
Work Environment Safety Training WVT-3 (continued) GS-303	Unit 10 Eye, Face, Ear & Head Protection - points to the importance of constant and adequate personal protective equipment for the areas above the neck.	*V 10:00
	Unit 14 Respiratory Protection - examines the environmental conditions which require respiratory protection, types of respiratory protection devices and how to match the device to the condition.	*V 12:00
	Unit 13 Hazardous Substances - reviews the nature of various substances commonly found on a construction job site. It talks about substance identification, hazard recognition, personal protective equipment, control procedures, storage, handling and disposal.	*V 12:30
	Unit 6 Temporary Electrical Power - explains clearly the function of the black, white and green wires in a 110 volt grounded circuit. It stresses the importance of knowing that all temporary electrical power is properly grounded.	*V 11:30
	Unit 7 Welding And Cutting Safety - examines the impact that welding and cutting operations can have on the construction work environment, with particular attention paid to eye protection and fire prevention.	*V 7:16
	Unit 16 Portable Power Tools - presents safe operating guidelines for typical portable power tools. It highlights the importance of proper care and maintenance.	*V 12:00

TITLE & ACCESS CODE	DESCRIPTION	MEDIUM /TIME
	Hazard Communication	
Drum and Other Small Spills HC-410	Procedures for identification, control, containment and clean-up of drum and other small spills of hazardous material. Includes communicating with appropriate personnel, protective equipment, repairing/overpacking damaged drums, and disposal of spilled material.	V 17:00
Hazardous Materials Awareness for Millwrights and Tinsmiths (added 4/93) HC-420	Describes hazardous chemicals encountered during welding and soldering operations: routes of entry, effects on the human body, safe use of potentially hazardous materials through appropriate handling and personal protective equipment, protection against incidental exposures to asbestos and fiberglass.	V 22:00
Hazards of Liquefied and Compressed Gases (Added 9/93) HC-421	The characteristics of liquefied (including cryogenic) and compressed gases are demonstrated. Protective clothing and safe handling procedures are shown.	V 24:24
HAZCOM (GE Internal) Supervisory Overview Module 1 HC-402	17 Modules to this Program, each includes a Leader's Guide and quiz (except for Hearing Conservation). Informs supervisors of the requirements and 5 key provisions of the OSHA Hazard Communication Standard. The supervisor's responsibilities in training employees are supplemented with additional information on the GE HAZCOM program.	V 11:00
Employee Introduction Module 2 HC-392	Explains the basic requirements of the OSHA Hazard Communication Standard and GE's plans for compliance, including hazard evaluation, warning labels, material safety data sheets, written hazard communication program, and work area specific training.	V 13:30
Material Safety Data Sheets (MSDS) Module 3 HC-398	Reviews the required components of the MSDS: identity of the manufacturer and material, hazardous ingredients, physical/chemical characteristics, fire/explosion information, physical/health hazards, emergency and 1st aid procedures, protective equipment and engineering controls, any special precautions.	V 11:00

TITLE & ACCESS CODE	DESCRIPTION	MEDIUM /TIME
	Hazard Communication	
Toxicology Module 4 HC-403	Explains some of the more unfamiliar concepts and terms used on an MSDS to describe a material's potential health effects. Defines toxicology, toxicity and dose. outlines various acute and chronic health effects and terms used to describe them. and summarizes the steps employees can take to control their exposure to hazardous materials.	V 15:45
Labeling Module 5 HC-397	Informs employees about the labels required on hazardous materials received from a manufacturer. and in-house labels used to identify containers of smaller amounts of materials drawn from their original containers.	V 13:00
Acids and Caustics Module 6 HC-388	Informs employees of the potential harmful effects of acids/caustics and identifies several common types. Also defines pH value and concentration. and shows how to use this information to understand a chemical's potentially harmful effects. Explains how to use available information and training to protect themselves from harmful exposures: reviews warning properties. routes of entry, protective devices. emergency procedures for 1st aid/fire.	V 12:00
Cleaning Agents Module 7 HC-389	The potential physical/health hazards of agents used in cleaning operations. including detergents. disinfectants. deodorants. floor coatings and others. Discusses routes of entry. protective equipment and emergency procedures.	V 11:45
Compressed Gases Module 8 HC-390	Discusses 4 categories of industrial gases. and typical hazards of each. including routes of entry, personal protective equipment. and safe work practices. Details emergency procedures for first aid and leaks. and stresses the importance of consulting the available MSDS information before handling unfamiliar gases.	V 12:30
Dust and Other Particulates Module 9 HC-391	Disusses the hazards associated with inhalation of or exposure to dusts. fumes. mists. and other particulates: reviews preventative measures. methods to control dust explosions. and emergency procedures.	V 10:00

TITLE & ACCESS CODE	DESCRIPTION	MEDIUM /TIME
	Hazard Communication	
Flammable Materials Module 10 HC-393	Explains the basic properties of fire: the physical and health hazards of flammable materials, routes of entry; use of personal protective equipment: emergency procedures to be taken in the event of bodily contact, spills, or fire: proper method for storage, handling, use, and disposal of flammable materials.	V 10:40
Halogenated Solvents Module 11 HC-394	A review of the health/physical hazards of halogenated hydrocarbon solvents: correct methods of storage, handling, and use: protective equipment: proper methods of disposal: and emergency procedures to be taken in the event of bodily contact, a spill or a leak.	V 10:40
Painting Operations Module 12 HC-400	Details the health hazards associated with overexposure to certain paints, coatings and solvents, and explains how these hazards can be minimized.	V 13:25
Plating Operations Module 13 HC-401	Reviews the health and physical hazards associated with the equipment and chemicals used in the electroplating process and how these effects can be minimized through the use of personal protective equipment.	V 14:00
Welding Part 1 Physical Hazards Module 14 HC-404	The program describes the noise, fire and burns, electrical and ultraviolet radiation hazards associated with welding; the measures employees can take to protect themselves: and emergency procedures for first aid and fires.	V 21:18
Welding Part 2 Health Hazards Module 15 HC-405	Identifies the potential health hazards associated with oxyfuel gas and arc welding operations, their route of entry into the body, some common potentially hazardous materials encountered, protective measures, and basic first aid in the event an accidental overexposure occurs.	V 22:00
Hear Today - Gone Tomorrow (Hearing Conservation) Module 16 HC-395	An explanation of how the ear functions, how sound affects the ear: programs that are required in areas of high sound levels, including noise monitoring, engineering controls, personal protective equipment, audiometric testing and hearing conservation.	V 18:50

TITLE & ACCESS CODE	DESCRIPTION	MEDIUM /TIME
	Hazard Communication	
Metal Working Fluids Module 17 HC-399	Types of fluids. their health/physical hazards. correct methods for storage. handling, use. and disposal: personal protective equipment. and emergency procedures to be taken in the event of bodily contact. a spill or a leak.	V 12:50
HazCom Series 1. Introduction to Hazcom (added 3/93) HC-417	3 Modules Basic introduction to the OSHA Hazard Communica-tion Standard. designed for both new and existing employees.	V 10:15
2. Labeling HC-407	Identifies and explains information contained on typical hazardous chemical labels and warning signs.	V 10:45
3. Material Safety Data Sheets (added 3/93) HC-418	Explains the information contained on material safety data sheets and covers practical. on-the-job uses of the information.	V 15:30
Hazwoper Awareness Level Training: Your Role as a 1st Responder (added 10/92) HC-416	Defines the term "First Responder Awareness Level" and describes the knowledge and skills necessary to respond to an incident. Illustrates hazardous substance recogni-tion and outlines the role played by the first responder.	V 14:45
HMIS and Your Right To Know HC-408	A review of the Hazardous Material Identification System (labeling). Defines the hazards associated with specific materials. and lists the correct equipment to be used when handling these materials.	V 13:00
PCB Services: Procedures and Implementation HC-411	A 6-part program on one video-cassette	
1. PCB Services	An introduction to PCBs: what they are. where they are used. PCB transformers. intro to retrofilling, criteria for PCB contamination. etc.	*V 8:00
2. Planning: First Step in Risk Control	Discusses countermeasure plans. site inspection check-lists. spill kit contents. and a detailed PCB work plan.	*V 11:00

TITLE & ACCESS CODE	DESCRIPTION	MEDIUM /TIME
	Hazard Communication	
3. Retrofill: Exercising Risk Control	Explains transformer retrofills with a detailed work plan and spill prevention & countermeasure plan for retrofills.	*V 15:00
4. Retrofit: Replacement Option	Contains work plan, spill prevention control and counter-measure plan for retrofits and steps to de-energize electrical equipment.	*V 12:00
5. PCB Transportation: Inspecting, Loading and Manifesting	Pre-move inspection of a PCB transfer, rigging, equipment and transport vehicle. Completion of a Uniform Hazardous Waste Manifest.	*V 16:00
6. Accident: Dealing with a Spill	Describes precautionary steps to reduce chance of a spill en route to decommissioning. Describes a real accident and the cleanup process involved.	*V 14:00
Spill Control (3M Company) HC-412	How to be prepared for a hazardous chemical spill: defines points of an emergency plan, necessary training, protective gear, clean-up equipment and supplies.	V 15:00
Spills Happen HC-414	3 spill scenarios of different severity show how to protect people/environment from contamination, report spills for effective response, use protective equipment, dispose of wastes, and restore the spill scene to normal operation.	V 22:00
Spill-X Treatment For Chemical Spills HC-413	Identifies Spill-X products and treatments for hazardous material spills. These products form chemical reactions producing safer, neutral solid materials.	V 15:00
Test Yourself: The Hazard Communication Review (added 3/93) HC-419	Uses a question and answer approach to review the requirements of the OSHA Hazard Communication Standard. Emphasis is placed on labeling and the MSDS. This program is a good refresher for employees who have already had the required initial training.	V 20:00
Working With Hazardous Materials HC-415	This video outlines and explains ten steps to greater safety including: label information, MSDS, personal protective equipment, attention to warning signs.	V 10:30

TITLE & ACCESS CODE	DESCRIPTION	MEDIUM /TIME
	Industrial Hygiene	
Air-Purifying Respirators IH-546	An overview of potential workplace respiratory hazards: how air contaminants enter the body and how they can be controlled. Also: the selection and use of air-purifying respirators, the major kinds and types, fit testing, donning procedures, respirator care and maintenance.	V 18:00
Atmosphere-Supplying Respirators IH-547	An overview of when to use an atmosphere-supplying respirator. The program also discusses the components, types, medical evaluation and fit testing, donning procedures, and care and maintenance of atmosphere-supplying respirators.	V 15:40
Care and Use of APRs IH-553	Discusses the selection of the appropriate air purifying respirator, the proper fit of the mask (detailed), testing for proper functioning of the mask, when to discard or replace, proper cleaning (disinfecting) and storage of masks, what to do in the event of respirator failure.	V 13:00
Hear Today - Gone Tomorrow HC-395	See HAZCOM Module #16 in the Hazard Communication section of this index.	V 18:50
Hearing Protection: A Sound Practice IH-555	This program explains what hazardous noise levels are, how the ear works, and types of hearing protection.	V 16:00
Noise Induced Hearing Loss: No Second Chance (added 11/92) IH-554	Features individuals who suffer from this form of hearing loss and belatedly understand that it could have been prevented by wearing hearing protection.	V 16:40
Respiratory Hazards I IH-549	Overview: lung function, how hazardous gases attack the body, normal air vs. oxygen-deficient atmosphere, gases, vapors, particulates (dust, fog, fumes), asbestos, air sampling, and a discussion of major types of respirators.	V 7:00
Respiratory Hazards II IH-550	How air purifying respirators function, types of, fitting techniques, cleaning and storage.	V 8:00

TITLE & ACCESS CODE	DESCRIPTION	MEDIUM /TIME
	Industrial Hygiene	
Respiratory Hazards III IH-551	Supplied Air Respirators: their function, types of, proper selection thereof, fitting, inspection, care and storage.	V 7:00
Respiratory Hazards IV IH-552	Administration of a complete respiratory protection program, with 11 detailed steps.	V 7:00
Respirator Safety IH-548	Discusses negative and positive pressure respirators, the hazards they protect against (particulates, gases/vapors, oxygen deficiency), how to choose the proper respirator, fit checks, function tests (positive and negative pressure tests), and selecting the proper air purifying cartridges.	V 15:00

TITLE & ACCESS CODE	DESCRIPTION	MEDIUM /TIME
	Lead	
Lead Safety (Added 2/94) LD-576	This program describes the health hazards of exposure to lead and reviews OSHA guidelines, engineering controls, work practices and administrative controls, PPE and medical monitoring	V 17:42
Lead Safety: Keep the Lead Out (Added 2/94) LD-577	This shorter program explains the hazards of exposure to lead and how exposure is likely to take place. It covers the use of PPE and good personal hygiene and shows safe work practices.	V 12:30

TITLE & ACCESS CODE	DESCRIPTION	MEDIUM /TIME
	Lift Trucks and Cranes	
Aerial Lift Safety (Summit) (Added 8/93) LT-652	Intended to comply with OSHA's Vehicle Mounted Elevated and Rotating Platforms regulation. it covers pre-operation inspection. preparing the site. vehicle stabilization. proper means of travel. and safe work practices on platforms. including work around electrical lines.	V 13:30
Crane and Sling Safety (Safety Training Systems) (Added 2/94) LT-653	Covers in detail the daily inspection and safe use of pendant cranes and synthetic web. wire rope. and metal alloy slings and chains. Also covers the daily inspection of jib boom cranes.	V 19:00
The Crane Operator LT-647	This program emphasizes the responsibility of the crane operator for safety of personnel. material and equipment. Its focus is on the hazards of handling cargo and ways to control them.	ST 14:00
Crane Safety - Mobile Crane Safety LT-636	Discusses the proper setup and inspection of all mobile cranes. proper access to site for setup. proper lift planning, load chart interpretation. and safe and efficient operating techniques.	V 15:00
Crane Safety - Overhead Crane Safety LT-637	Overhead. cab-operated crane safety is discussed including: terminology, light systems. pre-operation safety inspections. basic operating and safety techniques.	V 17:00
Crane Safety - Radio-Controlled Safety LT-638	Discusses the proper safety precautions to be taken while operating Radio-Controlled Cranes. Lists the advantages and disadvantages for the operator and attendant workers.	V 13:00
Forklift Safety - Battery Charging/Refueling LT-639	Refueling regulations and proper safety techniques are discussed. In addition. the correct sequence for recharging batteries and the associated safety rules are presented.	V 6:00
Forklift Safety - Driving Skills LT-640	How to safely drive loaded forklift truck over dangerous terrain: over railroad tracks. potholes. up inclines. over rock surfaces. etc. Includes discussion of proper loading techniques and correct parking procedures.	V 13:00

TITLE & ACCESS CODE	DESCRIPTION	MEDIUM /TIME
	Lift Trucks and Cranes	
Forklift Safety - Operation LT-641	Discussion of various models and designations of commonly used forklifts. Classification is presented, as well as the basic operation of the truck, a pre-operation safety inspection, load-balance and weight capacity, and principles of load capacity.	V 10:00
Forklift Safety - Professional Driver LT-642	Review of forklift accidents and how to prevent them.	V 11:00
Indoor Cranes: Safe Lifting Operations (Added 7/93) LT-643	This program reviews safe working procedures for indoor cranes, including visual and operational inspection, rigging and securing loads, and lifting and moving.	V 19:00

TITLE & ACCESS CODE	DESCRIPTION	MEDIUM /TIME
	Lockout Training	
Energy Control and Power Lockout Training Program LO-596	Gives the program's overview, objectives and design.	V 15:00 - 25:00, each
Module 1 - Believe It! LO-597	Reviews the personal, environmental and organizational reasons for failing to control and lock out energy that can kill or seriously injure.	
Module 2 - Check It! LO-598	Reviews safe work practices, including physical and mental condition, protective clothing/equipment, tools and lockout devices, hazards.	
Module 3 - Prep It! LO-599	Covers preparations to make prior to de-energizing, including personnel, the area, yourself, and the machine.	
Module 4 - Lock It! LO-600	(1) power shutoff, guidelines and cautions to observe, (2) lockout policies and procedures/definitions, responsibilities, regulations, (3) common hazards, special problems, multiple energy sources, robotics, confined space entry.	
Module 5 - Release It! LO-601	Instructions on releasing, controlling and dissipating stored energy.	
Module 6 - Verify It! LO-602	Covers the procedures in verifying the absence and/or control of energy, precautions during maintenance, repair and cleaning, rechecking before lock removal, lock removal, re-energizing equipment, testing of equipment operations and post-task operations.	
Module 7 - Use It! LO-603	Reviews key procedures and basic principles, offers suggestions for use in real-life situations, offers suggestions for making the training work.	

TITLE & ACCESS CODE	DESCRIPTION	MEDIUM /TIME
	Lockout Training	
The Fifth Principle of ECPL (GE International 9/93) LO-606	A GE International employee describes a near-miss situation he experienced related to a failure to control hazardous energy.	V 5:00
LOTO: Your Ticket to Safety (Lock Out/Tag Out) LO-604	A program designed to teach and quiz employees on the lockout/tagout procedures required to ensure safety while working on equipment. Alerts workers to potential hazards of unexpected activation of equipment and accidental contact with energy sources.	V 16:00
Lockout For Life (added 4/93) LO-605	A refresher film for employees who have already received initial Lockout/Tagout training. This video re-enacts 4 accidents where employees died or were seriously injured, and reviews what LOTO procedures were ignored.	V 21:00

TITLE & ACCESS CODE	DESCRIPTION	MEDIUM /TIME
	Personal Protective Equipment	
Eye Safety PP-676	Shows the employee the proper methods of protecting the eye when there are a variety of potential dangers present. It explains precautions and steps that should be taken if there is an eye injury. Final test available.	V 19:56
Eye Safety (added 3/93)	see "General Safety & Equipment"	V 5:00
Fall Prevention: Personal Fall Protection (Tel-A-Train) (Added 8/93) SF-731	This program explains the differences between fall restraint and fall arrest, and the requirements for lanyards, anchorages and body support. It shows how to avoid common hazards that result from incorrect usage, and explains proper inspection and maintenance of fall protection equipment.	V 22:00
Hand Safety (added 3/93)	see "General Safety & Equipment"	
Hearing Protection: A Sound Practice	See "Industrial Hygiene"	V 16:00
Noise Induced Hearing Loss: No Second Chance	See "Industrial Hygiene"	V 16:40
Personal Fall Protection PP-678	Complies with OSHA 1910.28. Describes personal fall protection systems, what happens in a fall, equipment anchorage, tie-off and use. Also emphasized are use of body belts and harnesses, and care and inspection of equipment.	V 18:00
Personal Protective Equipment: You're Covered (Coastal) (Added 1/94) PP-682	A general look at the types and uses of PPE, including eye and face protection, hardhats, gloves, footwear and hearing protection.	V 16:00
Protecting Your Feet: The ABC's (Coastal) (Added 1/94)\ PP-684	Reviews the types and uses of protective footwear.	V 18:00

TITLE & ACCESS CODE	DESCRIPTION	MEDIUM /TIME
	Scaffolding and Ladders	
Ladder Safety SL-758	Deals with the care and maintenance of ladders. Special attention given to choosing and inspecting the ladder, using tool belts, using the ladder to gain access to building roofs, and ladder-to-wall ratios.	V 10:00
Ladder Safety Training (added 3/93) SL-760	A summary of types of ladders and their uses, with emphasis on choosing and inspecting ladders, safe use, and certain safety features.	V 22:00
Ladders & Scaffolds: It's Up To You (added 3/93) SL-759	Designed to reduce the risks of accidents associated with the use of ladders and scaffolds. The program reviews the various types of ladders and scaffolds, examines their construction, discusses safe work practices for working on ladders or scaffolds and looks at the recommended maintenance and inspection procedures.	V 18:00
Scaffolds SL-756	This program shows the proper construction of scaffolds, including foundations, frames, planks and guardrails. It describes typical accidents that occur while building, climbing up and down, and working on the scaffold.	V 16:00
Stairways and Ladders SL-757	This video will help employees use stairways and ladders properly. The program highlights ladders commonly used in industry: step-, extension-, trestle-, and fixed-ladders as well as a variety of stairways. Complies with OSHA 1910.23,-25.	V 18:00

TITLE & ACCESS CODE	DESCRIPTION	MEDIUM /TIME
	Slips & Falls	
Don't Fall For It: Preventing Slips, Trips, and Falls (added 3/93) SF-730	Shows the causes of falls and how to prevent them. The program also explains the five categorie of fall-related hazards -- falling on stairs, slipping, tripping, faulty equipment and deliberate acts.	V 20:00
Fall Prevention: Personal Fall Protection (Tel-A-Train) (Added 8/93) SF-731	This program explains the differences between fall restraint and fall arrest, and the requirements for lanyards, anchorages and body support. It shows how to avoid common hazards that result from incorrect usage, and explains proper inspection and maintenance of fall protection equipment.	V 22:00
Slips & Falls - The Point of No Return SF-726	A presentation showing that most slips and falls happen because someone is taking a risk. Demonstrates typical risk associated with the following three rules for avoiding accidents: 1. Don't move faster than conditions will safely allow. 2. Don't create hazards. 3. Use proper equipment properly.	V 23:55
Slips, Trips and Falls SF-727	Falls performed by Hollywood stunt people teach workers to think SAFETY while climbing stairs, using ladders, and working with fall protection equipment.	V 12:00

TITLE & ACCESS CODE	DESCRIPTION	MEDIUM /TIME
	Supervisory Training	
Accident Investigation SP-786	This program explains how to investigate an accident. It lists the two primary goals of accident investigation: To determine the cause of the accident. To prevent it from happening again. Accident investigation includes the search for unknowns, much like crime detection. Your job as an investigator is to search for details and analyze the information you have gathered to determine the cause and make recommendations for corrective actions.	V 22:00
Dan Petersen Management:	A 5-part series with Instruction Guide provided for the total series.	
1. Criteria for Safety Excellence SP-787	Discusses six criteria for safety excellence with examples of programs that meet these criteria.	V 22:00
2. Evaluating Your Safety System SP-788	Examines options available to evaluate the effectiveness of a safety system. Lists primary standards to evaluate against and defines the most valid evaluation devices.	V 24:00
3. What Gets Measured and Rewarded Gets Done SP-789	This unit concentrates on accountability: when performance occurs, defines three systems that will get performance to occur and why.	V 21:00
4. Safe Behavior Reinforcement SP-790	This unit looks at the principles of behavior modification and suggests how the concepts can be used in safety.	V 16:00
5. Participative Safety Systems SP-791	This unit looks at employee participation in the safety system and discusses current management philosophy.	V 26:00
The Dirty Dozen: OSHA's Top 12 Violations (Added 9/93) SP-798	A review of the most common violations cited by OSHA, showing the hazards involved.	V 16:00

TITLE & ACCESS CODE	DESCRIPTION	MEDIUM /TIME
	Supervisory Training	
How to Conduct a Safety Meeting (added 10/92) SP-792	Provides line supervisors, section managers and other supervisory personnel with essential points for planning and conducting a safety meeting.	V 15:05
It's A New Day (How to Establish a Safety Program) SP-792	This program provides industry personnel with the how-to's of establishing a successful safety program - resulting in fewer accidents, increased productivity and better quality control.	V 19:00
OSHA Recordkeeping SP-793	Teaches correct procedures for recordkeeping and maintenance. Defines a recordable injury/illness.	V 15:00
Safety - It's Your Responsibility SP-794	This program emphasizes that being a good supervisor means more than getting the job done on time. It also means getting the job done safely. It is the supervisor's responsibility to set a good safety example for employees, for as we see here, accidents can happen in a split second when exceptions to the safety rules are made.	V 19:00
Supervising Safety - You Make the Difference SP-795	Designed for supervisors, it discusses factors that lead to accidents and the techniques supervisors can use to change employees' behaviors to reduce accidents. Includes a Leader's Guide.	V 19:00
Thinking it Through: The Mark of the Professional Supervisor (added 10/92) SP-796	Designed to inform supervisors and managers about the importance of compliance with safety and health procedures and regulations. The video uses a supervisor's account of a fatal accident, and also a dramatization of a non-compliance situation.	V 20:25

TITLE & ACCESS CODE	DESCRIPTION	MEDIUM /TIME
	Welding/Cutting	
Confined Space Hotwork CS-081	Focuses on the specific dangers of hotwork in confined spaces. It reviews general confined space information, atmospheric testing, properly filling out permits and having the appropriate equipment to do the work safely.	V 20:00
Hazardous Materials Awareness for Millwrights and Tinsmiths (added 4/93) HC-420	Describes hazardous chemicals encountered during welding and soldering operations: routes of entry, effects on the human body, safe use of potentially hazardous materials through appropriate handling and personal protective equipment, protection against incidental exposures to asbestos and fiberglass.	V 22:00
Hot Work Permits (added 3/93) GS-318	This program is intended for personnel who perform hot work or fire watch duties during hot work operations. It describes hot work, areas in which hot work permits are required, the duties of a fire watch, and illustrates a typical hot work procedure.	V 9:36
Oxyfuel Gas Cutting: The Sure Cut (Added 3/94) WL-829	A detailed look at oxyfuel gas equipment, how to inspect it, safe work procedures, and protective measures.	V 13:00
Welding Part 1 Physical Hazards HC-404	See Module #14 of HAZCOM under *"Hazard Communication"*	V 21:00
Welding Part 2 Health Hazards HC-405	See Module #15 of HAZCOM under *"Hazard Communication"*	V 22:00
Welding Safety: Securing the Work Zone (Added 3/94) WL-828	The health and safety hazards of welding oxyfuel and electric arc welding are reviewed, along with protective measures for the welder and co-workers, safe storage of containers, pre-planning issues, use of MSDS's.	V 16:00

ATTACHMENT V

PREPAREDNESS AND PREVENTION

PROCEDURES TO PREVENT HAZARDS

Revised 4/20/94

PROCEDURES TO PREVENT HAZARDS

1. Design and Operation of Facility

The hazardous waste facilities at the Buffalo Service Shop have been designed, constructed, maintained and operated to minimize the hazards associated with the hazardous waste activities at the Buffalo Service Shop.

Discussions covering design criteria, materials of construction, engineering drawings, secondary containment system, inspection and procedure plans for existing facilities and proposed additions have been covered in detail in the previous sections:

-Facility Description
-Container Storage
-Security
-Inspections

2. Required Equipment

Since more detail is given in the contingency plan and emergency procedures plan, the following discussions will briefly cover the required four (4) categories of emergency equipment:

2.1 The Buffalo Service Shop is equipped with an intercom system to provide internal emergency communications, to provide emergency instructions to enable rapid evacuation of the affected areas and to initiate the emergency response plan (discussed in the contingency/emergency procedures plan). See drawing titled Fire Control Facilities in drawing section of revisions.

In addition, the facility is equipped with two fire bells which are connected with the facility's automatic sprinkler system. The sprinkler system is connected to a central location (ADT Co.) that provides 24-hour coverage. Any signal received by the central location, which indicates that the sprinkler system has been activated, is immediately communicated to the facility emergency coordinator (24 hour coverage). See drawing titled Sprinkler System Layout in Drawing Section of Permit Application.

2.2 Outdoor storage areas are protected from run-on by roofing and side walls. Run off from hazard waste handling area is prevented by curbing around all areas. Curbing around all storage, work and loading/unloading areas minimizes contamination of any water supplies. Emergency lighting is available at facility in the event of a power failure. Pumps used in hazardous material handling are equipped with manual shut offs.

In the event of a spill during loading or unloading operations, the procedures detailed in the contingency plan and spill prevention control and countermeasure plan will be followed.

2.3 Hours Coverage/External Communication System

If an emergency situation arises, the Buffalo Service shop will contact, via existing phone system, the local Police Department, Fire Department, Hospital and State and Local emergency response teams. The existing telephone system is readily available at the facility. See Fire Control Facilities drawing.

2.4 Emergency Equipment

The Buffalo Service Shop emergency equipment consists of portable fire extinguishers, spill kits (consisting of empty drums, absorbent material, shovels, rags, drums, plastic), personal protective equipment kits (consisting of safety goggles, face shields, rubber gloves, rubber boots, respirator, disposable coveralls), automatic sprinkler system and fire hoses.

The location of the fire extinguishers, spill kits and protective equipment is attached in the drawing of these revisions. See drawing titled Fire Control Facilities.

2.5 Water Supply for Fire Fighting Equipment

A public water supply (55 lbs. pressure) serves as the primary source of emergency water. This source provides sufficient water for emergency use.

3. Testing and Maintenance of Equipment

The facility's communication system, fire protection equipment and spill control equipment is inspected weekly to ensure proper operation during and emergency. Inspection procedures are contained in the inspection plan.

4. Prevention of Ignition or Reaction of Ignitable or Reactive Wastes

Containers holding ignitable waste will be located at least 50 feet from the Buffalo Service Shop's property line (the RCRA container storage area is located more than 50 feet from the Buffalo Service Shop's property line). Special precautions will be taken to prevent accidental ignition of ignitable or waste. The waste will be separated and protected from all sources of ignition. While ignitable waste is being handled, smoking and open flames will be confined to specially designated locations. "No Smoking" signs will be conspicuously paced wherever there is a hazard from ignitable or reactive waste. No reactive waste is handled at this facility.

The material safety data sheets for all chemicals in use and chemical analysis reports of wastes generated at this facility provide the information needed regarding the ignitability and reactivity characteristics of materials and wastes found on site. See attached sample MSDA and Analysis Reports.

PROCEDURES TO PREVENT HAZARDS

4. Prevention of Ignition or Reaction of Ignitable or Reactive Wastes (continued)

In the event that Buffalo Service Shop has a storage container holding a hazardous waste that is incompatible with any waste or other materials stored nearby in other containers, that container will be separated from other materials or separated from them by means of a wall.

5. Aisle Space

Aisles within the Buffalo Service Shop provide access to storage and work area (see attached facility aisle drawing). Aisles are wide enough to provide easy access of emergency equipment. Aisle boundaries are clearly marked with four (4) inch wide yellow lines. Shop employees are instructed to maintain aisles clear of obstructions at all times.

Aisle spacing will be maintained in all waste storage areas. See drawings "Indoor PCB Work Area Container Storage" and "Outdoor Area Storage Area Container Storage" in the drawing section of this permit. Inspectors will verify that proper aisle space for access of emergency and clean up of equipment is maintained at all times.

6. Signs

Entrances to waste storage areas are clearly marked with "Danger - Unauthorized Personnel Keep Out" signs. Wherever there is a hazard from ignitable or reactive waste "No Smoking" signs are posted, in addition PCB work and storage areas are marked with the required EPA type ML PCB label.

7. Arrangements with Local Authorities

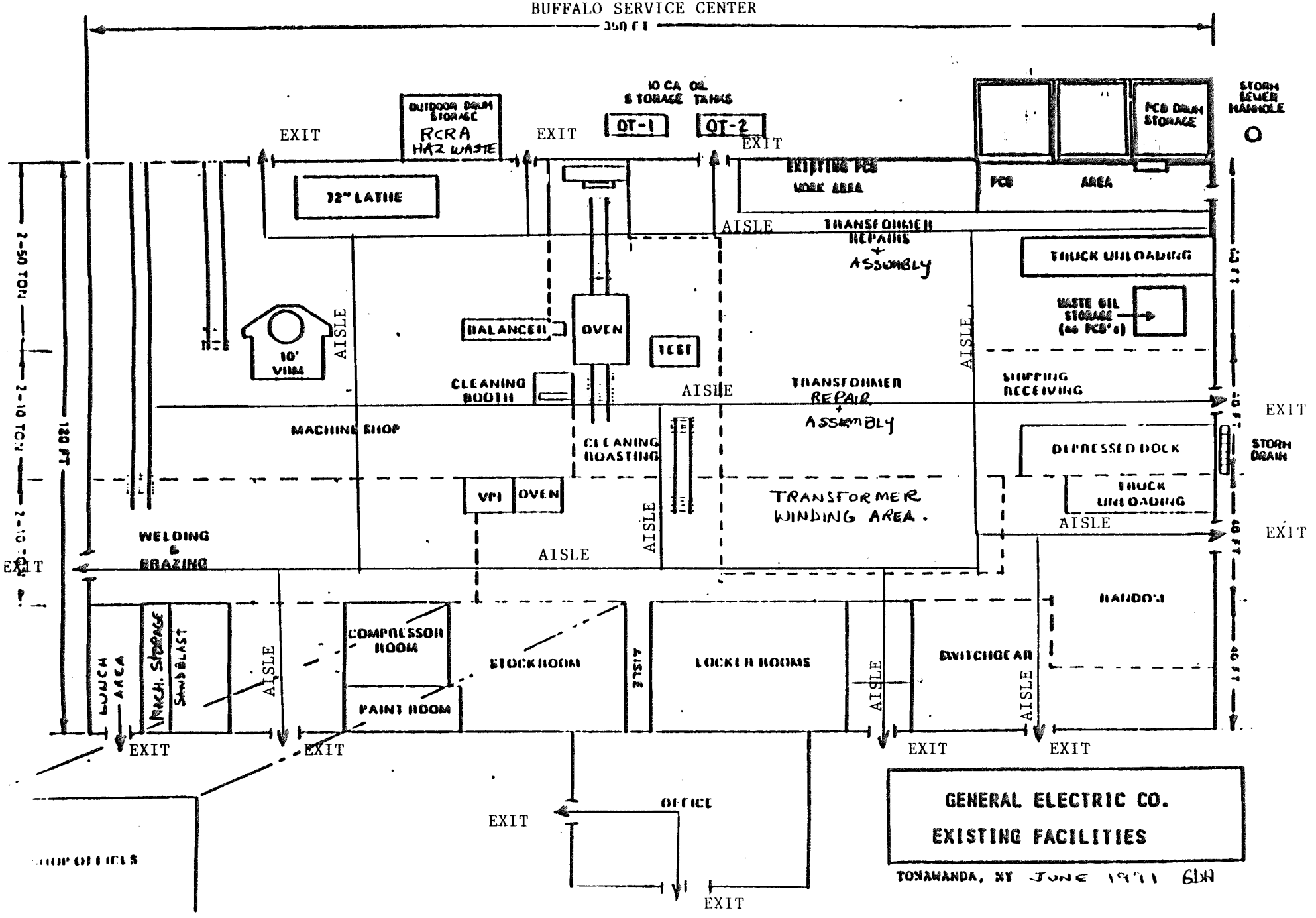
Discussions covered in the contingency and emergency procedures plan.

8. Spill Prevention and Countermeasure Plan

See Spill Plan in section titled Preparedness and Prevention.

MAIN AISLE DIAGRAM

BUFFALO SERVICE CENTER



ATTACHMENT VI

HAZARDOUS WASTE

CONTINGENCY PLAN

AND

EMERGENCY PROCEDURES PLAN

FOR

GENERAL ELECTRIC COMPANY
175 Milens Road
Tonawanda, N.Y.

EPA I.D. No: NYD067539940

March 25, 1994

I. CONTACTS - GENERAL ELECTRIC

A. Emergency Coordinator

Name:	Anthony Hejmanowski
Home Address:	39 Chateau Ct., Depew, NY
Home Phone	683-4245
Work Phone:	871-7233

B. Alternate Emergency Coordinator

Name:	David E. Toelsin
Home Address:	5584 Mapleton Road Lockport, NY
Home Phone:	625-9486
Work Phone:	871-7232

C. Shop Manager

Name:	Roy Satzman
Home Address:	25 Beachridge, Amherst, NY
Home Phone:	691-0719
Work Phone:	871-7231

II. EMERGENCY CONTACTS

A.

Police Department	Phone No. 876-5300
Fire Department	Phone No. 876-1212
Ambulance Service	Phone No. 836-3396
Emergency Pollution Response Unit	Phone No. 912-362-4611

III. REGULATORY AGENCIES

A. Local

Town of Tonawanda WWPT
Two Mile Creek Road
Tonawanda, New York
Phone No. 716-693-4900

B.	State	DEC 270 Michigan Avenue Buffalo, New York 14203-2999 Phone No. 716-851-7000 or 24 Hr. Oil & Hazardous Material Spill notification No. 518-457-7362
C.	Federal EPA	U.S. EPA Region II 26 Federal Plaza New York, N.Y. 10007 Phone No. 212-264-2525
D.	Coast Guard	North End Fuhrman Blvd. Buffalo, New York Phone No. 716-846-4168 (Days) Phone No. 716-846-4153 (Nights/ Weekends/Holidays
E.	National Response Center	Phone No. 800-424-8802

IV. GENERAL DESCRIPTION OF FACILITIES

A. Type of Manufacturing: Repair of industrial equipment

B. Type of Building: Steel and block construction

C. Number of Buildings: One

D. Location of Plant: 175 Milens Road
Tonawanda, New York 14150

E. Type of Materials Handled: Flammable Liquids, flammable solids, corrosive liquids, corrosive solids, toxic chemicals, PCB's.

F. Previous Emergency Incidents: (Describe briefly any Hazardous Waste spills that occurred at this location.
None

G. Potential for Emergency Incidents: (Describe briefly conditions in Hazardous Waste areas that could increase the potential for an accident, e.g. storm sewers, heavy truck traffic, waterways adjoining property). The possibility of an uncontrolled hazardous waste spill is minimal. All PCB Storage areas are diked failure to allow material to enter storm drains. RCRA hazardous waste is stored in 55 gallon drums and the RCRA hazardous waste storage area is over 200 feet from the nearest storm drain catch basin. All interior facility floor drains discharge through oil water separators into the POTW.

V. EMERGENCY PROCEDURES: The emergency procedures required in the event of a spill, fire, explosion or other incident that could release Hazardous Waste into the air, soil, or surface water are as follows.

A. Area Operator. The Area Operator is the first line of defense in mitigating spills, fires, explosions, etc. The Area Operator is trained to respond to emergencies in his particular area.

In case of emergency incident, the Area Operator will immediately:

1. Notify the Area Foreman

(Continued)

2. Take action to control or shut down equipment that is contributing to the incident or could possibly contribute to the incident.

3. Contain the emergency incident e.g., use absorbents for spills and portable fire extinguishers for fires.

B. Area Foreman. The Area Foreman will take action to mitigate the incident, evaluate the situation, and call for assistance, if needed. The Area Foreman has been trained to respond to emergency situations in his area.

In case of an emergency incident, the Area Foreman will immediately:

1. Evacuate the area except for personnel performing emergency functions.

2. Notify the Emergency Coordinator.

3. Direct other personnel to the emergency as needed.

C. Emergency Coordinator. The Emergency Coordinator is responsible for coordinating plant-wide response to emergency incidents. The Emergency Coordinator or his alternate is available 24 hours a day, 7 days a week. The Emergency Coordinator is responsible for training plant personnel in all aspects of emergency incidents, e.g., Hazardous Waste spills, fires, explosions, personal injuries, evacuation procedures, and interfacing with police and fire departments, hospitals, and regional emergency response teams.

Emergency Coordinator duties and expanded contingency are included in this section as Attachment A titled "Contingency Plan Additions".

In case of an emergency incident, the Emergency Coordinator or his alternate will immediately:

1. Notify the fire and emergency response team.

2. Notify the Shop Manager.

3. Notify the proper local, state, and federal agencies, if required.

D. Emergency Response Team. The Emergency Response Team includes personnel who are trained to cope with Hazardous Waste spills, or other Hazardous Waste incidents. They will have available equipment necessary to contain the emergency; e.g., absorbent material, shovels, fire extinguishers, rubber gloves, face masks, etc.

In case of an emergency incident, the Emergency Response team will immediately:

1. Proceed to the emergency site.
2. Take the necessary action to mitigate the emergency.
3. Determine if additional Emergency Services are required.
4. Contain the incident.
5. Clean up the area after the emergency is contained.

VI. AGREEMENTS WITH LOCAL POLICE, FIRE DEPARTMENTS, HOSPITALS AND EMERGENCY RESPONSE CONTRACTORS.

A. Police. Police are available to direct traffic, handle crowds, and provide security services. Police have a copy of the Contingency Plan and Emergency Procedures Plan.

B. Fire Department. The Fire Department will respond to fires and other emergency incidents providing back-up fire protection and rescue services. The Fire Department has a copy of the Contingency Plan and Emergency Procedures Plan.

C. Hospital. The hospital is available to provide medical service. The hospital has a copy of the Contingency Plan and Emergency Procedures Plan.

D. Emergency Response Contractor. The following contractor is familiar with the plant and is available to provide 24 hours, 7 days a week, back-up service to plant organizations.

Name:	Clean Harbors Environmental Enrg. Corp.	Environmental Products & Services
Address:	Buffalo, NY	Buffalo, NY
Telephone:	716-885-0723	716-876-7100

VII. MEASURES TO PREVENT THE ESCAPE OF HAZARDOUS WASTES INTO THE ENVIRONMENT.

A. Drum Storage Areas

1. All drums are inspected once a week for:
   a. Leaks
   b. To ensure that lids and bungs are in place
   c. To ensure that markings are proper

B. Other Hazardous Waste Facilities

1. PCB Storage areas have containment

2. All tanks and PCB articles and curbs are inspected weekly to insure there is no leakage

VIII. EVACUATION PLAN

All personnel will be thoroughly familiar with the alarm system and the evacuation plan. The evacuation plan is posted conspicuously. The evacuation plan should be a block layout of the facility showing all exists and preferred exit routes for personnel during any evacuation. (See Attached).

IX. MINIMUM EMERGENCY EQUIPMENT

A. Personal Protective Equipment Kit (designate location of equipment). (See Attached).

1. Safety Goggles
2. Face Shields
3. Rubber Gloves
4. Rubber Boots
5. Respirator
6. Disposal Coveralls

B. Spill Kit (designate location of equipment) (See Attached)

1. Empty 55 gallon 17H drums (2)
2. Absorbent material (enough to absorb 55 gallons of liquid)
3. Shovels
4. Rags
5. Brooms
6. Plastics

C. Fire Protection

1. Portable fire extinguishers

2. Fire hoses and connections

D. Emergency Alarm System

1. Internal alarm - Public address system, telephones

2. External communication - telephone

Revised by: A Hyzmanski (EHS Coordinator) Date: 3-25-94

Approved by: A Hyzmanski (Emergency Coordinator) Date: 3-25-94

Approved by: Ray Doty (Center Manager) Date: 5/27/94

SERVICE SHOP EMERGENCY PROCEDURES

A. Emergency Control

1. In the event of an emergency where it is feasible to remain on the premises without unduly endangering plant personnel, the following procedure will be followed:

   a. An Emergency Control Center will be established at the Loading Dock.

   b. The Emergency Coordinator will report immediately to the Emergency Control Center.

   c. The Shop Emergency Team will report immediately to the Emergency Control Center.

   d. Maintenance and engineering personnel will report immediately to the Emergency Control Center.

2. In the event of an emergency where it is necessary to evacuate the shop building, the following procedure will be followed:

   a. An alternate Emergency Control Area will be established in the Main Office

   b. The Emergency Coordinator will report immediately to the alternative Emergency Control Area where he will designate individuals to contact the fire department, police department, and ambulance services required.

   c. Each foreman and supervisor will be responsible for ensuring that all personnel have vacated their area of responsibility. Then they will report to the Emergency Coordinator at the Emergency Control Area.

   d. The Shop Emergency Team will report immediately to the Emergency Control Area.

   e. Maintenance and engineering personnel will report immediately to the Emergency Control Area.

B. Fire

1. The foreman whose area requires fire department assistance will perform the following activities:

   a. Activate internal alarms.

   b. Call the fire department.

   c. Assign a person to the shop entrance to direct the firemen to the scene of the emergency.

   d. Notify the Emergency Coordinator of the Emergency.

2. The Emergency Coordinator will perform the following activities:

   a. Notify the Shop Emergency Team and take charge of shop fire-fighting activities.

   b. Notify the fire department, police department, ambulance services, and emergency response teams as required.

   c. Assign personnel to isolate electrical power and shop gas and fuel supplies as required.

   d. Assign personnel to move material away from the path of fire or from possible water damage.

   e. Evacuate personnel from areas of potential danger.

   f. After the fire, direct and assign people to secure the area and perform clean-up activities.

C. Civil Disturbance

In the event of a civil disturbance, the Emergency Coordinator will direct the following activities:

1. Ensure that all personnel have vacated areas with external doors or windows.

2. Close and lock all gates providing access to the shop property.

3. Move as much company/customer equipment as practical inside the building.

4. Close and lock all exterior building doors and windows.

5. Activate all exterior alarm systems.

6. Alert shop personnel that an emergency condition exists and that emergency procedures are to be immediately followed.

7. Notify the police department.

D. Bomb Threat

In the event that a bomb threat is received, the following action will be taken:

1. The person receiving the threat will attempt to obtain as much information as possible in accordance with the guidelines detailed in Employee Relations Information letter ERIL 68-19D.

2. The person receiving the threat will immediately notify the shop manager or acting manager.

3. The shop manager or acting manager will notify the police department and in accordance with emergency procedures.

E. Evacuation of Premises

In the event that evacuation of the building becomes necessary, the Emergency Coordinator will direct any of the following activities judged by the nature of the emergency.

1. Notify the police department of evacuation activity and obtain their assistance in providing the safest route for evacuation from the general area.

2. Activate external alarm systems.

3. Assign personnel to direct traffic to leave Company property in an orderly coordinated manner.

4. Utilize all available shop vehicles and personal cars to provide all personnel with transportation away from Company property.

5. Remove all essential records from the building.

6. Shut down building activities that will not be required.

7. If caretaker activities are required, select at least two volunteers to remain as plant caretakers.

8. Close and lock all perimeter fence gates.

9. Close and lock all exterior doors and windows.

10. Notify the police department of the condition of the premises.

11. Notify the fire department of the condition of the premises.

12. In the event that access to the shop is not available, predetermine a satellite Emergency Control Center.

F. Service Shop Emergency Response Teams

(Requires annual review and revision).

The following individuals are assigned to the shop's Emergency Response Team. These individuals are familiar with the shop's Emergency Procedures and have received training in the use of shop fire-fighting equipment and/or Hazardous Waste spill containment and clean up. Designated individuals are familiar with the shop's utilities and with the proper procedures for shop power isolation and the shutdown of fuel supplies.

Anthony Hejmanowski - Emergency Coordinator

Roy Satzman - Center Manager

David Toelsin - Alternate Emergency Coordinator

Jim Horbett - Shop Maintenance - Area Operator

Kenneth Berger - Transformer Repair A - Area Operator

Prepared by A. Hejmanowski
Emergency Coordinator

GENERAL ELECTRIC

BUFFALO SERVICE SHOP

EMERGENCY EQUIPMENT

1. Person Protective Equipment

   a. Safety goggles
   b. Face shields
   c. Rubber gloves
   d. Respirators
   e. Disposal coveralls
   f. Rubber boots
   g. Eye wash and shower

2. Spill Control Equipment

   a. Empty 55-gallon drums
   b. Shovels
   c. Brooms
   d. Rags
   e. Plastic sheeting
   f. Absorbent material (Speedi-dry)
   g. Absorbent mats
   h. Absorbent socks

3. Emergency Response Equipment

   a. Fire extinguishers
   b. Internal communication
   c. External communication

HAZARDOUS WASTE MANAGEMENT PERSONNEL

The following Shop personnel are presently assigned duties/responsibilities for proper handling and control of hazardous materials:

HAZARDOUS MATERIAL IDENTIFICATION

Designee	Anthony Hejmanowski	Purchasing
Alternate	Ronald Riggs	Stockroom Keeper

SHOP HAZARDOUS WASTE CONTROL

Designee	Jim Horbett	Maintenance
Alternates	Ronald Riggs	Stockroom Keeper
	Anthony Hejmanowski	EHS Coordinator

EMERGENCY ACTIVITIES

Emergency Coordinator	Anthony Hejmanowski	EHS Coordinator
Shop Manager	Roy Satzman	Manager
Alternate Coordinator	David Toelsin	Mgr. Customer Service
Area Foreman	Michael Domagala	Foreman
Area Operator	Henry Haase	Switchgear
Area Operator	Kenneth Berger	Transformer B

TRAINING

Designee	Anthony Hejmanowski	EHS Coordinator
Alternate	Theresa Hinman	Region EHS Specialist

INSPECTION

Designee	Anthony Hejmanowski	EHS Coordinator
Alternate	David Toelsin	Manager Customer Service
Designee	Jim Horbett	Maintenance
Alternate	Ron Riggs	Stockroom Keeper

RECORD KEEPING

Designee	Anthony Hejmanowski	EHS Coordinator

HAZARDOUS WASTE MANAGEMENT

JOB DESCRIPTION

HAZARDOUS MATERIAL IDENTIFICATION

Perform review of stock materials believed to be hazardous.

Review purchase of new material.

HAZARDOUS WASTE CONTROL

Properly distribute, collect and have analyzed wastes identified as hazardous.

EMERGENCY ACTIVITIES

Emergency Coordinator and Alternates will be thoroughly familiar with contingency and emergency procedures plans. All duties as defined in plans will be performed by designated personnel.

TRAINING

Designated employees will be responsible for all aspects of training as specified in Shop Training Plan.

INSPECTION

Designated employees will be familiar with inspection plan. Employees will be responsible to perform inspection duties as outlined in plan.

RECORD KEEPING

Designated employees will be responsible for all files and reports required by federal, state, local and department regulations.

ATTACHMENT A

Contingency Plan (Additions)

ATTACHMENT A

Contingency Plan (Additions)

Mr. Anthony Hejmanowski, EHS Coordinator, has been selected as primary emergency coordinator for Buffalo Service Center. Mr. Hejmanowski is thoroughly familiar with the Buffalo Service Center facility, its operations and activities. Also he has participated in the preparation and review of the contingency plan and is thoroughly familiar with its require- ments. As emergency coordinator, Mr. Hejmanowski has the authority to commit resources to implement the contingency plan.

Mr. David Toelsin has been selected as alternate emergency coordinator for Buffalo Service Shop. Mr. Toelsin is also familiar with the Buffalo facility, its operations and activities. Mr. Toelsin has also participated in the preparation and review of the attached contingency plan and is thoroughly familiar with its requirements. As alternate emergency coordinator, Mr. Toelsin has the authority of committing the necessary resources to implement the contingency plan in the absence of Mr. Hejmanowski (primary emergency coordinator).

The contingency plan will be carried out immediately whenever there is a fire explosion or release of hazardous waste which could threaten human health or the environment.

The aspects of the contingency plan and the emergency procedures for the Buffalo Service Center are discussed in detail in "Contingency Plan and Emergency Procedure Plan" section of permit application data submitted on April 6, 1987.

Contingency Plan Additions - continued

Immediately after an emergency, the emergency coordinator will provide for storing of recovered waste and other materials (providing that the recovered material is a hazardous waste) that resulted from a release, fire or explosion at the Buffalo Service Shop as per 6NYCRR subpart 373-2.4(g)(7).

The emergency coordinator will also ensure that in the affected areas of the facility:

- o No waste that may be incompatible with the released material is stored until cleanup procedures are completed as per 6NYCRR part 373-2.4(g)(8)(i).
- o All emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed as per 6NYCRR part 373-2.4(g)(8)(ii).
- o The emergency coordinator will take all reasonable measures required to ensure that fires, explosions and releases do not reoccur or spread to other hazardous waste at facility. These measures will include, where applicable, stopping processes and operations, collecting and containing released wastes and removing or isolating containers as per 6NYCRR 373-2.4(g)(5).

The emergency coordinator will notify the appropriate state and local authorities that the facility is in compliance with 6 NYCRR Support 373-2.4(g)8 before operations are resumed in the affected areas of the facility as per 6NYCRR part 373-2.4(g)(9).

The specific procedures for responding to container (storage tanks and drums) spills and leakage are addressed in the Spill Prevention Control and Countermeasure Plan pages 17, 18 and 19 (Preparedness and Prevention section of permit application data submitted on April 6, 1987).

Contingency Plan Additions - continued

The following procedure will be followed in the event of a spill occurring during loading or unloading:

1. Limit discharge of waste as much as possible.

2. Immediately contain spill by placing:

   a. Dams or dikes or sandbags, sawdust, etc. to stop spill from spreading.
   b. Any available material maintained nearby.
   c. Mats (rubber, plastic, etc.) over floor drains, catch basin grates, etc., if needed, to ensure that any spill will not enter storm drains.

3. Report spill to supervisor.

4. Begin cleanup as described on page 17 of the GE-Buffalo Service Shop "Spill Prevention Control and Countermeasure Plan" (Preparedness and Prevention section) of permit application data submitted on April 6, 1987.

Prior to transportation of PCB items, the following is strictly enforced.

1. Spill kit must accompany every load.
2. Additional spill material to be taken as required.
3. PCB liquids 50 PPM and above must be in approved DOT drums.
4. All liquid in drums and PCB containers such as transformers and capacitors will be shipped in containers which provide secondary containment such as pans, trays or drums.
5. Load to be properly chained or tied down and covered with plastic or tarp.

ATTACHMENT A

Contingency Plan - Additions

1. Spills Within Facility During Transportation

Every precaution is taken to prevent spills during transportation of hazardous waste within facility. Transportation of the hazardous waste within facility is limited to movement of waste containers to facility's hazardous waste storage areas and to truck loading area at the time for transportation to the final disposal site. Whenever possible the waste is transported at safe distance from the floor drains to minimize the possibility of potential spills from entering the floor drains.

In the event of a spill during transportation within facility the following procedure will be followed.

a) Limit discharge of waste as much as possible.

b) Immediately contain spill by placing dikes of absorbent material to stop spill from spreading. If in close vicinity to floor drains, rubber and absorbent mats will be placed over floor drains to ensure that spilled material will not enter the drain.

At no time will spilled material be allowed into any drains.

c) Report spill to supervisor

d) Being cleanup of spill as follows:

- Employees involved in the cleanup are required to wear proper protective clothing.

- If there is a large amount of liquid, a portable pump will be used to pump accumulated liquid into a properly labeled 55 gallon drum. If there is only a small amount of accumulated liquid which makes pumping not practical then only absorbent materials will be used.

ATTACHMENT A

Contingency Plan - (Additions)

1. Spills Within Facility During Transportation

d) Begin cleanup of spill as follows: (continued)

- After the liquid is pumped into drums, absorbent material (oil absorbent material such as oil pads, speedi-dry) will be applied over the affected area in sufficient quantity to absorb the residue.

- The absorbent material will be swept toward the center of the spill. Wet material will be picked up with shovel and placed in properly labeled drum. Application of absorbent, sweeping etc. will be applied until spill is cleaned up.

- Equipment used for removal of accumulated liquids will be cleaned up. All equipment and properly labeled 55 gallon drums with contaminated liquids and absorbent materials will be placed in their proper locations and request for replacement of any material and will be placed.

- The collected material will be managed as a hazardous waste in accordance with all applicable regulations.

ATTACHMENT A

Contingency Plan - (Additions) - continued

In the event of a spill of hazardous waste during transportation, the following procedures will be implemented.

1. Pull off the road.

2. Stop the leak using any means available.

3. Contain the spill. Wearing appropriate safety clothing, confine the spilled material to as small an area as possible, prevent the material from entering streams, drainage ditches, sewers, etc. Use plastic sheeting, absorbent pads, speedi-dry or dig ditches or dikes.

4. Contact shop manager or designated emergency coordinator as soon as possible.

5. Clean up as directed by shop manager.

   a. Shop Manager
      Roy Satzman
      (716) 691-0719
      25 Beachridge
      Amherst, NY 14051

   b. Emergency coordinator:
      Anthony Hejmanowski
      39 Chateau Ct.
      Depew, NY 14043

Contingency Plan (Additions) - continued

5. continued.

c. Alternate emergency coordinator:

David Toelsin
5584 Mapleton Road
Lockport, N.Y.
(716) 625-9486

The following information must be provided to the shop manager or emergency coordinator.

a. Location of spill.
b. Description and volume of material spilled.
c. Cause of spill.
d. Recommendations for emergency response (i.e. can problem be fixed, what equipment is required, etc.)
e. Generator's name, address, etc. (information taken from manifest).
f. Phone number at which on-the-scene personnel can be reached.

The duties of the emergency coordinator are described in SPCC Plan found in "Preparedness and Prevention" section of permit application dated April 6,1987. Emergency coordinator duties as defined in 6NYCRR 373-2.4 are part of General Electric's SPCC Plan. Specifically, whenever there is a release, fire or explosion, the emergency coordinator must immediately identify the character, source, amount and areal extend of any released material. This will be done by observation or review of facility waste records and manifests and chemical analysis, if necessary, as per 6NYCRR 373-2.4(g)(3).

ATTACHMENT A

Contingency Plan Additions - continued

Should the emergency coordinator determine that the facility has had a release, fire or explosion which could threaten human health or the environment outside the facility, he will report his findings as follows:

If the emergency coordinator's assessment of the situation indicates evacuation of local areas is advisable, he will immediately notify local authorities. The emergency coordinator will avail himself to local officials to help determine whether local areas should be evacuated as per 6NYCRR 373-2.4(g)(4)(1).

In the event the facility has had a release, fire or explosion which could threaten human health or the environment outside the facility, the emergency coordinator will as per 6NYCRR 373-2.4(g)(4)(ii).:

Notify immediately New York State DEC by calling the 24 hour oil and Hazardous Material Spill Notification Number (518) 457-7362 and the National Response Center (800) 424-8802. The report will include:

1. Name and telephone number of reporter.
2. Name and address of facility.
3. Time and type of incident.
4. Name and quantities of material involved.
5. The extent of injuries, if any.
6. The possible hazards to human health or the environment outside the facility.

Incidents that require implementations of the Contingency Plan will be documented. Documentation will include the time, date and details of the incident as per 6NYCRR 373-2.4(g)(10). This documentation will be noted in the operating record.

ATTACHMENT A

Contingency Plan Additions - continued

Within 15 days after the incident, a written report will be submitted to the state authorities that will include:

1. Name, address and telephone number of operator.
2. Name, address and telephone number of facility.
3. Date, time and type of incident.
4. Name and quantity of materials involved.
5. Extent of injuries, if any.
6. An assessment of actual or potential hazards to human health or the environment, if applicable.
7. Estimated quantity and disposition of recovered material that resulted from incident.

BUFFALO SERVICE CENTER
EMERGENCY EQUIPMENT LOCATION

Location of the emergency equipment, available for emergency situations, is shown on drawing titled Fire Control Facilities in the drawing section of these revisions.

The emergency equipment (spill kits, fire extinguishers and personnel protection equipment) is inspected weekly to ensure availability and operation.

EMERGENCY EQUIPMENT

1. Personal protective equipment.
   a. Safety goggles
   b. Face shields

ATTACHMENT A

Contingency Plan Additions - continued

1. continued

   c. Rubber gloves
   d. Respirators
   e. Disposal coveralls
   f. Rubber boots
   g. Eye wash and shower

2. Spill Control equipment

   a. Empty 55-gallon drums
   b. Shovels
   c. Brooms
   d. Rags
   e. Plastic sheeting
   f. Absorbent material

3. Emergency response equipment

   a. Fire extinguishers
   b. Internal communication
   c. External communication

BUFFALO SERVICE CENTER

EVACUATION ROUTES/EXIT ASSIGNMENTS

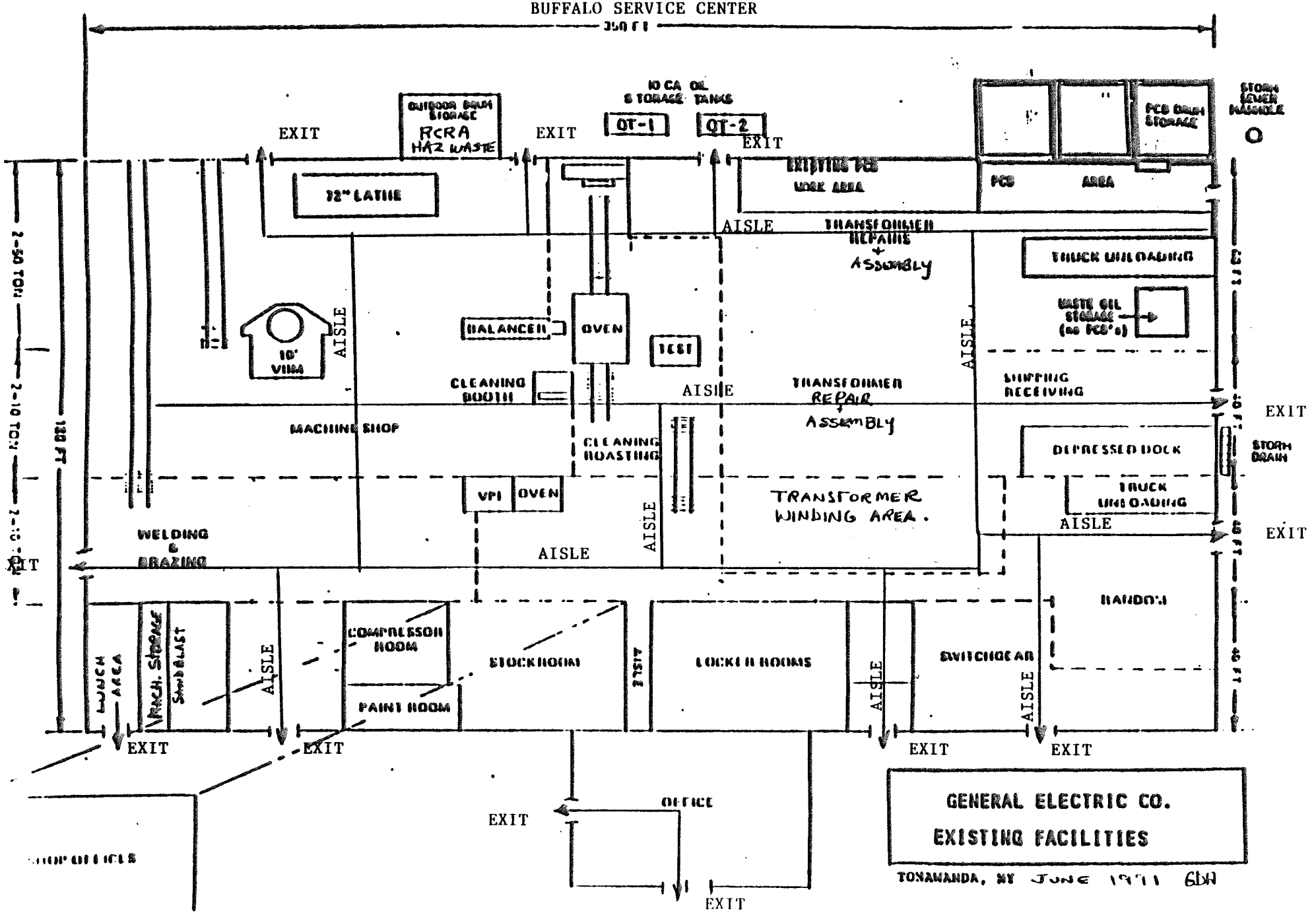
The emergency evacuation plan has been discussed in the hazardous waste contingency plan and emergency procedures plan. The attached Buffalo Service Center floor diagram shows each section of the facility and office area and indicates the best route for each section to use when evacuating the building in the event of an emergency.

The emergency exits are properly marked and the facility's aisles are kept free of obstructions. The emergency doors will be inspected weekly to ensure proper operations.

The evacuation routes will be discussed with all shop employees and the evacuation routes diagram posted.

EVACUATION ROUTES

BUFFALO SERVICE CENTER



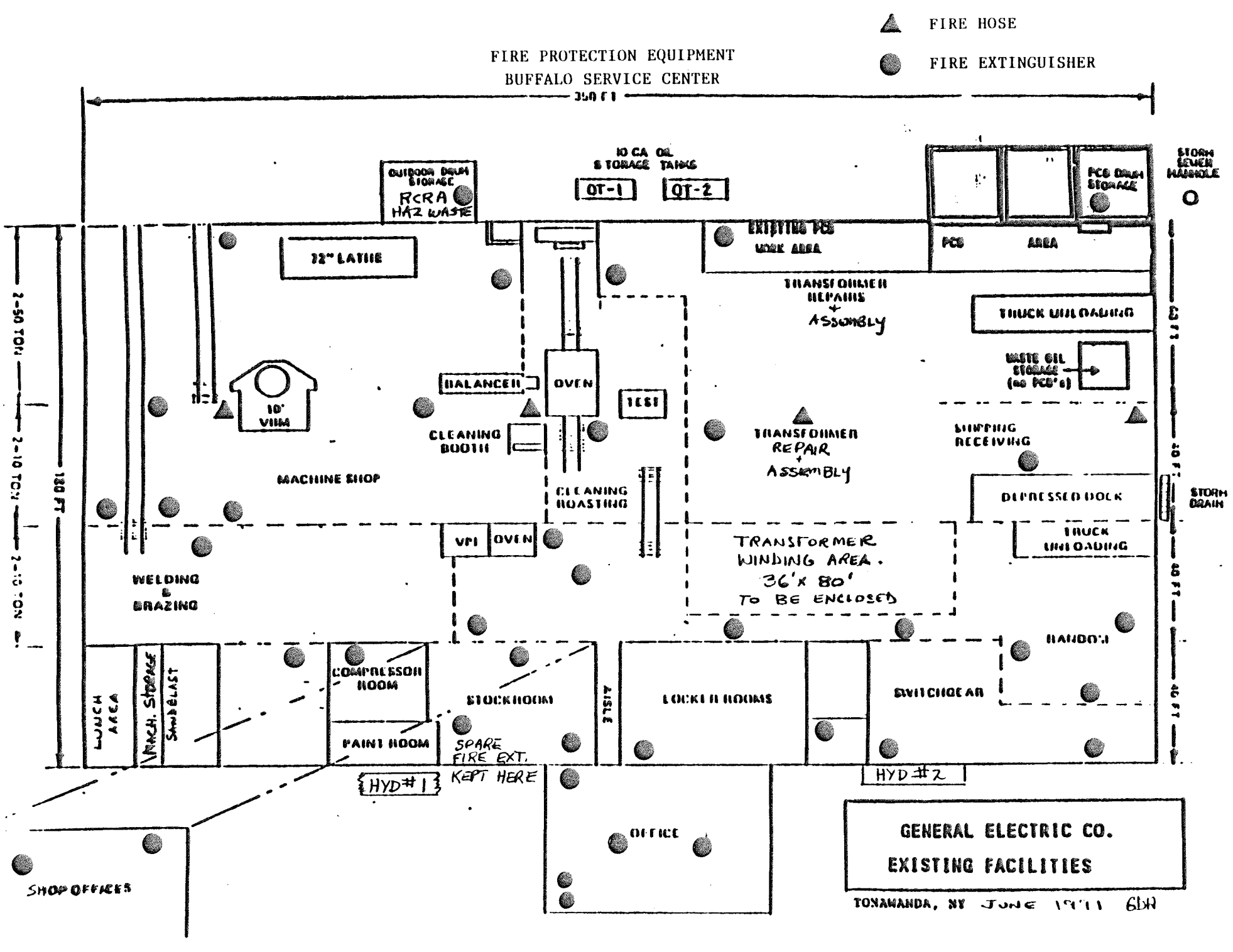
BUFFALO SERVICE CENTER

EMERGENCY EQUIPMENT LOCATION

Location of the emergency equipment, available for emergency situations, is given in the attached facility plan.

The emergency equipment (spill kits, fire extinguishers and personnel protection equipment) is inspected weekly to ensure availabilityand operation.

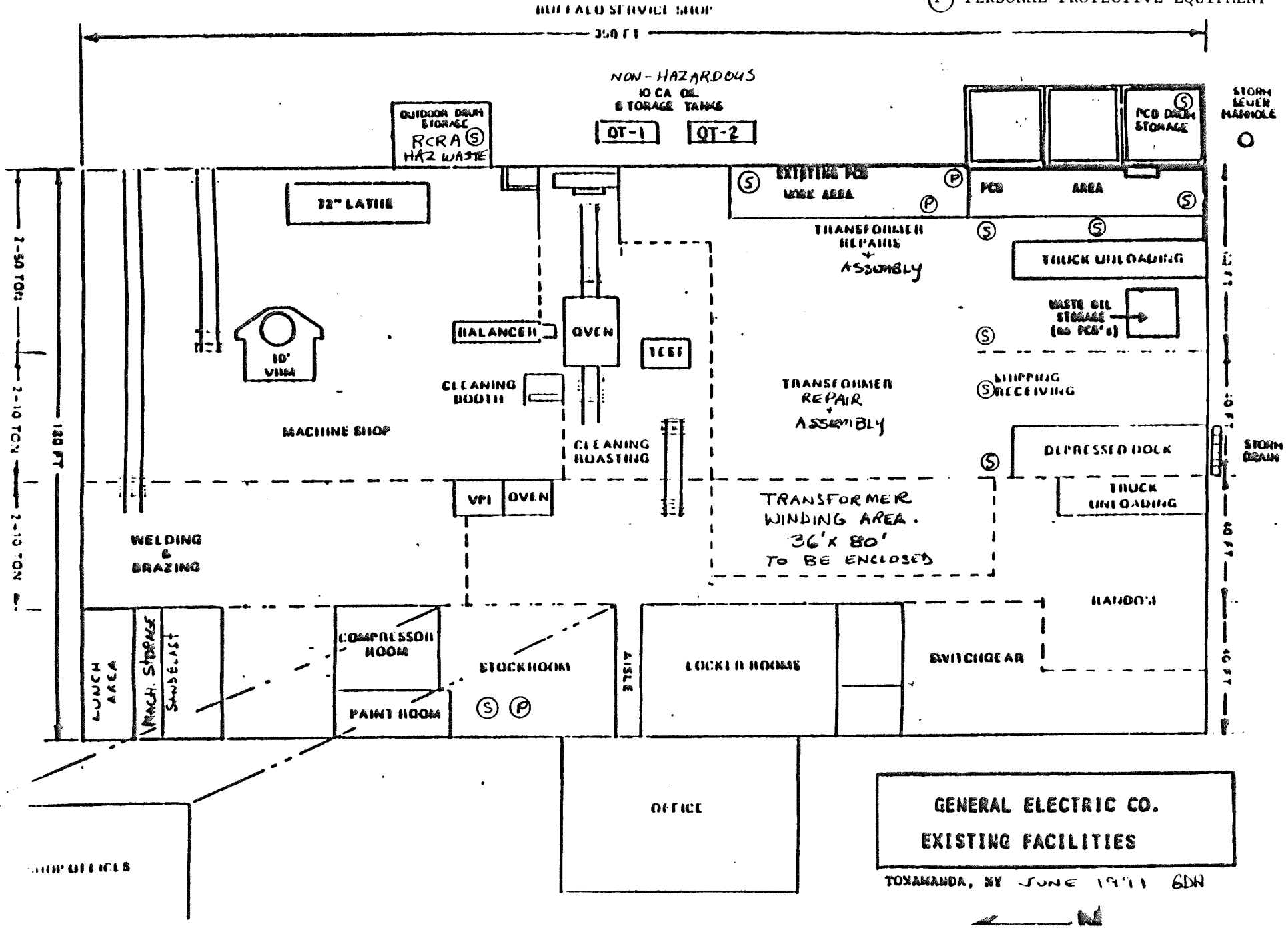
FIRE PROTECTION EQUIPMENT
BUFFALO SERVICE CENTER



PROTECTIVE EQUIPMEN CATION

(S) SPILL KIT LOCATION

(P) PERSONAL PROTECTIVE EQUIPMENT



CLOSURE PLAN

This plan covers closure details and costs involved in the closure of existing and proposed hazardous waste areas located at this facility.

FACILITY NAME AND ADDRESS:	General Electric Company 175 Milens Road Tonawanda, NY 14150
EPA ID:	NYD067539940
HAZARDOUS WASTE PERMIT NO.:	Pending
TYPE OF FACILITY:	Storage

I. PERFORMANCE STANDARD

Closure procedures outlined in the following closure plan should enable General Electric to close this facility in a manner that will minimize the need for further maintenance.

As this facility is used for storage only, closure procedures should eliminate any threat of the escape of hazardous waste to human health or the environment.

II. FACILITY DESCRIPTION

This facility contains a fenced-in, curbed, roofed area, identified by drawing titled, "Outdoor RCA Storage Area". The following types of hazardous waste in drums may be stored in this area:

Flammable Liquid and Solids
Corrosive Liquids and Solids
Acids
Oxidizers
Spent Solvents
TC Waste Materials

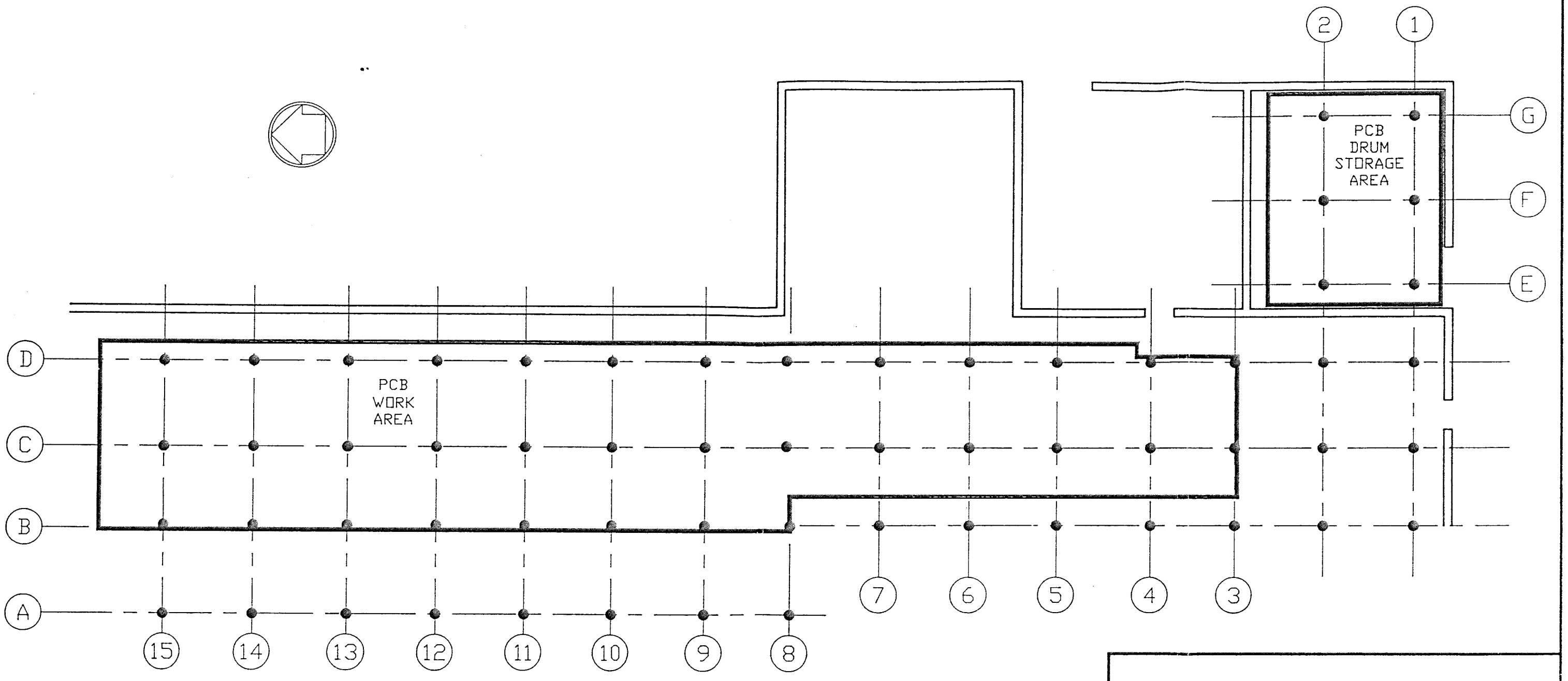
Maximum storage in this area is 36 drums.

CLOSURE PLAN

III. INVENTORY REMOVAL & FACILITY DECONTAMINATION

A. All drums of hazardous wastes will be removed from storage areas and shipped to appropriate facilities for treatment of disposal.

B. All hazardous waste residue will be absorbed with absorbent material and placed in drums for disposal. Storage areas will be scrubbed down and rinsed. Rinsings will be absorbed with absorbent material and placed in drums for disposal. The storage area will be inspected for stains and cracks, and surface samples will be taken in those areas. NYSDEC technically acceptable laboratories will be utilized to analyze samples to verify decontamination.



LEGEND:

BERM WALLS

NOTE:

SAMPLING GRID 10' X 10'
COORDINATE SYSTEM.

PCB MANAGEMENT AREAS
SAMPLING GRID

PREPARED FOR

GE - BUFFALO SERVICE CENTER

ERM-Northeast
Environmental Resources Management
501 New Karner Rd. Suite 7, Albany, NY 12205
Tel.(518)452-4291 Fax(518)452-4295

SCALE NTS

DATE 05/94

FIGURE 1

25174-940057

A MEMBER OF THE ENVIRONMENTAL RESOURCES MANAGEMENT GROUP

CLOSURE PLAN

COMMERCIAL PCB STORAGE FACILITY APPLICATION

Revised April 1996

Prepared For:

General Electric Company
Tonawanda PCB Facility
Tonawanda, New York
EPA #NYD 067539940

Prepared By:

Law Environmental, Inc.
Albany, New York
Project No. 52-0509

Revised According to GE Direction By:

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325 Essjay Road, Suite 110
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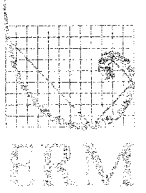
Project No. 380.052
July, 1992
April, 1996



Revised April 1996

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FIGURES

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2.0 FACILITY DESCRIPTION

2.1 INTRODUCTION

The Tonawanda, New York Service Center occupies a land area of approximately 210,000 square feet (ft^2) located at 175 Milens Road, Tonawanda, New York., 14150 (See Figure 1 for Site Location). The building occupies an area of approximately 75,000 ft^2 which houses about 50 salary and hourly employees for the decommissioning of PCB transformers, and the repairing of industrial equipment, (e.g. non-PCB transformers, large motors and generators, large steam turbines, locomotives, etc.). An area is set aside within the Tonawanda Service Center in which PCB solids and liquids can be stored while accumulating sufficient quantities necessary for shipment to an approved PCB disposal facility. About 60% of all service work is performed at the customer's place of business in the USA and Canada. See the Site Plan (Figure 2) for the GE-Tonawanda Service Center.

The Tonawanda Service Center is located one half mile from schools and homes and two and one half miles from the Niagara River (see Figure 1). The existence of drinking water wells in the area in unknown and service center wastewater is discharged into a publicly-owned treatment works.

The service center is a generator of listed, ignitable or corrosive hazardous wastes, with a previously issued EPA identification number NYD067539940.

2.2 FACILITY BOUNDARIES

The PCB facility is defined as being on the east side of the Tonawanda Service Center. The facility location relative to other on-site activities and to property boundaries is presented in the Site Plan in Figure 2. The PCB facility is totally enclosed by encompassing curbing, as specified and shown in Figure 3 and in the Spill Prevention Control and Countermeasure Plan, Appendix CPA. Areas and capacities are further described in the "Containment Capacity" section of the text.

2.3 FACILITY CONSTRUCTION

The facility is a masonry and steel structure with a concrete slab on ground floor. The concrete floor has been sealed with an impervious coating as described in the Spill Prevention Control and Countermeasure Plan (Appendix CPA). A set of concrete curbs enclose the PCB work areas. Walls are constructed of concrete blocks that enclose or accommodate steel columns. A built up roof is supported by structural steel members. The facility construction totally encloses the facility and protects it from rain and precipitation. The various types of construction materials in the building require different decontamination standards and/or procedures based on the texture, permeability, contact frequency, etc. Figure 3 classifies construction materials to correspond to decontamination criteria.

2.4 ACCESS/SECURITY

The facility is accessed through a doorway from the service center and through roll up doors at the loading area. Only personnel authorized by

General Electric are permitted in the service center. The facility may also be accessed directly from the rear of the service center through doorways where deliveries are made. A security gate across the access roadway prevents members of the general public from accessing this area. The gate is closed after operating hours. Access is depicted on the Site Plant in Figure 2.

2.5 *TRAFFIC PATTERNS*

PCB items are brought into and shipped from the loading dock in the facility, within the aforementioned secured area, see Figure 3. Outgoing wastes are trucked off the facility, through the security gate to Milens Road, a public highway.

2.6 *TOPOGRAPHY*

The service center is approximately 5 acres in size and located in an industrial and commercial area about 3 miles north of Buffalo, New York. The site is situated on relatively level ground at an approximate elevation of 612 feet and topography of the site is presented in Figures 1 and 2.

2.7 *100 YEAR FLOOD PLAIN*

Information was obtained from the Flood Insurance Rate Map (FIRM) under the National Flood Insurance Program, for the Town of Tonawanda, New York, Erie County, in the State of New York. This FIRM is identified as index #3602600001-0009, dated November 12, 1986.

The storage facility is located about 2,700 feet east of the closest flooding waterway, Two Mile Creek, which is a tributary of the Niagara River. The FIRM map locates the facility in designated Zone C which is an area of minimal flooding and not in the 100 year flood boundary. Also, the Army Corps of Engineers, Buffalo, New York District reported the site to be in Zone C. It can therefore be concluded that the facility is located above the 100 year floodplain.

2.8 *SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN*

Under 40 CFR 761.65(d)(2)(vi), (54 Fed. Reg. 52746 (Dec. 21, 1989)), the operation of the facility is not to pose an unreasonable risk of injury to health or the environment. A Spill Prevention Control and Countermeasure Plan has been prepared in partial satisfaction of 40 CFR 761.65 (d) (2) (iv) and also addresses the regulations at 40 CFR 112 under the Clean Water Act. The plan has been included as Appendix CPA.

3.0 CONTAINMENT CAPACITY

As described in 40 CFR 761.65 (b) (1), the PCB storage facility design capacity is limited by the volume contained within encompassing curbing, excepting temporary storage areas under CFR 761.65 (c) (1) (1989), qualifying pallet storage areas under 40 CFR 761.65 (c) (2) (1989), and storage areas for drained PCB contaminated electrical equipment. The curbing in the facility is to contain at least two times the internal volume of the largest PCB article or container, or, 25 percent of the total internal volume of all PCB articles and containers stored there, whichever is greater, excepting the aforementioned exceptions.

The Tonawanda storage facility PCB work area is surrounded by a continuous curbing as shown on the Spill Prevention Control and Countermeasure Plan provided in Appendix CPA and is further described as follows:

Area E, as identified by the Part 373 Permit, is the PCB work area. The PCB work area is located on the east side of the Tonawanda Service Center. The existing PCB work area is in an area of approximately 1,200 square feet with a 9" concrete berm. The roof and walls protect the building from rain and precipitation. The current volume that can be contained below the top of curbing is 900 ft^3 or 6,720 gallons. Applying the limitations above, the highest volume PCB article or container for this area is 3,360 gallons, or, the total volume of all articles and containers is 26,900 gallons. The area may contain 35 transformers of various sizes weighing up to 174,230 lbs. In addition, this area may be used to store 166 drums of PCB liquids and/or solids. Assuming an average transformer volume of 200 gallons, the volume of these items and the 35 transformers

is 26,630 gallons. The maximum inventory volume is less than the spill capacity limitation of 26,900 gallons. No single container greater than 3,360 gallons in volume will be stored in this area.

4.0 HEALTH AND SAFETY

A Health and Safety Plan shall be prepared for field closure activities involving potential exposures to PCBs and other materials. Prior to commencing any closure activities, the Health and Safety Plan is to be verified by a qualified health and safety professional. An example of information to be contained in the plan is included in Appendix CPB.

5.0 CLOSURE PLAN SAMPLING

5.1 INTRODUCTION

Closure plan sampling activities specified in this section are timed to commence after initial inventory removal actions are complete and after an initial facility vacuuming and cleaning, as described in the decontamination section. Sampling activities commence with a presampling visual inspection and proceed through both systematic and judgmental sampling to reporting. Certain sampling activities are associated with decontamination activities and are thus discussed in the decontamination section; readers are advised to read that section in conjunction with this section on sampling. Also contained in the decontamination section is the application of the health and safety plan to sampling activities.

5.2 PRESAMPLING VISUAL INSPECTION

5.2.1 Introduction

A presampling visual inspection of the facility shall be performed to locate apparent areas of PCB contamination that require intensive sampling and to verify and modify the sampling plans and health and safety plans contained herein.

The visual survey is to document, without limitation, visually contaminated areas along with areas of suspected contamination due to operating patterns or locations of stored wastes. The inspection is to cover the entire facility, including any tanks, valves, equipment, containment

areas and the facility's boundaries. Potential off-site outdoor contamination should also be investigated. The visual inspection is to be supplemented with record reviews and employee interviews as appropriate. A review of any operational documents for indications of spills, accidents, or releases will be performed.

5.2.2 *Documentation*

The visual survey and record review is to be documented by written and photographic means. Written account shall be made of all structures, items, equipment and off-site areas inspected and of all ground surface areas. Written accounts shall be supplemented with photographs. If any evidence is observed that leads to a belief that contamination may be present, then a notation is to be made also on drawings and maps. The notation is to include, among others, the size and location of areas suspected to be contaminated.

5.2.3 *Effect on Established Sampling Plans*

Upon completion of the visual surveys and record review, sampling plans contained herein are to be verified for applicability and supplemented as necessary. Supplemental sampling plans are to be used to establish field procedures, as described herein. Safety precautions as well as site access controls are to be reviewed and supplement as necessary.

5.3 *SAMPLING LOCATIONS*

The sampling phase of the closure plan involves both judgmental and systematic sampling.

Systematic sampling is accomplished by establishing a coordinate or grid system for the facility. For building interior sampling, a grid of approximately ten feet by ten feet was overlaid onto the floor plan, positioned so that a line of floor samples would be taken about three inches from interior walls, or as close as is practical. Each grid line is to be extended up interior walls for sampling vertical surfaces. Walls are to be sampled at two feet up from the floor and at eight feet. Due to the large number of grid samples to be collected, only 50 percent will be analyzed initially. The results of those initial analyses will provide guidance as to which of the remaining samples should be analyzed. In any case, the total number of samples analyzed shall, at a minimum, be sufficient for statistical evaluation as required by the PCB Spill Cleanup Policy (40 CFR 761.120). The Building Interior sampling plan is presented in Figure 4.

For building exterior sampling, a coordinate or grid system of twenty feet by twenty feet was overlaid onto the site plan, with the first grid lines being located about three inches outward from the exterior wall faces, or as close as is practical. Each grid line is to be extended up exterior walls for sampling vertical surfaces. Exterior walls are to be sampled at two feet up from grade level. In addition to the systematic exterior sampling, supplemental sampling of specific locations will be conducted. Supplemental sampling includes samples from the parking lot. Judgmental sampling is to be used to sample any stained areas and to fill in any expected data gaps from the systematic sampling as described below. The Facility Exterior Sampling Plan is presented in Figure 5.

5.4 JUDGMENTAL SAMPLING, SPECIAL CONSIDERATIONS

5.4.1 Introduction

Systematic sampling is to be supplemented with judgmental sampling for areas where an increased likelihood of contamination exists. For closure planning, these areas are as identified below, as supplemented or modified by the presampling visual inspection.

5.4.2 Obstructed Areas

In some systematic or coordinate sampling locations, an object may obstruct sampling activities. In this case, samples are to be collected as near as feasible to the coordinate position as determined in the field by the team leaders.

5.4.3 Uncontained Storage (Pallet) Areas

Potential pallet storage areas are expected to be located within the 20 foot by 20 foot systematic grid. Additional samples are to be collected at stained areas. Pallets or other temporary unfixed supports are not planned to be sampled because these items are to be removed during inventory removal phases. Fixed outdoor supports or fixtures remaining are to be sampled by the standard wipe test, or, if appropriate, dust or debris accumulation samples, at the most suspect locations as described elsewhere.

5.4.4 *Transportation Facilities*

Approximately 10 surface samples are to be collected along the access road beginning 100 feet outside of the security gate, and thereafter being equally spaced to the loading docks. These areas are bituminous paving and concrete, thus chip samples are to be taken for analysis. Truck ramps and loading docks are to be judgmentally sampled at no less than ten foot intervals on both vertical and horizontal planes.

5.4.5 *Drainage Ditches/Surface Runoff*

Sediment sampling will be performed to evaluate whether PCBs are present in any drainage ditches and surface depressions immediately adjacent to the PCB facility or its access road. One sediment core sample will be collected from the center of each ditch at each sampling location; if a ditch is more than six feet wide, three samples will be collected along a transect and composited. Samples will be collected from the 0 to 6 inch depth interval at 50-foot to 200-foot intervals in the ditches. Off-site sediment samples will be obtained down gradient from areas of detected PCB concentrations. Permission from off-site property owners is to be obtained prior to off-site sampling activities.

5.5 *SAMPLING TIMING*

Sampling activities are timed to commence after all inventory has been removed from the facility and after all waste process equipment has been removed from the facility. After these removal activities, the facility is to be vacuumed and washed as further described in the decontamination text.

5.6 SAMPLING PROCEDURES

5.6.1 Introduction

Upon arrival at the facility, a team leader will be designated to lead, coordinate and complete sampling activities. Daily field logs listing on-site personnel, general activities descriptions, list of samples collected, hours on-site and other relevant information will be maintained.

Safety equipment will be worn during sampling activities, as described in the health and safety plan. Sampling activities will be performed under established and approved health and safety procedures which meet or exceed applicable OSHA requirements.

Waste materials generated during sampling activities will be drummed and labeled for proper disposal. The field team leader will make arrangements for transportation and disposal of these waste materials as required. Manifests will be prepared by the field team leader for review and approval by appropriate authorities. Any Certificates of Disposal received back by the team leader will be retained for forwarding to General Electric.

5.6.2 Equipment Decontamination

Upon arrival at the site, an equipment decontamination area (decon area) will be set up in a convenient location near a source of potable water. The decon area will be covered with a triple layer of plastic sheeting or equivalent impervious barrier with sufficient strength and puncture

resistance to ensure that decontamination activities will not produce fluids that touch any non-impervious ground surfaces. The decon area will include a trough for steam cleaning and a rinse area for small equipment. In order to reduce the potential for cross contamination, all equipment will be thoroughly decontaminated between sampling locations. All liquids and solids generated during decontamination will be contained in 55-gallon drums for subsequent disposal, pending analytical results.

Non-disposable equipment will be steam cleaned prior to use at the facility. Any drill rig sampling equipment, such as auger flights, will be decontaminated between boring locations using high pressure hot water or steam cleaning.

Split spoons will be cleaned between borings using the same protocol as shallow soil sampling equipment. In order to save time and decontamination materials as well as to reduce the amount of decon liquids and solids produced for disposal, whenever practical a number of each sample tool will be used so that many samples can be collected between decontamination episodes.

5.6.3 *Soil Sampling*

Samples will be collected from the 0 to 6 inch depth interval and at one foot intervals from there to boring termination. Most soil samples will be collected using a stainless-steel hand trowel, a stainless steel spoon or a stainless steel hand auger. If hand tools are used, successive samples from the same boring will be collected from a smaller diameter hole than the previous sample to avoid vertical cross-contamination. For borings advanced greater than three to six feet, a drill rig will be used to advance

soil borings using hollow stem augers. If a drill rig is employed, soil samples will be obtained using a split-spoon sampler. Samples will be placed in a stainless steel bowl and thoroughly mixed to obtain a homogenous sample and one 8-ounce soil jar with a teflon lined screw cap will be filled with soil. Volatile Organic Analyses (VOA) vials will be filled immediately upon sample collection and prior to mixing.

When compositing soil samples for PCB analysis, equal volumes of soil from the individual sample locations will be placed in a stainless steel bowl and thoroughly mixed. Care should be taken that all samples are completed broken and mixed into a homogenous mixture. A representative sample will be placed in an 8-ounce soil jar.

5.6.4 *Sediment Sampling*

Sediment samples will be obtained using a stainless steel trowel, spoon, or hand auger or a coring device with a stainless steel cap or teflon inner sleeve. Individual samples will be collected from the 0 to 6 inch depth interval and will be thoroughly mixed in a stainless steel bowl to achieve a homogeneous mixture.

5.6.5 *Surface Water Sampling*

Surface water samples for PCB analyses will be collected by filling new half gallon glass bottle(s). The bottles will then be fitted with teflon-lined lids. Where appropriate, samples will be collected at the water surface and at depths to obtain water samples representative of a complete water column.

5.6.6 *Surface Sampling*

Wipe sampling will be performed on various solid surfaces that are smooth, hard and nonporous. A standard-size template (10 centimeters x 10 centimeters) will be used to delineate a standard sized area to be sampled. A gauze pad saturated in hexane will be used to thoroughly wipe the area delineated by the template. The pad will be wiped across the entire area twice. The second wipe will be at a right angle to the first. The gauze pad will be prepared with hexane in the laboratory and stored in a sealed glass vial until it is used for the wipe test. The wipe will be performed quickly and placed back into the vial.

5.7 *GROUND WATER INVESTIGATION*

5.7.1 *Introduction*

A ground water quality investigation will be conducted if assessment or sampling activities or results indicate that such contamination is likely.

5.7.2 *Monitoring Well Installation*

Ground water quality monitoring wells, if necessary, will be installed using 2-inch I.D. PVC riser and screen in a pre-drilled boring. Soil samples will be collected continuously using a split-spoon sampler. The well screen will consist of 10 foot long, machine-slotted PVC with 0.010 inch to 0.020 inch slots and will be positioned so that the water table intersects its approximate midpoint to accommodate ordinary ground water fluctuations.

A sand pack consisting of a properly graded, cleaned and washed sand will be placed in the annulus between the well screen and borehole. The sand pack will be installed to approximately 1 foot above the top of the screen and capped with a minimum of one foot bentonite seal. The remaining annulus spaced will be grouted with a bentonite/cement slurry from the top of the bentonite seal to the ground surface. A locking steel protective casing will be installed over each well.

5.7.3 *Well Development*

The purpose of development is to purge the well of any drilling water, remove excess sediment, and draw representative formation water into the well. Each monitoring well will be developed, upon completion of installation by removing three to five well volumes from the well or until reasonable clear discharge is seen, in the event such a volume is not available due to a slow recharge rate. Development will be performed by dedicated teflon bailers, dedicated pumps or air lift techniques as appropriate.

5.7.4 *Ground Water Sampling*

Prior to sampling the monitoring wells, the ground water will be allowed to stabilize following drilling and development. The wells will be purged of three to five times their volume or until dry using dedicated bailers or pumps. If the well is slow to recharge (recharge time greater than 8 hours) the well may be sampled within 24 hours of purging. Otherwise, the well will be sampled upon completion of the purging. Temperature, pH, and conductivity will be measured during sampling.

5.8 DOCUMENTATION

5.8.1 Introduction

In order to adequately document the sampling efforts the following records will be kept:

- sample codes
- field log book
- field map with approximate locations
- chain-of-custody forms

5.8.2 Sample Codes

Each sample, when collected, shall be assigned a unique sample code. The label will correspond to this code. It will be used for all references to that sample. The first part of the code will be three digits representing a facility code or station number (STN). The second part of the sample code will be two letters indicating the type of sample location as follows:

GS	Grid Sample
SO	Soil Sample
MW	Monitoring Well
WS	Water Supply Well
SS	Sediment Sample
SW	Surface Water Sample
WP	Wipe Sample

The next number will be assigned according to the order in which the sample location was explored. For example, the first boring installed will be STN-SO-1.

The next and final number will be assigned according to the depth of the sample. For example, the third sample of the second soil boring will be assigned the following code: STN-SO-2-3. A final number will be allowed for any additional sample-specific code as necessary.

5.8.3 *Field Log Book and Field Forms*

A field log will be kept to record daily activities as performed. The field log book will be made of water resistant paper and equivalent to a survey level book. All entries will be made in pencil or ink, with no erasures allowed. If a mistake is made, it will be marked through. The field team leader will be responsible for the field log book. Entries into the log book will be accompanied by time of entry. All pertinent sample information will be recorded in the field book and the proper field forms. The following information is to be recorded at each sampling location, when appropriate:

- Day/Date/Time
- Weather conditions
- Sample Type
  - Soil
  - Sediment
  - Water
  - Decon Sample
    - Water
    - Solvent
- Air temperature
- Ground water sample
  - Condition of the monitoring well
  - Depth to the surface of the ground water
  - Depth to the bottom of the well
  - Existence of a separate phase
  - Volume of ground water purged
- Sampling team members
- Type of sampling equipment used
- Flow rate of seepage or stream

- Physical properties of the sample:
  - color
  - texture
  - odor
  - turbidity
- Types of sample jars and preservation used
- Procedures for disposal of purge water
- Decontamination and cleaning procedures for equipment used at more than one location

5.9 *SAMPLE HANDLING*

Sample containers will be labeled in a legible fashion that should remain clear even when wet. The labels will, at minimum, exhibit the following information:

- Sample identification number (ID)
- Data and time of collection
- Analyses required
- Collector's name

To prevent the labels from getting wet and to contain any breakage during shipment, each set of sample containers will be placed in zip-lock bags prior to being placed in the sample shipper, (e.g. cooler, styrofoam box, etc.). For those containers where the labels cannot be read once the container is prepared for shipment, the sample ID, date and time can also be recorded on the outer zip-lock bag with an indelible marker. Once the samples are prepared for shipment in the sample shippers, the shippers will be sent to the laboratory by independent means (e.g. air freight, UPS, etc.). Samples requiring refrigeration will be packed with "blue ice" or bagged iced upon collection and maintained at 4 °C. The shipping

containers will be appropriately labeled and will conform to applicable U.S. Department of Transportation standards.

A chain-of-custody form will be used to document the custody and handling of each sample. This form will also act as a sample analysis request form.

5.10 *QUALITY ASSURANCE/QUALITY CONTROL*

5.10.1 *Introduction*

The objective of the Quality Assurance/Quality Control Program is to provide for collection of data that are scientifically valid and of known and adequate precision and accuracy. The team leader or the laboratory manager, as appropriate, will maintain a continuous verification of the quality of data generated by its staff and its subcontractors.

5.10.2 *Field Procedures*

Field work will be conducted in general accordance with the procedures described herein or as otherwise clearly documented. Particular attention will be directed toward limiting the possibility of cross contamination. Field work will be documented using site photographs, a field book, the appropriate sampling forms and chain-of-custody records. Site representatives will perform work in accordance with health and safety procedures that meet or exceed applicable OSHA requirements and as specified in the health and safety plan.

5.10.3 *Quality Assurance/Quality Control (QA/QC) Samples*

In order to meet the goals of the QA/QC program, QA/QC samples will be collected and analyzed. QA/QC samples to be collected include field duplicates, trip blanks, field blanks, and equipment (rinsate) blanks.

5.10.4 *Collection of Duplicates and Blanks*

Field duplicates will be collected as a check on laboratory accuracy and precision. They will be sampled by filling separate containers with two samples from the same source.

An equipment blank (rinsate) is designed to address potential cross-contamination in the field between sample sources due to deficient field cleaning procedures. This blank also addresses field preservation procedures, environmental site interference, integrity of the blank source water for field cleaning and those concerns not singularly addressed by the trip blank. An equipment bank (rinsate) will be prepared once per day for each piece of sampling equipment that was employed for sample collection and which was decontaminated in the field for use in additional sampling. The equipment blank will be prepared in the field by collecting in the appropriate container for the parameter groups, a water rinse from the equipment (bailer, pump, tubing, spoon, auger, etc.) after execution of the last step of the proper field decontamination protocol.

Field blanks will be used to evaluate the sample container filling procedure, the effect of environmental contaminants at the site, purity of preservatives or additives and those concerns not uniquely addressed by the trip blank. Field blanks apply to volatile organic analysis only. Field

blanks are composed at the site by filling sample containers appropriate for the parameter group using fresh blank source water. The field blanks will be grouped, transported and stored with the site samples collected for the same parameter group.

A trip blank is designed to address interferences derived from improper sample container cleaning preparation, contaminated blank source water, samples cross-contaminated during storage/transport, and extraneous environmental conditions affecting the sampling event to and from the site, including delivery to the analyzing laboratory. Trip blanks will be prepared by the laboratory in the appropriate sample container using blank source water. They will then be sealed and stored in the ice chest where site material samples will be stored and transported.

5.10.5 *Frequency*

One field duplicate will be taken for every 20 samples of each matrix. If there are less than 20 samples per matrix one duplicate will be collected. A rinsate blank will be taken for each sample phase. A sample phase is defined as a period of sampling in one matrix, not to exceed one day. One trip blank will be obtained each day for water samples.

5.10.6 *Chain-of-Custody*

To document sample possession from the time of collection until the sample has been received by the laboratory's sample custodian, a Chain-of-Custody Record will be completed by the field personnel and accompany every sample shipment. While in the field, the care and custody of the samples will be the field sampler's responsibility until the

samples are transferred or properly dispatched. This chain-of-custody procedure will be followed during all sampling assignments, regardless of the ultimate use of sample data.

To provide for proper identification in the field and proper tracking in the laboratory, all samples will be labeled in a clear and consistent fashion. Sample labels are to be waterproof and to have a pre-assigned unique number. Field personnel will maintain a permanently bound field notebook. This notebook must be water resistant with sequentially numbered pages. Field activities will be recorded in ink or pencil. The notebook along with the Chain-of-Custody Record will contain sufficient information to allow reconstruction of the sample collection and handling procedures at a later time.

Each sample will have a corresponding notebook entry which includes:

- A Unique Sample I.D. Name or Number
- Date and time of collection
- Sample type (composite or grab)
- Analyses for which sample was collected
- Method of preservation
- Additional comments as necessary.

Each sample must have corresponding entry on a Chain-of-Custody Record. The form is to include:

- Site name
- Unique sample I.D. name or number
- Sample type
- Date and time of collection
- Number of containers
- Parameters for which analyses are requested
- Signature of sampler(s)
- Signature of persons involved in the chain-of-custody, and

- inclusive dates and time of possession
- Condition of samples upon arrival at the laboratory

The Chain-of-Custody Record for a given sample is to be completed before sampling is initiated by the same sampling team at the next location.

5.10.7 *Data Evaluation & Report Preparation*

During and after each significant phase of field work, the database will be updated and reevaluated as necessary. Subsurface data collected in the field and laboratory analyses will be summarized and used to prepare lithologic boring logs and data presentations (e.g., well diagrams, hydrogeologic cross sections, potentiometric surface maps, analytical tables, and figures, etc.). After evaluation of the data, a report will be prepared describing all activities and disclosing all results and analysis.

5.11 *LABORATORY ANALYTICAL REQUIREMENTS*

Analytical methods and practical quantitation limits will comply with requirements presented in the following: Test Methods for Evaluating Solid Waste (Physical/Chemical Analysis of Municipal and Industrial Wastewater), Appendix A to Part 136 (40 CFR Part 136), July 1987, Methods for Chemical Analysis of Water and Wastes, EPA-600-4-79-020, Revised March, 1983) or current methods at the time of closure. Method 8080, as described in SW-846 will be utilized for PCB analysis of soil samples in addition to other applicable requirements at the time of closure.

6.0 DECONTAMINATION

6.1 INTRODUCTION

During closure, all areas and structures comprising the storage facility are to be decontaminated. The cleanup levels to be achieved are those specified herein, or as according to the PCB Spill Cleanup Policy (40 CFR 761.120). To achieve the objectives of the Policy, both numerical and performance standards are to be applied.

6.2 NUMERICAL STANDARDS

Numerical standards designate cleanup levels that are verified by sampling and laboratory analysis. Target decontamination concentration levels, using the classifications contained in the Spill Cleanup Policy as of 1992, are as follows:

- High contact outdoor solid surface should be cleaned to 10 micrograms/100 cm^2 (as measured by wipe test);
- Low contact, outdoor, impervious solid surfaces should be cleaned to 10 micrograms/100 cm^2 (wipe test);
- Low contact, outdoor, non-impervious solid surfaces should be cleaned to (1) 10 micrograms/100 cm^2 or (2) 100 micrograms/cm^2 and encapsulated (though two options are available, EPA retains final authority to disallow the encapsulation option);
- PCB contaminated soil should be removed to 10 ppm, provided that soil is excavated to a minimum depth of 10 inches. The excavated soil should be replaced with clean soil (less than 1 ppm PCBs);
- Low contact, indoor impervious solid surfaces should be cleaned to 10 micrograms/100 cm^2 (wipe test); and

- Areas not otherwise specified, as provided in the Spill Cleanup Policy, 40 CFR 761.120.

Surface area and item classifications for this facility, such as high contact, outdoor, etc., are presented in Figure 4.

6.3 *PERFORMANCE STANDARDS*

Performance standards are work practices that provide for decontamination. Performance standards may be used to supplement numerical standards, as follows:

- Moveable equipment, not considered to be a high contact item, used in the storage area may be decontaminated by swabbing surfaces with a PCB free solvent with a solubility of PCBs of at least five percent by weight.

6.4 *FACILITY PREPARATION*

Prior to decontamination activities, General Electric, or its designee, will vacate the storage area and ship all existing inventory to an approved storage or disposal facility as described in the disposal text. The decontamination contractor will then containerize any remaining debris, including any remaining waste process systems, and store the containerized debris until disposal can be arranged. The facility may then be considered prepared for decontamination activities.

6.5 *APPLICATION OF HEALTH AND SAFETY PLAN*

A Health and Safety Plan is to be prepared in accordance with applicable OSHA regulations before any closure activities begin. An example of the

information to be included is contained in Appendix CPB. Work areas will be clearly marked using a warning tape or ribbon. Areas will be laid out to include a "Red Zone" for potentially contaminated areas and a "Contamination Reduction Zone" (CRZ) as a buffer. Only personnel that are briefed on the Health and Safety Plan and trained in accordance with OSHA regulations will be allowed to enter the "Red Zone" and the "Contamination Reduction Zone".

The Contamination Reduction Zone will be bermed around the edges and lined with visqueen, or equivalent impermeable barrier, to collect surface water. All water and visqueen will be drummed for approved disposal. Any storm drains located with the zone will be sealed and blocked watertight.

Plastic sheeting will be hung on the inside of temporary fences surrounding suspected or known contaminated areas as determined during the initial visual inspection. Absorbent pads will be placed at the entrance of all work areas or at other strategic locations. The outside of the fence will be marked at the Red Zone. After the decontamination is complete, the plastic sheeting and absorbent pads will be drummed for disposal to an EPA approved landfill.

6.6 *INITIAL DECONTAMINATION*

An initial decontamination process shall consist of dry vacuuming all surfaces. The vacuum equipment shall be equipped with appropriate filters which preclude discharge of dusts and particular matter. The vacuuming operation shall be performed so as to remove particulates and loose material from the contaminated surfaces including, without

limitation, floors, walls, curbing, light fixtures, conduit, and structural steel members above. Vacuuming shall be supplemented by scraping and shipping to remove encrusted materials.

A second decontamination step will then consist of the removal of the upper layer of sealed concrete within the PCB work area. This will be accomplished using a self-contained unit such as a Blast Trac, or similar equipment. Example specifications for the cleaning machine include: 3 Hp motor, 220 volt and silicon carbide wheel. This machine will be rented locally. The machine will be decontaminated with a steam cleaner prior to removal from the site.

A third decontamination process shall consist of washing with water and a biodegradable solvent cleaner-degreaser, such as "Citrikleen" by Penetone Corporation or similar solvent. All wash water shall be captured and placed in 55-gallon metal drums.

The standard to be achieved by these initial decontamination operations is removal of surface accumulations and stains, as determined by wiping the cleaned surface with a white cloth and observing material on the cloth. The initial decontamination should be followed by comprehensive systematic sampling on a coordinated grid system as described in the section entitled "Sampling Locations".

If contamination is found to be present following the comprehensive sampling, concrete flooring will be cleaned with an industrial floor cleaning machine using Alconox or equivalent as a detergent as described below. If there is no contamination above the specified standards, then the decontamination is considered complete. Water and detergents or

solvents from these cleaning operations will be directed to containment areas, such as a collection pits, using squeegees. A wet/dry shop vacuum will be used to remove water from the containment area. If enough water collects, a sump pump may be used to removed water more quickly during washing and rinsing.

The concrete will be rinsed using potable water distributed by a water hose, portable hand or steam cleaner. The pad will be rinsed three times using the following sequence:

- Steam clean pad and curb.
- Direct water to collection pit with new mops and squeegees.
- Transfer water from collection sump to DOT approved drums, using a wet/dry shop vacuum and/or sump pump.
- Sample each drum using a glass tube.
- Steam clean any collection pit, trough, or other containment means. Drum all of the rinse water.
- Resample using judgmental techniques, resampling those areas where prior sampling indicated contamination.

Disposable equipment such as mops, squeegees, buckets, safety gear, and plastic sheeting will be drummed for disposal at a TSCA approved hazardous waste landfill. Reusable equipment such as the floor cleaner, shop vacuum, sump pump, and boots will be decontaminated in the CRZ and removed.

All drummed wastes, including rinse water from structure surfaces, debris, and contaminated equipment will be labeled as to contents and stored in a temporary on-site storage area pending laboratory analyses.

Results of laboratory analyses will be provided directed to General Electric or its designee. Drummed decontamination waste will be disposed of in accordance with appropriate federal, state, and local laws in effect at the time of closure.

6.7 *POST INITIAL DECONTAMINATION SAMPLING ANALYSES*

6.7.1 *Purpose*

Samples are to be taken of the following materials and analyzed for residual PCB contamination if the initial decontamination measures fail to achieve specified cleanup standards. The data is to be used by General Electric to determine future facility reuse restrictions or disposal or demolition alternatives.

6.7.2 *Building Walls*

General Electric or its designee will identify, based on the post-initial cleanup judgmental sample results, two additional sample locations on each masonry wall where residual contamination remains. At each location, the contractor is to chip sample the masonry material at increasing depths, or in the alternative, core the material to indicate extent and depth of any residual contamination.

6.7.3 *Concrete*

General Electric or its designee will identify, based on the sample results, locations for additional sampling. At each location, the contractor shall

take a cylindrical core by diamond bit coring techniques through the full slab thickness. Cores shall be of at least two inch diameter.

If cracks in concrete have failed the wipe tests, concrete cores and soil samples (to depths of 3 feet below subgrade) will be taken at the location of each crack and analyzed.

Concrete core samples are to be sliced in one inch horizontal layers and tested separately to evaluate the vertical extend of contamination through the concrete. If the lower slice contains levels of contamination exceed the cleanup criteria, then soil samples beneath the concrete will be analyzed at increasing depth and compared to the specific cleanup criteria. Results are to be used to determine whether floor demolition and subfloor soil removal is necessary.

6.7.4 *Drums and Containers*

Drums or other containers that contain soil, water, drilling fluids, and debris from closure activities, including assessment and decontamination, will be stored in a protected location such as in the building or CRZ zone. From each drum or container an 8-ounce representative sample shall be taken and placed in a new glass jar, labeled, and entered on a Chain-of-Custody form.

6.7.5 *Analysis*

All samples on the Chain-of-Custody form shall be shipped to a laboratory for PCB analyses. The closure contractor shall instruct the laboratory to transmit a copy of all results of analyses directly to General

Electric, or its designee, including, without limitations, the methods of analyses used and preservation techniques used during shipment.

7.0 CLOSURE SCHEDULE

Closure activities commence, for the purpose of closure scheduling, 30 days after the last day that PCBs or PCB items are received at the facility. Thirty days prior to that final receipt date, notification of the commencement of closure activities is to be given to the U.S. EPA.

The closure schedule and specific closure activities are as follows:

Task	Deadline
1. Notice to U.S. EPA	30 days prior to final receipt of PCBs or PCB items.
2. Final receipt of PCBs or PCB items.	
3. Closure activities commence.	30 days after final receipt of PCBs or PCB items.
4. All inventory removed from site.	90 days after final receipt of PCBs or PCB items.
5. Initial presampling visual inspection.	92 days after final receipt of PCBs or PCB items.
6. Site sampling phases.	120 days after final receipt of PCBs or PCB items.
7. Decontamination phases.	27030 days after final receipt of PCBs or PCB items.
8. Closure certification.	300 days after final receipt of PCBs or PCB items.

8.0 DISPOSAL

8.1 MAXIMUM INVENTORY AT CLOSURE

The maximum inventory expected to be on hand at any given time during the life of the facility was estimated by considering operational space requirements and typical inventory mixtures. The following quantities constitute the estimated maximum inventory:

	Items	Volume (gallons)	Weight (lbs)
Drums of PCB Liquids (1)	100 drums	5,500	68,750
Drums of Solids (2)	66 drums	3,630	26,400
Transformers (including PCB liquid) (3)	35 units	7,000	174,230
Totals		**16,130**	**269,380**

1. All liquid weights based on a density for PCBs of 12.5 lb/gallon.

2. All solids weights based on a drum weight of 400 lbs.

3. The volumes and weights are based on average volumes and weights of transformers managed at the facility. The weight of empty transformers is 86,730 lbs. 174,230-(7,000 x 12.5).

8.2 INVENTORY DISPOSAL

As used in the following text, reference to a specified regulation is meant to be a reference to the referenced part(s) of 40 CFR Section 761 (1989), as amended by 54 Fed. Reg. 52746 (Dec. 21, 1989), or the effective regulations in force at the time closure activities are commenced.

Inventory on hand at the time closure activities commence will be removed from site for disposal within 60 days. This schedule will insure that all inventory is removed within 90 days after final receipt of PCBs or PCB items. Inventory disposal will be conducted in accordance with 40 CFR 761.60.

The PCB inventory to be disposed of at the time of closure is projected to consist of the following types of PCB items: drums of PCB liquid, drums of solids, transformers, and other articles. A detailed description of the quantities used for planning purposes is given in the section entitled "Maximum Inventory at Closure".

The drums and crates of solids and other PCB articles are projected to be disposed of in a chemical waste landfill which complies with 40 CFR 761.75. The transformers are also to be disposed of in a chemical waste landfill after being drained in accordance with 40 CFR 761.60. Specifically, transformers should be drained of all free flowing liquid, filled with a solvent such as kerosene, xylene, toluene or other solvent in which PCBs are readily soluble, allowed to stand for at least 18 hours and drained thoroughly. Both the PCB liquids, initially drained from the transformers, and the solvent will be collected and drummed for incineration.

The chemical waste landfill used as a basis for closure cost estimating is the Model City, New York facility operated by Chemical Waste Management, Inc. This disposal facility is specified for planning purposes to allow estimation of disposal costs according to current market rates.

The PCB liquid and solvents drained from the transformers, capacitors and ballasts will be disposed of by incineration at an incinerator which complies with 40 CFR 761.60. The incinerator used as a basis for closure cost estimating is the Rollins APTUS facility located in Coffeyville, Kansas.

This disposal facility is specified for planning purposes to allow estimation of disposal costs according to current market rates.

8.3 *DISPOSAL OF DECONTAMINATION MATERIALS*

The following types and quantities of waste materials are expected to be generated during facility decontamination:

Solid residues collected by vacuuming	1 drum
Disposable equipment and safety gear	2 drums
Soil cuttings from soil sampling	1 drum
Solids from removal of upper floor layer	7 drums
Wash and rinse water for floor cleaning	2 drums
Personnel decontamination water	7 drums
Decontamination fluids for reusable sampling equipment	1 drum

The first four items above represent approximately 5,000 lbs of PCB contaminated solids which will be disposed of at the chemical waste landfill specified in the Inventory Disposal section of this document. The final five items above represent approximately 5,000 lbs of PCB contaminated liquids which will be disposed of by incineration at the facility described in Inventory Disposal.

8.4 WASTE MANAGEMENT DURING CLOSURE

PCB inventory will be managed during closure so that the storage facility, transporter and disposal facility are all in compliance with 40 CFR 761, Subpart K, PCB Waste Disposal Records and Reports. Specifically, these regulations address EPA identification number (40 CFR 761.202), notification of PCB waste activity (40 CFR 761.205), the manifest requirements (40 CFR 761.207), use of the manifest (40 CFR 761.208), retention of manifest records (40 CFR 761.209), manifest discrepancies (40 CFR 761.210), unmanifested waste reports (40 CFR 761.211), exception reporting (40 CFR 761.215) and certification of disposal (40 CFR 761.218).

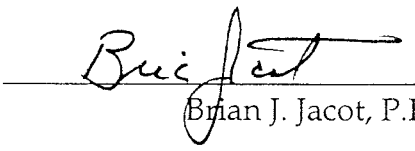
Shipping of PCB waste inventory and decontamination wastes for disposal will be done by a hazardous materials shipper. The shipper will have an EPA identification number and will be required to comply with all applicable section of 40 CFR 761 Subpart K. All drums and boxes used for waste disposal will comply with DOT regulations for shipment of hazardous materials. Bulk liquids will be pumped from the bulk storage tanks into tanker trailers and will be shipped in accordance with all applicable DOT and EPA regulations.

Wastes generated during facility decontamination will be stored within the subject storage facility until final disposal, excepting certain temporary storage allowance. At the time of closure, storage of the facility decontamination materials will be in compliance with applicable storage requirements.

9.0 CLOSURE COST ESTIMATE

9.1 CERTIFICATION

Under the civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 125 U.S.C. 2615), I certify that the information contained in or accompanying this closure cost estimate is true, accurate, and complete to my best knowledge and belief based on current operational practices and available information. As to the identified section(s) of this closure cost estimate for which I cannot personally verify trust and accuracy, I certify as the company representative having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate and complete to their best knowledge and belief based on current operational practices.

Name 
Brian J. Jacot, P.E.

Title Principal

Company ERM-Northeast, Inc.

Date 5/14/96

9.2 CLOSURE COSTS

Tonawanda PCB Facility
Tonawanda, New York

The cost estimate has been prepared according to the following guidelines:

- the preparation conforms with the requirements as presented in 40 CFR 761.65 (f);
- the estimate reflects the scope of the Closure Plan for this facility. It should be noted that the Closure Plan has been prepared by others. The appropriateness of the Closure Plan work scope for site conditions was not verified during preparation of this cost estimate;
- maximum inventory of PCB wastes assumed to be on the premises requiring disposal at time of closure;
- assumes the need for a third part not related to General Electric to perform all closure activities;
- current market pricing without regard to discounts;
- no credit for salvage value of the structure, equipment, or waste inventory;
- as no treatment of PCB wastes occurs at this facility, no allowance for on-site treatment of the PCB waste inventory has been made;
- all direct (materials, labor, transport and disposal of PCB waste inventory, equipment, etc.) and indirect costs (engineering, supervision, administrative, contractor's fees, contingencies, etc.) have been included;
- an overall contingency of 15% has been applied to the closure cost estimates to account for fluctuations in pricing or unknown impacts on the closure work scope;

- PCB liquids estimated to weigh 12.5 lb/gallon; wash water estimated to weigh 8.4 lb/gallon;
- the estimate is based on current (1996) dollars;
- demonstration of financial assurance is present in Appendix CPC.

Item #1 *Preparation of Health and Safety Plan*

(Refer to Closure Plan Section 4.0, 6.5)

Prepare Health and Safety Plan (includes expense and administrative support) 16 hours @ $120/hour =	$1,920
Total Item #1	**$ 1,920**

Item #2 Disposal of Maximum Inventory

(Refer to Closure Plan Section 8.0)

a) Draining and flushing of 35 transformers; preparation of all PCB wastes including sampling and analysis sufficient for disposal, manifest preparation, documentation, handling and loading.

35 transformers @ $150/transformer	$ 5,250
Labor-Preparation of shipments: 3 @ $200/shipment = (Number of shipment obtained from Item #2(c)	$ 600

b) Incineration of transformer PCB liquids @ the Rollins APTUS facility, Coffeyville, KS

7,000 gallons @ 12.5 lbs/gallon @ $.50/lb (Rollins)	$43,750

Trip # = 7,000 gallons x 12.5 lbs/gal. x 1 Trip/40,000 lb. = 3 trips

Transportation: 3 trips x 900 miles x $3.50/mile =	$ 9,450

c) Landfilling of Transformer Carcasses @ Chem Waste Mgmt., Model City, NY

86,730 lbs/2,000 lb/ton @ $250/ton CWM = Total Disposal Cost =	$11,000
Taxes/Fees for NYS: $27/ton + 6% of the Total Disposal Cost: 44 tons x $27 tax/ton + 0.06 x $11,000 (NY only) =	$1,848

Trip # = 44 tons disposed x $\frac{1 \text{ trip}}{20 \text{ ton}}$ = 3 trips

Transportation: 3 trips x 26 miles x $4.40/mile	$344

d) Incineration of PCB transformer flushing agents (assumes use of non-RCRA hazardous solvent for flushing, such as #2 fuel oil)

7,000 gallons (from b) @ 7.1 lb/gallon #2 fuel oil @ $.75/lb Rollins APTUS facility = $32,275

Trip # = 7,000 gallons x $\frac{1 \text{ trip}}{4{,}000 \text{ gallons}}$
= 2 trips
Transportation: 2 trips x 900 miles x $4.80/mile $ 8,640

e) Incineration of drummed PCB liquids @ Rollins APTUS;
100 drums @ $447/drum Rollins: = $44,700

Trip # = 100 drums x 1 trip/80 drums = 2 trips
Transportation:
2 trips x 900 miles x $3.50/mile = $ 6,300

f) Landfilling of 66 drums of PCB solids at Chem Waste Mgmt., Model City, New York

66 drums @ $165/drum, Chem Waste = Total Disposal Cost = $10,890

Taxes/Fees: NYS $27/ton + 6% (Total Disposal Cost)
66 drums x 400 lb/drum x 1 ton/2,000 lbs
= 13.2 tons
13.2 tons x $27 tax/ton + 0.06x $10,890 (NY only)= $1,010

Trip # = 66 drums x 1 trip/80 drums = 1 trip
Transportation:
1 trips x 26 miles x $4.40/mile = $ 115

Total Item #2 *$ 176,172*

Item #3 Decontamination (For Facilities with Tanks)

The Tonawanda PCB Storage Facility has no tanks present on site.

Item #4 *Facility Decontamination*

(Refer to Closure Plan Section 6.0)

Labor:	Assumes 6 person crew (1 foreman, 5 workers) for 10 hour day @ $2,700/day (includes setup of decon area, expenses, decon of facility and equipment) 6 days @ $2,700/day =	$ 16,200
Materials:	Disposables include gloves, coveralls, protective gear, plastic sheeting, tape, drums for solids and washwaters, wipes, rags, squeegees, maps, buckets, soap, and saw blades.	
	Reusable equipment includes saws, Blast Trac, vacuums, steam generator and sprayer, floor cleaner, sump pump, and boots. All these items will be decontaminated prior to further use. Reusable equipment is typically rented.	
	Disposables $ 2,000 Reusable Equipment 2,500	
	Subtotal	$4,500

Disposal of Decontamination Wastes:

11 Drums of rags, wipes, solids: drums @ $165/drum, Chem Waste =	$1,815
Taxes/Fees: NYS $27/ton + 6% (Total Disposal Cost) 0.6 tons x $27 tax/ton +0.06 x $495 (NY only) =	$ 77
10 drums of contaminated fluids for incineration $.75/lb @ Rollins assuming 8.4 lb/gallon for washwater =	3,465

Transportation:

11 drums of PCB solids to Chem Waste, Model City, NY
Trip # = 11 drums x $\frac{1 \text{ trip}}{80 \text{ drums} = 1 \text{ trip}}$.

1 trip @ 26 miles @ $4.80/mile =	125
17 drums of PCB fluids to Rollins:	
1 trip @ 900 miles @ $4.40/mile =	3,150
Total Item #4	**$ 29,432**

Item #5 Sample Collection and Analysis

(Refer to Closure Plan Section 5.6)

Labor: includes collection of surface, soil, groundwater, truck ramps, loading docks, access roads, ditch/runoff routes, layout of interior and exterior sampling grid, pre-sampling survey judgmental and systematic sample collection, date evaluation, and report preparation; expenses and administrative support. Assumes 3 person crew for 8 hour day @ $3,000/day 13 days of sampling and follow-up @ $3,000 =

Subtotal *$ 39,000*

Materials: Disposables including safety gear, gloves, wipes, etc. Reusables including sampling tools, trowels, augers, bowls, etc. All reusables will be decontaminated between uses.

Disposables	2,000
Reusables	4,000
Subtotal	*6,000*

Analytical: (Assumes premium turnaround to maintain closure schedule compliance.)

Breakdown of Samples

Type	Number (estimated)
Interior Surfaces	90
Exterior Surfaces	150
Transportation Facilities	25
Drainage Ditches/Surface Runoff	20
Boring Samples	8
Groundwater	4
Subtotal	*297*

# cleanup verification samples 240 X 0.50 =	120	
Total sample number	417	
Analytical cost 657 samples x $150/analyses =		62,550
Shipping costs (overnight) = 657 samples x 1 shipment/30 samples x $30/shipment		$ 420
Total Item #5		*$101,970*

Item #6 *Disposal of Contaminated Soil and/or Debris*

It is assumed that 200 tons of PCB contaminated soil and/or debris will require disposal. (This includes soil cuttings from drilling efforts.)

Labor:	includes excavation, preparation of shipment, safety monitoring, expenses, administrative support. Assumes a 5 person crew (1 foreman, 3 workers, 1 safety monitor) for an 8 hour day @ $3,500/day 20 days	$ 70,000
Materials:	includes plastic sheeting, decon materials, equipment rentals, disposable items.	
	Disposable equipment	$ 2,500
	Reusable equipment (includes rental)	4,500
	Subtotal	*7,000*
Disposal:	200 tons @ Chem Waste Mgmt, Model City, New York	
	200 tons @ $250/ton, Model City, NY	50,000
Trips =	200 tons x 1 trip/20 tons = 10 trips	
Transportation:	10 trips @ 26 miles/trip @ $4.40/mile	1,144
Total Item #6		*$ 128,144*

Item #7 *Soil Boring/Monitoring Well Installation*

Installation oil 8 soil borings to 30 foot depths

Labor:	Assumes a 4 person crew for an 8 hour day at $2,500/day. Cost includes drilling sampling, safety monitoring, evaluation, and report.	
	5 days @ $2,500/day =	$ 12,500
Materials:	Safety equipment and disposables	1,500

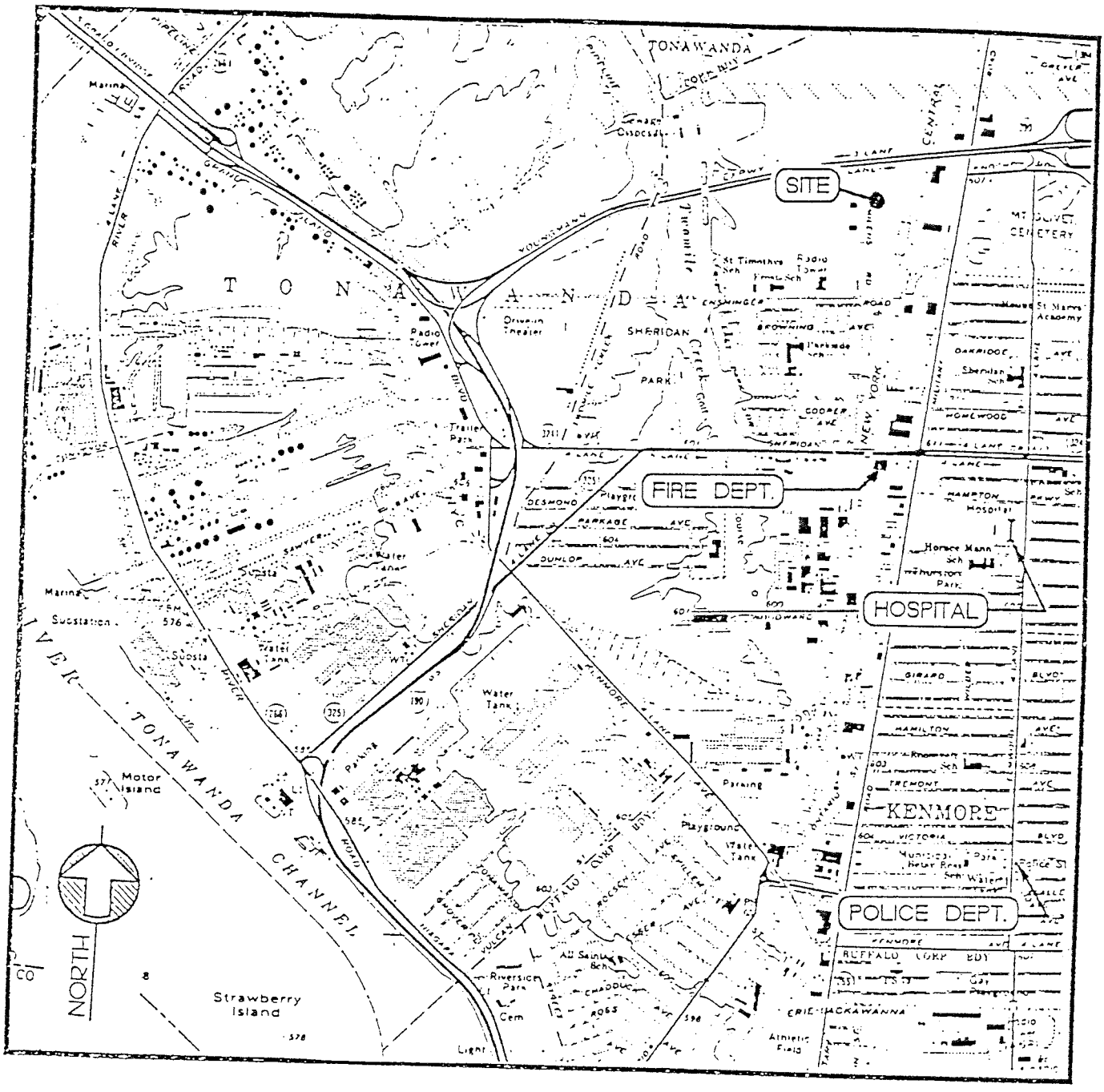
Installation of 4 ground water monitoring wells including development, sampling, evaluation, and report.

Labor:	Assumes a 4 person crew for an 8 hour day at $3,000/day. Cost includes drilling.	
	8 days @ $3,000/day =	24,000
Materials:	Safety equipment, well construction materials (grout, pipe, screen, sand, etc.)	
	Disposables $ 3,500 =	3,500
Total Item #7 =		*$ 41,500*

Item #8	*Engineering, Project Management, Reporting & Certification*	
Labor:	includes all expenses and administrative support. Assume labor rate of $2,000/day.	
	40 days @ $2,000/day = $80,000	$ 80,000
Total Item #8		*$ 80,000*

COST ESTIMATE SUMMARY

Item #	Topic	Cost
1	Health and Safety Plan Preparation	$ 1,920
2	Disposal of Maximum Inventory	176,172
3	Decommissioning PCB Tankage	0
4	Facility Decontamination	29,432
5	Sample Collection and Analysis	101,970
6	Disposal of Contaminated Soil, Debris	128,144
7	Soil Boring/Monitoring Well Installation	41,500
8	Engineering, Project Management, Reporting & Certification	80,000
Subtotal		*$ 559,138*
15% Contingency x 0.15		*83,870*
Total Estimated Cost		***$ 643,010***



0 ½ 1 2

1 IN. = APPROXIMATLY 1/2 MILE

ROAD CLASSIFICATION

Heavy-duty ——— Light-duty ———

Medium-duty ——— Unimproved dirt - - - - - -

Interstate Route U.S. Route State Route

GENERAL ELECTRIC
TONAWANDA SERVICE CENTER
TONAWANDA, NEW YORK

PROJECT NO. 52-0509

LAW ENVIRONMENTAL
ALBANY, NEW YORK

SITE LOCATION

FIGURE 1

THRUWAY

YOUNGMAN

COCA-COLA

GENERAL ELECTRIC

PCB TRAFFIC AREA

PCB TRAFFIC AREA

OVER-HEAD CRANE

MILENS ROAD

CB

CB

CB

G16

G13

G12

G11

G10

G09

G08

G07

G06

G05

G04

G03

G02

G01

LEGEND

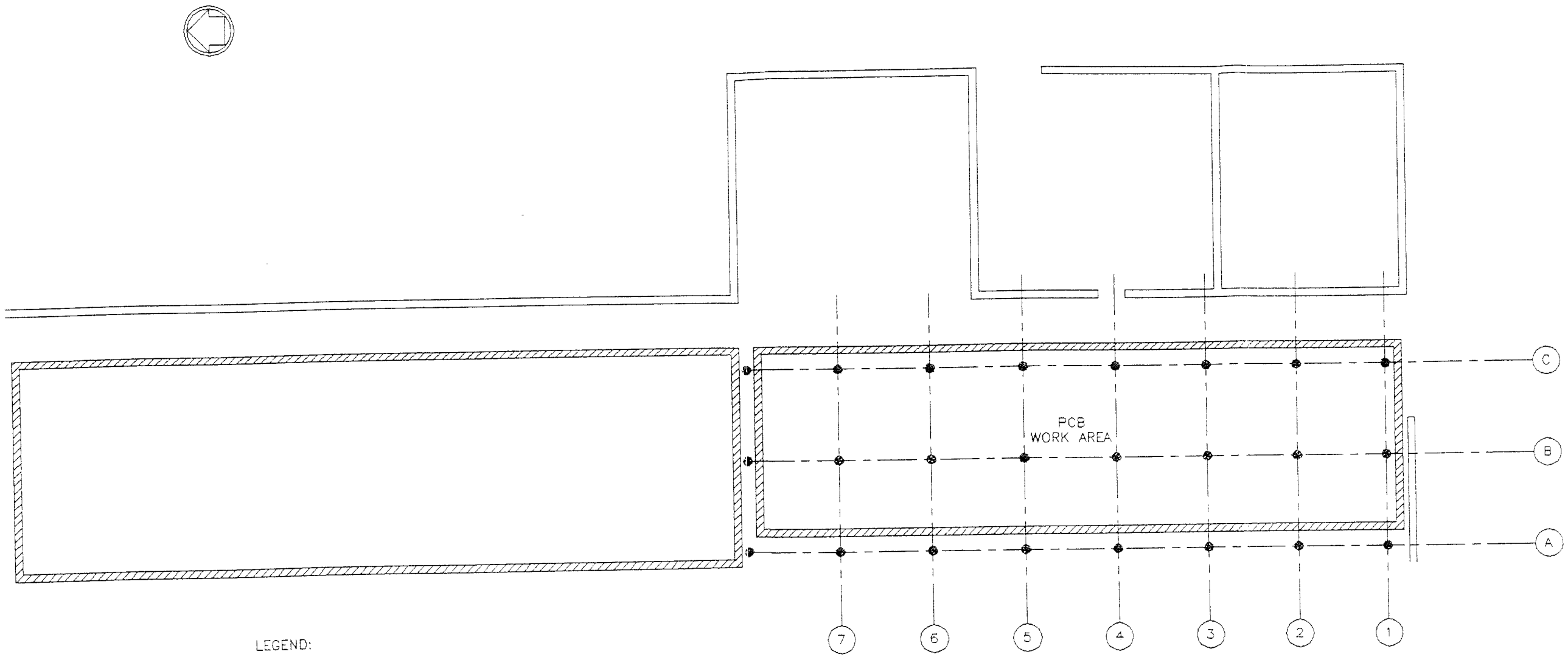
- SAMPLING LOCATION
- CATCH BASIN CB

GENERAL ELECTRIC
TONAWANDA, NY
PROJECT NO. 52 0509

LAW ENVIRONMENTAL INC.

FACILITY EXTERIOR SAMPLING PLAN

FIGURE 5



LEGEND:

BERM WALLS

NOTE:
SAMPLING GRID 10' X 10'
COORDINATE SYSTEM

0 5 10 15
SCALE (ft.)

NO.	DATE	APPR.	REVISION

NO.	DATE	APPR.	REVISION

GE – BUFFALO SERVICE CENTER

ERM–Northeast
Environmental Resources Management

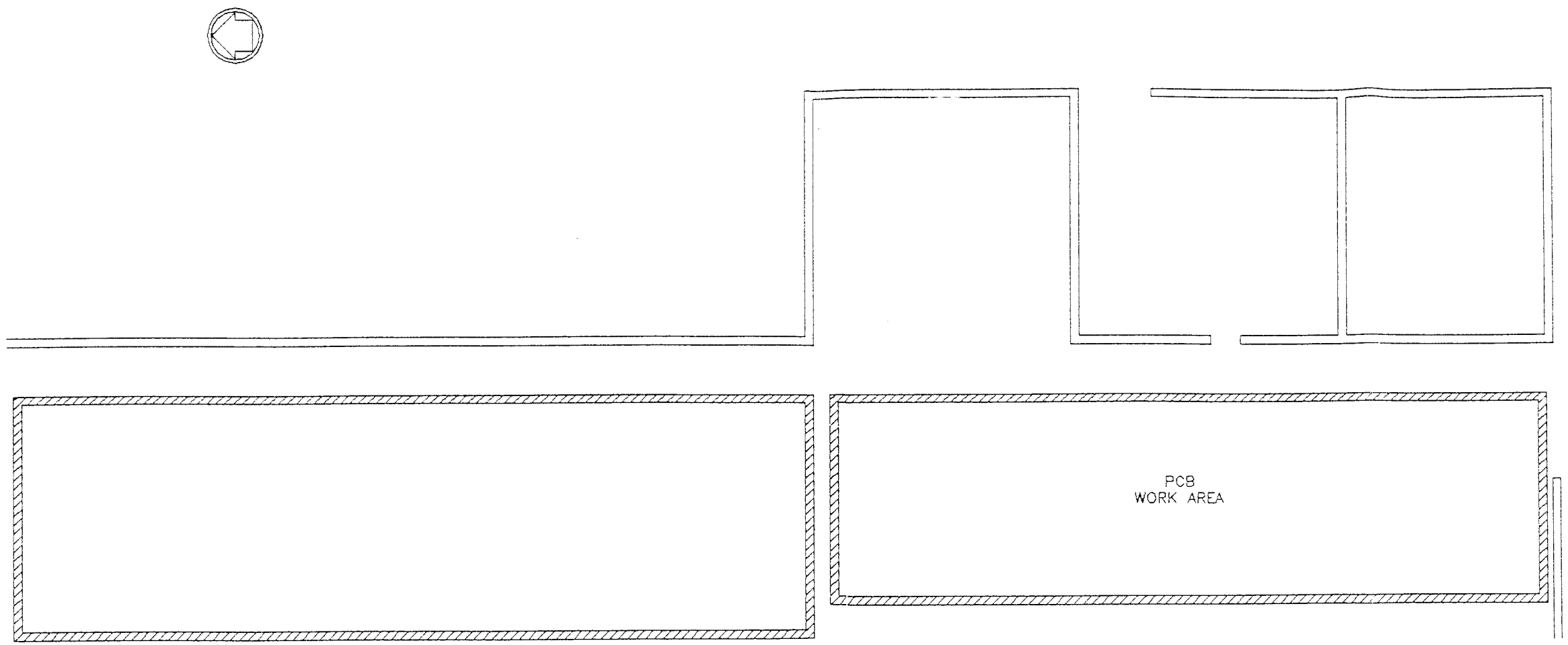
CHECKED	DATE
DESIGN ENGINEER	
PROJECT ENGINEER	
PROJECT MANAGER	
APPROVED	
APPROVED	

PCB MANAGEMENT AREA
SAMPLING GRID

DRAWN: GPG	DATE: 5/4/96	REVISION DATE:
SCALE: AS SHOWN	JOB NO.: 380.152	FILE NAME: 10380152

DRAWING NO.: 4 REV. NO.:

SHEET 4 OF 4



LEGEND:

BERM WALLS

0 5 10 15
SCALE (ft.)

NO.	DATE	APPR.	REVISION

NO.	DATE	APPR.	REVISION

GE – BUFFALO SERVICE CENTER

ERM–Northeast
Environmental Resources Management

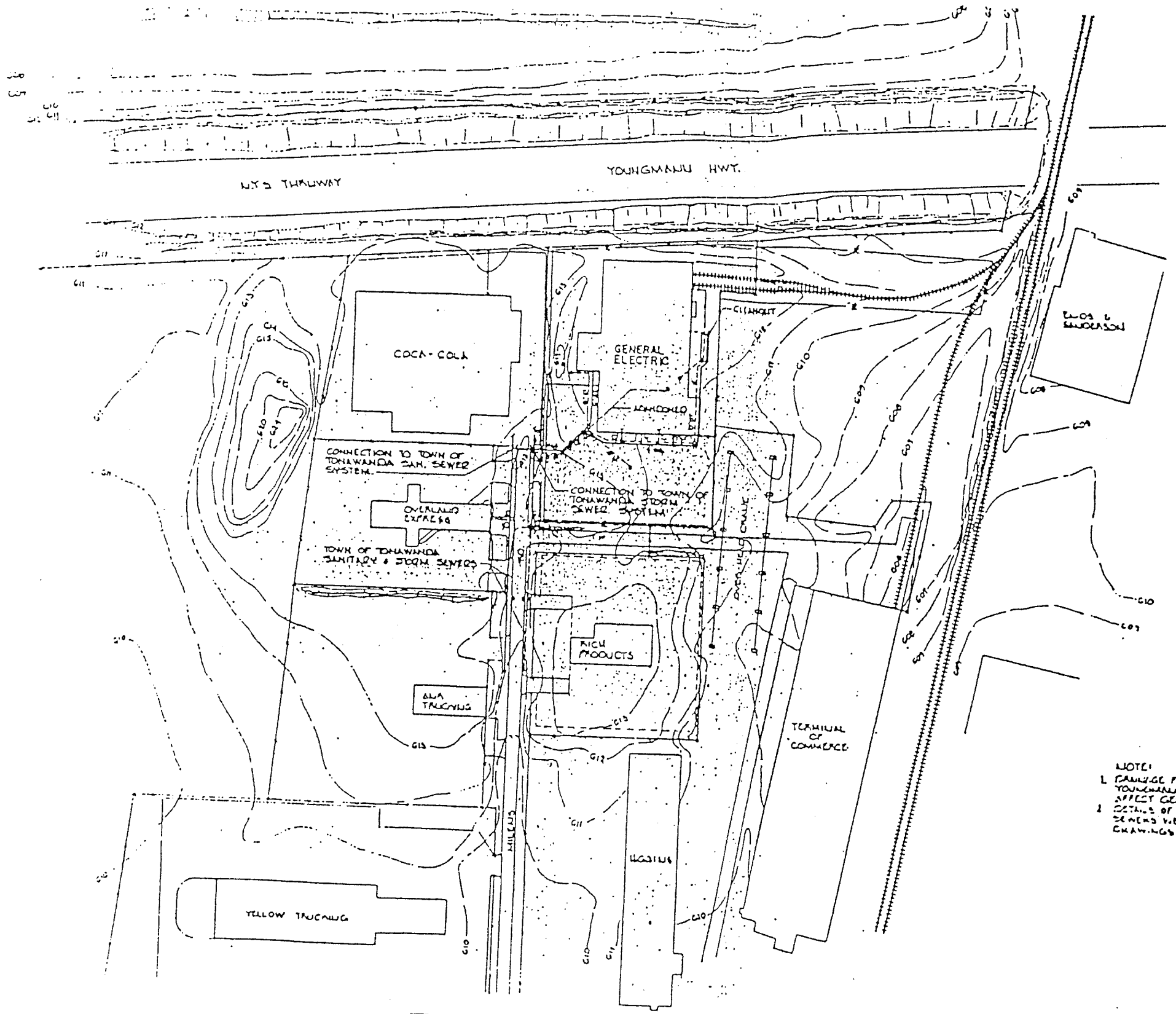
CHECKED	DATE
DESIGN ENGINEER	
PROJECT ENGINEER	
PROJECT MANAGER	
APPROVED	
APPROVED	

PCB STORAGE FACILITY BOUNDARY

DRAWN GPG	DATE 5/4/96	REVISION DATE
SCALE AS SHOWN	JOB NO. 380.152	FILE NAME 10380152

DRAWING NO. 3 REV. NO.

SHEET 3 OF 4



(NO SCALE)

SOURCE:
GENERAL ELECTRIC
SANITARY & STORM PLAN
DRAWING DATED 10/1987

GENERAL ELECTRIC
TONAWANDA, NEW YORK

PROJECT NO. 52-0509

LAW ENVIRONMENTAL INC.

SITE PLAN

CHECKED BY _____

FIGURE 2

CONTAINER STORAGE

ATTACHMENT VIII

Rev. 3/19/96

CONTAINER STORAGE

A. Container Disposal

If the following requirements are met, the containers listed below will be disposed of as general trash.

1. Hazardous Material Containers

Containers that have held hazardous materials (except for acute hazardous wastes identified by P numbers (will be inspected to insure that there is less than one inch of material remaining in the bottom of the container. If the residual hazardous material exceeds one inch, then the container will be classified has hazardous waste.

2. Aerosol Containers

Aerosol containers that contain hazardous materials will be inspected to insure there is no pressure remaining in the container. If there is residual pressure, then the aerosol container will be classified as hazardous waste.

3. Solvent and Thinner Drums

Solvent thinner drums will be inspected to insure that they have been thoroughly drained.

4. Steam Cleaning Material Drums

Drums that contained either liquid or powder alkaline or caustic cleaning materials will be thoroughly rinsed with water to insure that no material remains in the drum. If the drum contains a liner, then the liner will be thoroughly rinsed.

B. Use and Management of Containers Used for Storage of Hazardous Waste

1. Containers - Condition/Compatibility

Hazardous wastes are stored only in containers that are in good condition. The storage containers used for storage of hazardous wastes are in compliance with Department of Transportation requirements. With the exception of acids, DOT Specification 17E (Bung opening) and 17H (removable head) drums will be used to store hazardous wastes. Acids will be stored in their original containers. A plastic liner will be placed inside drums that will contain corrosive materials. PCB liquid wastes will be stored in DOT 5, 5B, 6D overpacks with liner 2S or 2SL or DOT 17E containers. Solid PCB waste will be stored in DOT Specification 5, 5B, or 17C containers. If a container holding hazardous waste is not in good condition (apparent structural defects, sever rusting, etc.) or if it begins to leak, the hazardous waste will be transferred to a container that is in a good condition.

The container used for storage of hazardous waste is made of or lined with materials which will not react with, and are compatible with the hazardous material to be stored.

CONTAINER STORAGE

B. Use and Management of Containers Used for Storage of Hazardous Waste

2. Management of Hazardous Waste Containers

Hazardous waste containers are kept closed during storage, except when it is necessary to add or remove waste.

Hazardous waste containers are handled in a manner which prevents rupture of the container or cause it to leak.

Hazardous waste containers are inspected weekly. Inspection includes looking for leaking containers and for deterioration of containers and the containment system. The inspections are recorded in an inspection log and kept on file for at least three years from the date of inspection. Any signs of leakage or spillage will be corrected as soon as noticed. Corrective measures will be implemented as per General Electric Buffalo Shop Spill Prevention Control and Countermeasure Plan.

3. Containment

The container storage areas utilized by Buffalo Service Shop have containment systems that are designed and operated in accordance with the applicable regulations. Design and dimensions of the storage areas has been addressed in our Facility Description - "PCB Work Area/PCB and RCRA Storage Areas" section.

The concrete base of the storage areas is free of cracks or gaps and is sufficiently impervious to contain leaks and spills. The containers will be elevated (stored on steel drum dollies) to protect them from contact with accumulated liquids resulting from possible leaks and spills.

The containment system has sufficient capacity to contain 10% of the volume of containers stored in the storage area. Detailed calculations of the containment system capacity is given in the Indoor PCB work area/Container storage drawing and Outdoor RCRA storage areas/Container storage (drawings attached under "Drawing" section).

The run-on precipitation into the containment system is being prevented due to construction of protective roofing and sidewalls. Spilled or leaked hazardous waste will be removed as soon as noticed. The collected material will be managed as a hazardous waste in accordance with all applicable regulations.

Containers holding ignitable waste will be located at least 50 feet from the Buffalo Service Shop's property line (the RCRA container storage area is located more than 50 feet from the Buffalo Service Shop's property line). Special precautions will be taken to prevent accidental ignition of ignitable waste. The waste will be separated and protected from all sources of ignition. While ignitable waste is being handled, smoking and open flames will be confined to specially designated locations. "No Smoking" signs are posted conspicuously wherever there is a hazard from ignitable waste.

CONTAINER STORAGE

B. Use and Management of Containers Used for Storage of Hazardous Waste

3. Containment (continued)

No reactive waste is handled at this facility. In the event that the Buffalo Service Shop has a storage container holding a hazardous waste that is incompatible with any waste or other materials stored nearby in other containers, that container will be separated from other materials or separated from them by means of a wall.

At closure, all hazardous wastes and hazardous waste residue will be removed from the containment system, and the containment system decontaminated.

C. PROCESS INFORMATION

1. Design Parameters and Materials of Construction

Indoor PCB work area is an interior area enclosed by 8" high x 9" thick concrete curbs. The floors and curb wall are coated with a special epoxy resin and sealant. The containment volume of PCB work Area E is 6,725 gallons. Although the design capacity of the diked areas allows a maximum storage of 26,900 gallons, the stored volume will not likely exceed this capacity since free space is needed for work activities and aisle space.

2. Since the design of the existing PCB work area is not sloped, the containers in the PCB container storage will be stored on individual steel drum dollies to protect them from contact with accumulated liquids resulting from possible leaks or spills.

The PCB work area is used for storage during receiving of PCB items at the facility, in-process storage of PCB items during repair operations, and storage of PCB items used for repair operations.

3. The run-on precipitation into the containment system is being prevented due to inside location of the areas. However, if liquid accumulated (such as from a spill or leak) the material will be immediately removed upon detection as follows:

CONTAINER STORAGE

C. PROCESS INFORMATION (continued)

3. Employees involved in the cleanup are required to wear proper protective clothing.

If there is a large amount of liquid, a portable pump will be used to pump accumulated liquid into a properly labeled 55 gallon drum. If there is only a small amount of accumulated liquid which makes pumping not practical, then only absorbent materials will be used. After the liquid is pumped into drums, absorbent material (oil absorbent material such as oil pads, speedy-dry) will be applied over the affected area in sufficient quantity to absorb the residue.

The absorbent material will be swept toward the center of the spill. Wet material will be picked up with a shovel and placed in properly labeled drums. Application of absorbent, sweeping, etc. will be applied until the spill is cleaned up.

Equipment used for removal of accumulated liquids will be cleaned up. All equipment and properly labeled 55 gallon drums with contaminated liquids and absorbent materials will be placed in their proper locations. Any request for replacement of any material used will be placed.

Samples of the liquids and solids will be obtained as appropriate and sent to a qualified laboratory for analysis. The collected material will be managed as a hazardous waste in accordance with all applicable regulations.

4. Containers holding ignitable waste will be located at least 50 feet from the Buffalo Service Shop's property line (the RCRA container storage area is located more than 50 feet from the Buffalo Service Shop's property line). Special precautions will be taken to prevent accidental ignition of ignitable waste. The waste will be separated and protected from all sources of ignition. While ignitable waste is being handled, smoking and open flames will be confined to specially designated locations. "No smoking" signs will be conspicuously placed wherever there is a hazard from ignitable waste.

No reactive wastes is handled at this facility.

In the event that Buffalo Service Shop has a storage container holding a hazardous waste that is incompatible with any waste or other materials stored nearby in other containers, that container will be separated from other materials or separated from them by means of a wall.

ATTACHMENT IX

DRAWINGS

LIST OF DRAWINGS

The following drawings are incorporated into this permit by reference.

Last Drawing No.	Title	Date of Revision
3602600001-0009	Flood Insurance Rate Map, Tn. of Tonawanda	11/12/82
Sheet 1 of 10	Site Plan	10/1/87
Sheet 2 of 10	Sanitary and Storm Sewer Plan	10/87
Sheet 3 of 10	Buffalo Service Shop	1/91
Sheet 4 of 10	Fire Control Facilities	1/91
Sheet 5 of 10	Sprinkler System Layout	1/91
Sheet 6 of 10	Indoor PCB Work Area	1/91
Sheet 7 of 10	Indoor PCB Work Area Container Storage	1/91
Sheet 8 of 10	Outdoor RCRA Storage Area	11/86
Sheet 9 of 10	Outdoor RCRA Storage Area Container Storage	11/86
Sheet 10 of 10	Waste Oil Storage Area	1/88

The following report is incorporated into this permit by reference:

Standard Operating Procedures for Quality Assurance and Quality Control
Prepared by Recra Environmental, Inc.
October 1988