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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III

IN THE MATTER OF
DORNEY ROAD LANDFILL SITE,
OPERABLE UNIT NO. 1, UPPER
MACUNGIE TOWNSHIP, PENNSYLVANIA

CALORIC CORPORATION
EAST PENN MANUFACTURING
COMPANY, INC.
EXIDE CORPORATION
GAF CORPORATION
GENERAL ELECTRIC COMPANY
STROH BREWERY COMPANY
R. EMORY MABRY

Respondents

Docket No. III-90-45-DC

Proceeding Under Section 106(a)
of the Comprehensive Environmental
Response, Compensation, and
Liability Act of 1980, as amended,
42 U.S.C. § 9606(a)

ADMINISTRATIVE ORDER

FOR REMEDIAL DESIGN AND REMEDIAL ACTION

OPERABLE UNIT NO. 1

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TABLE OF CONTENTS

I. JURISDICTION. 1

II. PARTIES BOUND. 2

III. NOTICE OF SPECIAL MATTERS 4

IV. FINDINGS OF FACT 5

 A. Dorney Road Location, History, and Uses 5

 B. Respondents' Responsibility for Conditions
 at the Site 7

 1. Caloric Corporation 7

 2. East Penn Manufacturing Company, Inc. 8

 3. Exide Corporation 9

 4. GAF Corporation 10

 5. General Electric Company 10

 6. Stroh Brewery Company 11

 7. R. Emory Mabry 11

 C. Response Actions and Investigations Performed
 at the Site 12

 D. Release of Hazardous Substances at the Site and
 Resultant Endangerment 16

 E. The Record of Decision 22

V. CONCLUSIONS OF LAW AND DETERMINATIONS 24

VI. SCOPE OF THE RESPONSE ORDERED. 25

VII. DEFINITIONS 25

VIII. WORK TO BE PERFORMED 28

 A. Requirement to Comply with the ROD, SOW and ARARs . . 28

 B. Assurance of Ability to Complete Work 29

 C. Contractor Qualifications; Performance 31

 D. 1. Remedial Design Work Plan 32

 2. Remedial Design 33

 3. Remedial Action Work Plan 35

 4. Remedial Action 36

 5. Off-Site Shipments 38

 6. Operation and Maintenance 39

 7. Progress Reports 40

IX.	PLANS AND REPORTS REQUIRING EPA APPROVAL	41
X.	DESIGNATED PROJECT COORDINATORS	43
XI.	FAILURE TO ATTAIN PERFORMANCE STANDARDS	45
XII.	EPA PERIODIC REVIEW	46
XIII.	ENDANGERMENT AND EMERGENCY RESPONSE	46
XIV.	SITE ACCESS	47
XV.	SAMPLING AND DATA/DOCUMENT AVAILABILITY	49
XVI.	QUALITY ASSURANCE	52
XVII.	RECORD PRESERVATION	57
XVIII.	DELAY IN PERFORMANCE	58
XIX.	ENFORCEMENT AND RESERVATION OF RIGHTS	58
XX.	COMMUNITY RELATIONS	60
XXI.	GENERAL PROVISIONS	60
XXII.	EFFECTIVE DATE AND OPPORTUNITY TO CONFER	61
XXIII.	NOTICE OF INTENT TO COMPLY	62
XXIV.	CERTIFICATION OF COMPLETION AND TERMINATION	63
XXV.	ADMINISTRATIVE RECORD	66
XXVI.	THE UNITED STATES NOT LIABLE	66

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ADMINISTRATIVE ORDER

FOR REMEDIAL DESIGN AND REMEDIAL ACTION

OPERABLE UNIT NO. 1

Having determined the necessity for implementation of remedial activities at a portion of the Dorney Road Landfill Site ["Site"] in Upper Macungie Township, Lehigh County, Pennsylvania known as "Operable Unit 1" ("OU1"), the United States Environmental Protection Agency ("EPA") hereby Orders as follows:

I. JURISDICTION

A. This Administrative Order ["the Order"] is issued to Respondents by the United States Environmental Protection Agency ("EPA") under the authority vested in the President of the United

AR000004

States by Section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. § 9606(a) as amended, ["CERCLA"]. This authority was delegated to the Administrator of EPA on January 23, 1987, by Executive Order 12580 (52 Fed. Reg. 2923, January 29, 1987), and was further delegated to EPA Regional Administrators on September 13, 1987, by EPA Delegation No. 14-14-B.

B. Prior notice of issuance of this Order has been given to the Commonwealth of Pennsylvania pursuant to Section 106(a) of CERCLA, 42 U.S.C. § 9606(a).

II. PARTIES BOUND

A. This Order is issued to Caloric Corporation, East Penn Manufacturing Company, Inc., Exide Corporation, GAF Corporation, General Electric Company, Stroh Brewery Company, and R. Emory Mabry (collectively "Respondents").

B. This Order shall apply to and be binding upon the Respondents and their agents, successors and assigns.

C. Respondents are jointly and severally responsible for implementing all of the requirements of this Order. The failure by one or more of the Respondents to comply with all or any part of this Order shall not in any way excuse or justify noncompliance by any other Respondent.

D. Neither a change in ownership of any property covered by this Order, nor a change in the ownership or corporate or partnership status of any Respondent, shall in any way alter, diminish, or otherwise affect Respondents' obligations and

AR000005

responsibilities under this Order.

E. Within 120 days after the effective date of this Order, each Respondent that owns real property comprising all or part of the Site (OU1) shall record a notice of the existence of this Order on the deed(s) for said property for the purpose of giving notice to prospective purchasers of the existence of this Order. Each such Respondent shall, within 160 days after the effective date of this Order, send notice of such recording to the EPA Remedial Project Manager.

F. In the event of any change in ownership or control of any of the property covered by this Order that is owned or controlled by any Respondent, that Respondent shall notify EPA, in writing, at least thirty (30) days in advance of the effective date of such change, of the name, address, and telephone number of the transferee-in-interest of such property. In addition, that Respondent shall provide EPA with copies of all agreement(s), including but not limited to indemnification agreements, executed in connection with the transfer or change within five (5) days of the effective date of such agreement(s), and shall provide a copy of this Order to all transferees-in-interest prior to execution of any agreement for transfer.

G. In the event of any change in majority ownership or control of any Respondent, that Respondent shall notify EPA, in writing, no later than thirty (30) days after such change, of the nature and effective date of such change. Such Respondent shall provide a copy of this Order to the prospective owner(s) or

AR000006

successor(s) of the Respondent before any change of ownership or control becomes irrevocable.

H. Respondents shall provide a copy of this Order to all contractors, subcontractors, laboratories, consultants, and other persons retained to conduct or monitor any portion of the Work performed pursuant to this Order prior to execution of any agreements or contracts with such persons. Respondents shall condition all contracts and agreements with such persons on compliance with the terms of this Order. Notwithstanding the terms of such contracts or agreements, Respondents remain responsible for complying with the terms of this Order and for ensuring that their contractors, subcontractors, laboratories, consultants, and other persons retained to conduct or monitor any portion of the Work required by this Order comply with the terms of this Order.

III. NOTICE OF SPECIAL MATTERS

The United States EPA hereby gives notice that the EPA:

- A. Recognizes potential wetland and habitat issues at the Site;
- B. Is now reviewing the impact, if any, of these issues on the selected remedy;
- C. Plans to issue any appropriate modification to the ROD or an Explanation of Significant Difference (ESD), if necessary, when this investigation is complete; and
- D. Will incorporate such modification or ESD into the terms of this Order, upon the issuance of any such modification

AR000007

or ESD.

IV. FINDINGS OF FACT

The following facts are a synopsis of information contained in the Administrative Record supporting issuance of this Order. That Administrative Record is incorporated by reference as if fully set forth herein:

A. Dorney Road Site Location, History, and Uses

1. The Dorney Road Landfill Site, also known as Oswald's Landfill Site, is located along the southwest boundary of Upper Macungie Township in Lehigh County, Pennsylvania, approximately eight miles southwest of Allentown. A Record of Decision ("ROD") for the Dorney Road Landfill Site (OU1), issued by EPA in September 1988 and appended to this Order as "Exhibit 1", describes the Site.

2. The Site consists of an abandoned iron mine pit that was landfilled, a surrounding soil berm, and adjacent land. Beginning in 1962, the majority of the Site was owned and operated by R. Emory and Alma C. Mabry as an open dump. Waste was primarily disposed in the abandoned iron mine pit area. A portion of the Site was owned by Adam and Sallie Mertz from 1933 to 1966, after which time Sallie Mertz owned the property until June 1985. This area was also landfilled by Mr. Mabry. From 1966 to 1978, an unpermitted landfill was operated on the Site by Harold E. Oswald, though the land continued to be owned by the Mabrys and Mrs. Mertz.

3. In a letter dated January 6, 1970, the

AR000008

Pennsylvania State Health Center notified Mr. Oswald that the operations at the Site constituted a public health threat and required him to compact the fill and apply cover to the Site. A follow-up letter dated March 9, 1970, indicated that Mr. Oswald had not complied with this directive.

4. In June 1970, a representative from the Pennsylvania Department of Environmental Resources (PADER) visited the Site and noted the approximate location of an on-site area used for the disposal of sludge from a General Electric plant located in Allentown, Pennsylvania. According to PADER file reports, approximately six cubic yards of the sludge was being disposed each day.

5. Mr. Oswald submitted a permit application to PADER for operation of the landfill in August 1970. PADER did not issue a permit to Mr. Oswald, but landfill operations continued.

6. A letter dated November 15, 1972 from the Pennsylvania State Health Center to Mr. Oswald noted the existence of battery casings on the Site. Notes taken by a State Soil Scientist during a Site visit on October 26, 1973 indicated that "several barrels of petroleum products" were disposed of in a trench on the Site.

7. A State memorandum dated September 14, 1976 listed the following four wastes that had been disposed of at the landfill:

a. Approximately one-half of a pickup truck of sludge from the General Electric Plant,

AR000009

b. Approximately twenty-five cubic yards of sludge from Reichard-Carlston, Inc. of Bethlehem, Pennsylvania,

c. Batteries from Deka Battery of "East Penn",
and

d. Approximately 400 pounds per year of asbestos waste from Atlas Mineral.

8. Waste disposal at the Site continued until December 30, 1978. Proper landfill closure procedures were never implemented at the Site.

9. On September 28, 1979, Mr. Edward Reeser applied for a landfill permit to renew disposal operations at the Site, but that permit was not issued.

10. The majority of the Site continues to be owned by R. Emory Mabry. In June 1985, the Mertz portion of the Site was acquired through inheritance by Dorothy and Russell Kulp, the present owners of the property. The Kulp property is currently being purchased by Robert and Melinda Tercha under a long-term sales agreement. Waste continues to be visible in some places and the grading is irregular.

B. Respondents' Responsibility for Conditions at the Site

1. Caloric Corporation

a. Caloric Corporation, a Pennsylvania corporation, has operated since 1965, and continues to operate, a facility in Topton, Pennsylvania that manufactures kitchen ranges and associated accessories.

b. In its manufacturing process, Caloric uses

two paint systems: "black dip", which has toluene and xylene as base solvents, and "polyure", which has, among other substances, xylene, methyl ethyl ketone, and toluene as its base solvent. Prior to its use of "polyure", Caloric used "alkyd" paints which Caloric believes it may have "thinned" with methyl ethyl ketone and other solvents.

c. Other Caloric metal finishing operations at the Topton facility included nickel/chrome or zinc plating, ceramic porcelainizing, and alkaline cleansing. Those operations generated nickel, chromium, zinc, sulfuric acid, hydrochloric acid, and caustic soda among their wastes.

d. From approximately 1965 through 1978, Caloric regularly transported (ie. weekly) its own waste, from the Topton plant to the Site for disposal. The waste from the Topton plant consisted of paint residue, appliance parts, 50-gallon drums containing scrap paint, residual material and general plant debris.

2. East Penn Manufacturing Company, Inc.

a. East Penn Manufacturing Company (East Penn), a Pennsylvania Corporation, has a facility in Lyons Station, Pennsylvania that manufactures lead acid storage batteries, battery cables, and automobile parts.

b. From approximately 1976 through 1978, East Penn arranged to dispose at the Site, at a minimum, 753 truck loads of lead acid storage battery casings that were generated by its Lyons Station plant. East Penn then transported these lead

AR000011

contaminated wastes to the Site.

3. Exide Corporation

a. Exide Corporation, a Delaware corporation, is the successor in interest, through change of name, of Electric Storage and Battery, Inc. (ESB). ESB, owned and operated an Atlas Minerals and Chemicals division (AM & C), with a facility in Mertztown, Pennsylvania until substantially all assets of AM & C were sold in 1977.

b. From 1968 until at least 1978, AM & C's Mertztown facility manufactured synthetic resins and specialty asphalt from which were formulated corrosion resistant mortars, tank linings, protective coatings, adhesives and sealants. ESB controlled AM & C at the time of disposal of hazardous substances at the Site.

c. The wastes generated by the AM & C manufacturing operations included ketones, alcohols, aromatic hydrocarbons, organic monomers and polymers, inorganic acids, organic peroxides, organic and inorganic pigments and fillers, paraformaldehyde, and soluble silicates. AM & C also generated approximately 400 lbs/year of asbestos waste.

d. From approximately 1959 through 1976, AM & C transported and/or arranged with transporters to transport its wastes, including the hazardous substances, asbestos and polynuclear aromatic hydrocarbons from its Mertztown facility to the Site for disposal.

AR000012

4. GAF Corporation

a. GAF Corporation, a New Jersey corporation, has a plant in Whitehall, Pennsylvania that manufactures linoleum and asphalt floor coverings.

b. GAF generated at the Whitehall plant, during times pertinent to this Order, wastes that included a solid material consisting of asbestos/latex clarifier residue and trimmings, warehouse asbestos floor sweepings, off-specification vinyl floor scrap, linoleum and pallets.

c. From approximately May 1971 until the Site stopped receiving waste in 1978, G.A.F. contracted, agreed, or otherwise arranged with Edward Reeser and Valley Disposal (haulers) for the disposal of hazardous substances, including asbestos. These haulers then transported such wastes to the Site.

5. General Electric Company

a. The General Electric Company, a New York Corporation, owned a plant in Allentown, Pennsylvania, that closed in 1983. That facility manufactured electric housewares, fans, motors, and generators.

b. Wastes from that facility included crushed appliances and sludge from the waste water treatment plant that contained copper, chromium, zinc, nickel, cadmium, aluminum, mercury, lead cyanide, phenol, arsenic, antimony, barium, and silver.

c. From approximately 1960 through 1978, General

Electric arranged to dispose the hazardous substances described in subsection (b) above with McAuliffe Hauling Company and Eldridge Sanitation, who then transported such wastes from General Electric's Allentown plant to the Site. On some occasions, General Electric transported its own wastes, described above, to the Site for disposal.

6. Stroh Brewery Company

a. The Stroh Brewery Company, an Arizona corporation, is the successor in interest to the F & M Schaefer Brewing Company (Schaefer). Schaefer owned and operated a malt beverage facility in Fogelsville, Pennsylvania from Fall 1971 through Spring 1980.

b. At the Fogelsville facility, Schaefer generated, during times pertinent to this Order, spent filter aid from its production process. This spent filter aid contained hazardous substances, including phenols, arsenic, barium, cadmium, selenium, organic halide, copper, and zinc.

c. From approximately 1971 through 1978, Schaefer contracted with Reeser's Hauling Service to arrange for the disposal of the spent filter aid. Reeser's Hauling Service transported such waste from Schaefer's Fogelsville plant to the Site.

7. R. Emory Mabry

a. From 1959 until 1962, R. Emory Mabry leased property from Walter Folk that now constitutes a major portion of the Site.

b. In 1962, R. Emory Mabry and Alma C. Mabry acquired that property.

c. From August 4, 1959 to December 31, 1966, R. Emory Mabry operated the Site.

d. His wife deceased, R. Emory Mabry is now the sole owner of the property. (Dorothy and Russell Kulp own the remaining portion of the Site.)

C. Response Actions and Investigations Performed at the Site

1. On May 21, 1980, approximately two years after the landfill ceased operations, EPA sampled ground water and leachate at the Site. Organic contaminants detected in the samples included petroleum hydrocarbons and halogenated hydrocarbons. Inorganic contaminants detected included arsenic, cadmium, chromium, and lead. EPA issued a preliminary assessment of the Site on July 1, 1980.

2. On December 8, 1982, PADER representatives collected surface water and ground water samples at the Site. High levels of lead were detected in the surface water and phenols were detected in the ground water. On January 5, 1983, PADER sampled water from three residential wells in the area. No adverse impacts to the ground water, at these locations, were identified. On January 13, 1983, PADER sampled surface soils from the landfill area. Elevated levels of lead were detected in the soil samples from the landfill.

3. On September 21, 1984, (49 Fed. Reg. 37070),

pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, EPA placed the Dorney Road Landfill Site on the National Priorities List, set forth at 40 C.F.R. Part 300, Appendix B.

4. In a letter dated January 10, 1986, PADER notified EPA of the need for immediate action at the Site. There was concern about contamination running off the Site onto neighboring fields. After subsequent studies of on-site and off-site contamination migration patterns, the EPA On Scene Coordinator decided to take immediate action to control erosion at the Site. The removal action took place from June 11 through 20, 1986. The Site was partially regraded and on-site ponds were constructed to allow for controlled discharge of surface runoff via spillways.

5. To study and undertake response activities in phases, EPA divided the Site into Operable Units. The Operable Units for the Site are Operable Unit 1 (Landfill Waste and Soil) and Operable Unit 2 (Ground Water). This Order addresses Operable Unit 1 (OU1).

6. The Site was a State-lead NPL Site that was funded through a Multi-Site Cooperative Agreement. From about December, 1987 to about June, 1988, PADER undertook a Remedial Investigation and Feasibility Study ("RI/FS") for the Site (OU1), pursuant to CERCLA and the National Contingency Plan ("NCP") as amended, 40 C.F.R. Part 300.

7. As described in the ROD, eighteen monitoring wells, both on-site and off-site, and seven residential wells

from homes bordering the Site were sampled during the RI/FS for volatile organic compounds (VOCs), acid and base-neutral extractables (BNAs), pesticides, PCBs, cyanide and metals. Also sampled for the same parameters were thirty-eight on-site and off-site surface soil samples and sixteen subsurface soil samples. The majority of soil samples were taken along grid lines, with three samples taken at areas of visually obvious contamination. Additionally, six on-site surface water samples, two seep samples, and six sediment samples were collected and analyzed.

8. Hazardous substances detected during the RI include:

a. On-site and Off-site Ground Water

Numerous volatile, semi-volatile and inorganic compounds were detected in ground water samples at the Site. Among the hazardous substances found in the ground water are VOCs including benzene, ethylbenzene, toluene, vinyl chloride, styrene, 4-methyl-2-pentanone, xylene, 1,2,-dichloroethene, tetrachloroethene and trichloroethene; BNAs including bis(2-ethylhexyl)phthalate, 1,4-dichlorobenzene, naphthalene and phenol; and inorganics including antimony, arsenic, chromium, copper, lead, silver, thallium, zinc, barium, iron, and cyanide.

b. Residential Monitoring Wells

Four VOCs and one BNA compound were detected in the residential wells bordering the Site. The VOCs were 1,1-dichloroethane,

tetrachloroethene, trichloroethene, and 1,2-dichloroethene. None of the four VOCs were detected in the background samples. No pesticides or PCBs were detected in the residential wells. Several inorganic parameters in the residential wells exceed background levels.

c. On-Site and Off-site Surface Soil

Analysis of soil samples showed the presence of twelve VOCs, of which four (chloroform, chlorobenzene, acetone and benzene) were the most prevalent. Bis(2-ethylhexyl)phthalate was the most prevalent BNA on-site. A PCB was also detected at an on-site sampling location. Lead, copper, mercury, nickel and zinc were inorganic compounds detected. Chlorobenzene and acetone were detected in off-site soil samples, coinciding with a leachate seep area. No BNAs were detected in off-site surface soils. Twenty inorganic parameters were identified in off-site soil samples that exceeded background concentrations. These included cadmium, mercury, and barium.

d. Surface Water and Sediment

Analysis of on-site surface water samples showed the presence of acetone and several inorganics including chromium, lead, zinc barium and aluminum.

e. Leachate Seeps

Acetone, 2-butanone, chloroethane, toluene and 4-methyl-2-pentanone were VOCs detected in samples from the seeps. BNAs detected included 4-methylphenol and benzoic acid. Inorganics included antimony, arsenic, copper, lead, nickel, zinc and

aluminum.

D. The Release of Hazardous Substances at the Site [OU1]
and the Resultant Endangerment

1. The following substances, reported in the RI/FS Report, were found on and in the vicinity of the Dorney Road Site and are "hazardous substances" within the meaning of Section 101(14) of CERCLA, 42 U.S.C. § 9601(14), because they are listed at 40 C.F.R. § 302.4. Carcinogens are classified by the EPA according to the following weight-of-evidence categories: a Class A Human Carcinogen means there is sufficient evidence from epidemiological studies to support a causal association between exposure and cancer; a Class B1 Probable Human Carcinogen means there is limited evidence of carcinogenicity of humans from epidemiological studies; and a Class B2 Possible Human Carcinogen means there is limited evidence of carcinogenicity in animals.

a. Acetone. Inhalation of acetone may produce headache, fatigue, excitement, bronchial irritation, and in large amounts, narcosis.

b. Antimony. Antimony and its compounds have been reported to cause dermatitis, keratitis, conjunctivitis, and nasal septal ulceration by contact, fumes, or dust. Antimony combines with nascent hydrogen to form stibine, which is extremely toxic. Nausea, vomiting, headache, hemolysis, hematuria, abdominal pain and death may result.

c. Arsenic. Arsenic is a Class A carcinogen; it causes skin tumors when it is ingested and lung tumors when it is

inhaled. Arsenic compounds cause chromosome damage in animals, and humans exposed to arsenic compounds have been reported to have an elevated incidence of chromosome aberrations. Arsenic compounds also cause noncancerous, possibly precancerous, skin changes in exposed individuals. Arsenic is acutely toxic to some early life stages of aquatic organisms at levels as low as 40 parts per billion.

d. Barium. All water or acid soluble barium compounds are highly toxic to humans through either ingestion or inhalation.

e. Benzene. Benzene is a Class A carcinogen, causing leukemia in exposed individuals. It also adversely affects the formation of hemoglobin in humans and has been shown to be toxic and lethal to embryos in experimental animals. Exposure to high concentrations of benzene in the air causes central nervous system depression and cardiovascular effects, and dermal exposure may cause dermatitis.

f. Beryllium. Beryllium is a Class B2 carcinogen. Death may result from exposure to very low concentrations of this chemical and its salts. Contact dermatitis, corneal burns, chemical conjunctivitis, non-healing ulceration, and subcutaneous nodules may occur following exposure to beryllium.

g. Bis(2-Ethylhexyl)Phthalate. Bis(2-ethylhexyl)phthalate is a Class B2 carcinogen.

h. Cadmium. Cadmium is a Class B1 carcinogen.

Ingestion of the metal and soluble compounds causes increased salivation, choking, vomiting, abdominal pain, anemia, renal dysfunction, diarrhea and tenesmus. Inhalation of dust and fumes causes cough, headache, vomiting, chest pain, extreme restlessness and irritability, pneumonitis, and possibly bronchopneumonia.

i. **Chromium.** Chromium is a Class A carcinogen. An increased incidence of lung cancer has been seen in workers occupationally exposed to chromium. Chromium is also a skin irritant and inhalation may lead to ulceration of respiratory passages. Oral ingestion may lead to severe irritation of the gastrointestinal tract, circulatory shock and renal damage.

j. **Copper.** Copper is one of the most mobile metals in the environment. Copper is acutely toxic to aquatic organisms and tends to concentrate in the tissues of fresh water aquatic species.

k. **1,2-Dichloroethane.** 1,2-dichloroethane is a Class B2 carcinogen. Vapors produce irritation of the respiratory tract and conjunctiva, corneal clouding, equilibrium disturbances, narcosis and abdominal cramps.

l. **Lead.** Lead is a Class B2 carcinogen. Exposure of a pregnant woman to lead results in the transfer of lead to the fetus and may cause pre-term birth, reduced birth weight, and decreased IQ in the infant. Lead exposure also may cause measurable cognitive retardation, lower IQ scores, and reduced growth in young children. Adults exposed to high levels

of lead can suffer anemia and severe damage to the brain, central nervous system, and kidneys. Low level lead exposure may increase blood pressure in middle-aged men. In addition, lead may induce abortion and cause damage to the male reproductive system.

m. **Mercury.** Mercury is readily absorbed by the respiratory tract, intact skin and gastrointestinal tract. Soluble salts of mercury have violent corrosive effects on skin, and mucous membranes. Mercury may also cause severe nausea, vomiting, abdominal pain, kidney damage, central nervous system damage and death.

n. **Phenol.** Ingestion of small amounts of phenol may cause nausea, vomiting, circulatory collapse, paralysis, convulsions, coma and death from respiratory failure. Fatal poisoning may also occur from skin absorption following application to large areas.

o. **Silver.** Prolonged exposure to silver compounds can lead to skin disorders. Inhalation of dust should be avoided.

p. **Tetrachloroethene.** Tetrachloroethene is a Class B2 carcinogen. Non-cancer effects caused by PCE in animals include neurological depression, increased liver weight/body weight ratios, decreased body weight, increased liver triglycerides, decreased DNA content of cells, and altered liver enzyme activity.

q. **Trichloroethene (TCE).** TCE is a Class B2

carcinogen. TCE also affects bone marrow, the central nervous system, the liver and the kidneys in animals and humans. Non-cancer effects include narcosis, enlargement of the liver and the kidneys with accompanying enzyme changes, depressed hemoglobin synthesis, and immunosuppression. Under certain conditions, TCE degrades to 1,2-dichloroethene and vinyl chloride.

r. **Vinyl Chloride.** Vinyl chloride is a Class A carcinogen.

s. **Xylene.** Xylene vapor may cause irritation of the eyes, nose and throat. Repeated or prolonged skin contact with xylene may cause drying and defatting of skin, which may lead to dermatitis. Acute exposure to vapors may cause central nervous system depression and minor reversible effects upon liver and kidneys.

t. **Zinc.** Ingestion by humans of excessive amounts of zinc can cause fever, vomiting and stomach cramps. Zinc oxide fumes can cause metal fume fever. Inhalation of mists or fumes of zinc may irritate eyes or skin. High levels of zinc in the human diet have been shown to retard growth and produce defective mineralization of bone. Zinc produces acute toxicity in fresh water organisms.

2. This Site is of potential public health concern due to the risk to human health resulting from possible exposure to hazardous substances at concentrations that may result in adverse health effects. Human exposure to contaminants from the Site can result from ingestion, inhalation, and direct dermal

AR000023

contact with contaminated ground water. The aquifer beneath the Site is a current source of drinking water. Ground water contamination has migrated off-site and possibly into a residential well to the east/southeast. This contamination will continue to migrate and possibly contaminate other residential or livestock wells. When sampled in November 1988, only VOCs were detected in the residential well. However, the inorganic hazardous substances in ground water may migrate into this and other residential or livestock wells.

3. Another potential human exposure pathway at the Site is the inhalation of fugitive dust contaminated with inorganic hazardous substances. Dust may be generated whenever the surface soils are disturbed. Air monitoring conducted on-site and off-site indicated that the surface soil contamination had not, as of the date of the samples, migrated into the air environment. No VOC contamination of human health concern was detected during air monitoring.

4. It has been observed that wild game, including waterfowl are hunted at the Site. Game animals could bioaccumulate hazardous substances from the Site, and these hazardous substances could then be ingested by humans.

5. Local contaminant migration from the waste area is primarily downward until the water table is intercepted. Then the controlling factors for flow within the water table dictate the horizontal and vertical distribution of hazardous substances migrating from the Site area.

6. Hazardous substances emanating from the southern half of the Site are transported in the ground water in the south/southeast direction. After the hazardous substances exit along the southern portion of the Site, a major fracture system within this area diverts flow towards the east/southeast. Hazardous substances in the northern half of the Site are transported in a northern, eastern, and southern direction in response to horizontal gradients. It appears that the contaminant plume is then diverted toward the east/southeast in response to the primary fracture orientation as indicated in the southern portion of the Site.

7. Two generalized areas of elevated organic and inorganic soil contamination were identified in the RI. These areas are located within the north-central portion of the Site and the area located at the southern property line and extending into the field area.

E. The Record of Decision

1. Pursuant to Section 117 of CERCLA, 42 U.S.C. § 9617, EPA published notice of the completion of the FS and of the Proposed Plan for remedial action on August 15, 1988, and provided opportunity for public comment on the proposed remedial action.

2. The decision by EPA on the remedial action to be implemented at the Site (OU1) is embodied in a final Record of Decision ("ROD"), executed on September 29, 1988. The Commonwealth of Pennsylvania has given its concurrence to that

AR000025

ROD. The ROD is attached to this Order as "Exhibit 1" and is incorporated herein by reference. The ROD is supported by an Administrative Record prepared in accordance with § 113(K) of CERCLA, 42 U.S.C. § 9613(K), that contains the documents and information which support the remedial response selection decision.

3. Objectives for the selected remedy at the Site (OU1) include:

a. Prevent direct contact (incidental ingestion and dermal absorption) with contaminated soils and solid wastes throughout the Site by trespassers, hunters, residents and construction workers;

b. Prevent direct contact (incidental ingestion and dermal absorption) with contaminated surface water located in the northwest portion of the Site; and

c. Implement no actions that could interfere with potential future groundwater remediation.

4. The selected remedy in the ROD will, at a minimum:

a. Eliminate present on-site ponded waters;

b. Regrade the Site;

c. Cover the Site with a impermeable cap;

d. Implement runoff/runoff controls;

e. Monitor runoff;

f. Monitor ground water;

g. Construct a perimeter fence; and

h. Obtain a deed notice.

5. This Remedial Action for Operable Unit 1 will protect human health and the environment by preventing dermal contact and incidental ingestion of landfill soil and waste. It will also minimize the continued leaching of precipitation and on-site ponded waters through the contaminated landfill media, thereby isolating the source of ground water contamination.

V. CONCLUSIONS OF LAW AND DETERMINATIONS

A. The Dorney Road Landfill Site , including (OU1), is a "facility" as defined in Section 101(9) of CERCLA, 42 U.S.C. § 9601(9).

B. "Hazardous substances", as that term is defined in Section 101(14) of CERCLA, 42 U.S.C. § 9601(14), have been deposited, stored, placed, or otherwise located on and remain at the Site (OU1).

C. The hazardous substances at the Site (OU1) are being released or threatened to be released as "release" is defined in Section 101(22), 42 U.S.C. § 9601(22), from the Site (OU1) into the environment, and may present an imminent and substantial endangerment to the public health or welfare or the environment.

D. Each Respondent is a "person" within the meaning of Section 101(21) of CERCLA, 42 U.S.C. § 9601(21).

E. Respondent R. Emory Mabry is a person who owns and who owned and operated a portion of the Site at the time of disposal, as the terms "owner" and "operator" are defined at Section 101(20) of CERCLA, 42 U.S.C. § 9601(20), and is therefore liable pursuant to Section 107(a)(1) and (2) of CERCLA, 42 U.S.C. §§

9607(a)(1) and (2).

F. Respondents Caloric Corporation, East Penn Manufacturing Company, Inc., Exide Corporation, GAF Corporation, General Electric Company, and Stroh Brewery Company are persons who by contract, agreement or otherwise arranged for disposal or treatment, or arranged with a transporter for transport for disposal or treatment of hazardous substances at the Site, which is a facility, and are liable pursuant to Section 107(a)(3) of CERCLA, 42 U.S.C. § 9607(a)(3).

G. The contamination and endangerment to the Site (OU1) constitute an indivisible harm.

H. EPA has determined that in order to protect the public health and welfare and the environment, action must be taken to remediate the landfill waste, soil and sediment present within the Site (OU1) to reduce or prevent current and future exposure to such landfill waste, soil and sediment, and to reduce or prevent contaminant migration on and from the Site (OU1).

VI. SCOPE OF THE RESPONSE ORDERED

Based on the foregoing, Respondents are hereby Ordered, jointly and severally, to comply with the following provisions of this Order, including but not limited to, all attachments to this Order, all documents incorporated by reference into this Order, and all schedules and deadlines in this Order, attached to this Order, or incorporated by reference into this Order.

VII. DEFINITIONS

Unless otherwise expressly provided herein, terms used in

AR000028

this Order that are defined in CERCLA or in regulations promulgated under CERCLA shall have the meaning assigned to them in the statute or its implementing regulations. Whenever terms listed below are used in this Order or in the documents attached to this Order or incorporated by reference into this Order, the following definitions shall apply:

A. "Data Quality Objectives" ("DQOs") are qualitative and quantitative statements which specify the quality of the data required to support EPA decisions during remedial response actions. DQOs are determined based on the end uses of the data to be collected.

B. "Day" shall mean a calendar day unless expressly stated to be a working day. "Working day" shall mean a day other than a Saturday, Sunday, or Federal holiday. In computing any period of time under this Order, where the last day would fall on a Saturday, Sunday, or Federal holiday, the period shall run until the end of the next working day.

C. "National Contingency Plan" or "NCP" shall mean the National Oil and Hazardous Substances Pollution Contingency Plan, codified at 40 C.F.R. Part 300, including any amendments thereto.

D. "Operable Unit No. 1" or "OU1" means the Site Operable Unit associated with the Site that addresses the Landfill waste and soil as described more fully in the ROD for Operable Unit 1, dated September 29, 1988.

E. "Operation and Maintenance" or "O&M" shall mean all activities that (1) are required under the Operation and

Maintenance Plan developed by Respondents pursuant to this Order and the Statement of Work, and (2) approved by EPA.

F. "Performance Standards" shall mean those cleanup standards, standards of control, and other substantive requirements, criteria or limitations, identified in the Record of Decision and Statement of Work, that the Remedial Action and Work required by this Order must attain and maintain.

"Performance Standards" shall include the applicable or relevant and appropriate requirements stated in the ROD.

G. "Record of Decision" or "ROD" shall mean the EPA Record of Decision relating to the Site (OU1), signed on September 29, 1988 by the Regional Administrator, EPA Region III, and all attachments thereto. That ROD is attached hereto as Exhibit 1.

H. "Remedial Action" or "RA" shall mean those activities, except for Operation and Maintenance, to be undertaken by Respondents to implement the final plans and specifications that are submitted by Respondents pursuant to the Remedial Design Work Plan and subsequently approved by EPA, including any additional activities required under Sections VIII, IX, XV, XVI and XX of this Order.

I. "Remedial Design" or "RD" shall mean those activities to be undertaken by Respondents to develop the final plans and specifications for the Remedial Action pursuant to the Remedial Design Work Plan.

J. "Site" or the "Dorney Road Landfill Superfund Site", shall mean the facility, as defined in Section 101(9) of CERCLA,

42 U.S.C. § 9601(9), encompassing approximately 27 acres, located along the southwest boundary of Upper Macungie Township, Lehigh County, Pennsylvania, as further described in the Record of Decision that was issued by EPA in September 1988. (See attached Exhibit 1).

K. "State" or "Commonwealth" shall mean the Commonwealth of Pennsylvania.

L. "Statement of Work" or "SOW" shall mean the outline for implementation of the Remedial Design, Remedial Action, and Operation and Maintenance at the Site, as set forth in Exhibit 2 to this Order. The Statement of Work is incorporated into this Order.

M. "Work" shall mean all activities Respondents are required to perform under this Order to implement the ROD for the Site (OU1), including Remedial Design, Remedial Action, Operation and Maintenance for the Site (OU1), tasks to be performed in accordance with any Work Plan required by this Order, and any other activities required to be undertaken pursuant to this Order.

VIII. WORK TO BE PERFORMED

A. Requirement to comply with ROD, SOW and ARARs

1. Based on the foregoing and the Administrative Record supporting this Order, it is hereby Ordered that Respondents implement the September 1988 ROD in accordance with that document, CERCLA, the NCP, the SOW and the requirements and schedules specified in this Order. All actions and activities

AR000031

carried out by Respondents pursuant to this Order shall be performed in accordance with all applicable Federal, State, and Local laws and with applicable or relevant and appropriate EPA regulations, requirements and guidance documents (ARARs). Respondents shall obtain all permits and authorizations necessary for off-site Work and shall timely submit and complete applications and requests for any such permits or authorizations.

2. This Order is not, and shall not be construed to be, a permit issued pursuant to any Federal or State statute or regulation.

B. Assurance of Ability to Complete Work

1. Respondents shall jointly and/or severally demonstrate their ability to complete the Work required by this Order and to pay all claims that arise from the performance of the Work required by this Order by obtaining, and presenting to EPA for approval within thirty (30) days of EPA's acceptance of the Respondents' contractor(s), the following:

a. One of the following sufficient to demonstrate ability to complete the Work:

- (i) a performance bond;
- (ii) a letter of credit;
- (iii) a guarantee by a third party; or
- (iv) yearly internal financial information,

sufficient to demonstrate to EPA's satisfaction that Respondents jointly and/or severally have enough assets to complete the Work required by this Order; and

2. Copies of insurance policies issued to Respondents or their contractors or, in the alternative, one of the above-described financial assurances sufficient to cover the following:

(a) Workmen's Compensation and Employer's Liability Insurance in accordance with the laws of the Commonwealth of Pennsylvania;

(b) Comprehensive General Liability Insurance, including:

(i) Contractual Liability - \$1 million each contract;

(ii) Bodily Injury Liability - \$1 million each person; \$1 million each accident;

(iii) Property Damage - \$1 million each accident;

(c) Bodily Injury Liability - \$500,000 each person; \$1 million each accident; and

(d) Umbrella Policy in the amount of \$3 million which shall provide coverage in excess of the underlying coverage described above.

3. For each year that any Respondent seeks to satisfy the requirements of Section VIII.B of this Section by submitting internal financial information, such Respondents shall submit sworn statements containing such information on the anniversary of the effective date of this Order until EPA determines in accordance with Section XXIV of this Order that all Work required pursuant to this Order has been fully performed and all

AR000033

performance standards have been met. The failure of any Respondent to demonstrate it's ability to complete the Work required by this Order, in any given year, shall not alter that Respondent's joint and several liability to comply with all other terms of this Order.

C. Contractor Qualifications; Performance

1. All aspects of the Work to be performed by Respondents pursuant to this Order shall be under the direction and supervision of a qualified personnel, the selection of which shall be subject to acceptance by EPA. Within fourteen (14) days after the effective date of this Order, Respondents shall notify EPA in writing of the identity and qualifications of the contractor(s) and subcontractors to be used in carrying out all Work required by this Order. Respondents shall have a continuing obligation to provide written notification to EPA of changes in contractors and subcontractors and the retention of additional contractors and subcontractors hired to perform Work pursuant to this Order. Such notifications shall be submitted within five (5) days prior to a change in contractors and subcontractors or the retention of additional contractors and subcontractors.

2. EPA may disapprove at any time the use of any contractor, subcontractor, supervisory personnel, or other persons retained to conduct any of the Work required by this Order that EPA considers unqualified to perform such Work, or any portion thereof. In the event of disapproval, Respondents shall notify EPA within fourteen (14) days of receipt of such

disapproval, of the person, contractor or subcontractor that will replace the one that was not accepted.

3. Within fourteen (14) days of receipt of EPA acceptance of the Respondents' contractor(s), Respondents shall enter into an agreement with such contractor(s) to perform the Work required by this Order.

4. Neither the United States nor EPA shall be considered a party to any contract between or among Respondents and any contractors, subcontractors or other persons retained to conduct Work required by this Order.

D. Respondents Shall Perform the Work as Follows:

1. The Remedial Design Work Plan

a. Within thirty (30) days of EPA's acceptance of a Project Coordinator in accordance with Section X of this Order, Respondents shall submit a Work Plan for the Remedial Design at the Site (Remedial Design Work Plan or RD Work Plan) to EPA for review and approval. The RD Work Plan shall include a step-by-step plan for completing the Remedial Design for the remedy described in the ROD and for attaining and maintaining all requirements, including Performance Standards, identified in the ROD. The RD Work Plan must describe in detail the tasks that the Respondents will complete and the deliverables the Respondents will submit during the Remedial Design phase, and contain a schedule for completing the tasks and submitting the deliverables in the RD Work Plan. The major tasks and deliverables described in the RD Work Plan shall include, but not be limited to, the

following: (1) a Preliminary Design; (2) an Intermediate Design; (3) a Pre-Final Design; (4) a Final design; (5) a Design Sampling and Analysis Plan; (6) a Site Health and Safety plan for design activities; (7) a Contingency Plan; (8) a Construction Quality Assurance Plan (CQAP); (9) a plan for gathering additional data or information, or performing additional feasibility studies; and (10) any other appropriate components.

b. The RD Work Plan shall be consistent with, and shall provide for, implementing the Statement of Work, and shall comport with EPA's "Superfund Remedial Design and Remedial Action Guidance", OSWER Directive 9355.0-4A, and any amendments to such Guidance. Upon approval by EPA, the RD Work Plan is incorporated into this Order.

c. Upon approval of the RD Work Plan by EPA, Respondents shall implement the RD Work Plan according to the schedule in the approved RD Work Plan. Unless otherwise directed by EPA in writing, Respondents shall not commence Work at the Site prior to EPA's written approval of the RD Work Plan.

2. Remedial Design

a. Within sixty (60) days after EPA approves the RD Work Plan, Respondents shall submit a Preliminary Design to EPA for review and approval. The Preliminary Design shall include, at a minimum: (1) design criteria; (2) results of treatability studies; (3) results of additional field sampling; (4) project delivery strategy; (5) preliminary plans, drawings and sketches; (6) required specifications in outline form; and

(7) a preliminary construction schedule.

b. Within seventy-five (75) days after EPA approves the Preliminary Design, Respondents shall submit an Intermediate Design to EPA for review and approval. The Intermediate Design shall expand on the contents of the Preliminary Design and shall include a value engineering proposal for the Work required by this Order.

c. Within seventy-five (75) days after EPA approves the Intermediate Design, Respondents shall submit a Pre-Final Design to EPA for review and approval. The Pre-Final Design shall include, at a minimum: (1) Pre-Final Plans and Specifications; (2) an Operation and Maintenance Plan; (3) the Construction Quality Assurance Plan (CQAP); (4) the Field Sampling Plan (directed at measuring progress towards meeting performance standards); (5) the Site Health and Safety Plan; and (6) a Contingency Plan. The CQAP shall describe the approach to quality assurance during construction activities at the Site and shall specify a quality assurance official (QA Official), independent of the construction contractor, to conduct a quality assurance program during the construction phase of the project.

d. Within thirty (30) days after EPA approves the Pre-final Design, Respondents shall submit a Final Design to EPA for review and approval. The Final Design shall include, at a minimum: (1) final plans and specifications; (2) an Operation and Maintenance Plan; (3) the Construction Quality Assurance Plan (CQAP); (4) the Field Sampling Plan (directed at measuring

progress towards meeting performance standards); (5) the Site Health and Safety Plan; and (6) a Contingency Plan. The CQAP shall describe the approach to quality assurance during construction activities at the Site and shall specify a Quality Assurance Official (QA Official), independent of the construction contractor, to conduct a quality assurance program during the construction phase of the project.

e. Upon EPA approval, the Final Design is incorporated into this Order as a requirement of this Order.

3. Remedial Action Work Plan

a. Not later than thirty (30) days after EPA approves all deliverables required as part of the Final Design, Respondents shall submit a Remedial Action Work Plan (RA Work Plan) to EPA for review and approval. The RA Work Plan shall be developed in accordance with the ROD, any amendments to the ROD, any ESDs issued by EPA pursuant to Section 117 of CERCLA, 42 U.S.C. § 9617, and the attached Statement of Work, and shall be consistent with the Final Design as approved by EPA. The RA Work Plan shall include methodologies, plans and schedules for completion of at least: (1) selection of the Remedial Action contractor; (2) implementation of the Remedial Design; (3) implementation of the CQAP; (4) development and submission of the ground water monitoring plan; (5) identification of and satisfactory compliance with applicable permitting requirements; (6) implementation of the Operation and Maintenance Plan; (7) implementation of the Contingency Plan; (8) the Site Health and

AR000038

Safety Plan; and (9) development and submission of the Performance Standards assessment plan. The RA Work Plan shall also include a schedule for implementing all Remedial Action tasks identified in the Statement of Work and shall identify the initial formulation of Respondent's Remedial Action Project Team (including the Supervising Contractor). The Health and Safety Plan for field activities required by the RA Work Plan shall conform to applicable Occupational Safety and Health Administration and EPA requirements, including but not limited to the regulations at 54 Fed. Reg. 9294 (March 6, 1989).

b. Upon approval by EPA, the RA Work Plan is incorporated into this Order as a requirement of this Order.

4. Remedial Action

a. Upon approval of the RA Work Plan by EPA, Respondents shall implement the RA Work Plan according to the schedules in the RA Work Plan. Unless otherwise directed by EPA in writing, Respondents shall not commence Remedial Action at the Site prior to approval of the RA Work Plan.

b. If Respondents seek to retain a construction contractor to assist in the performance of the Remedial Action, then Respondents shall submit a copy of the solicitation documents, including but not limited to the Request For Proposals, to EPA not later than five (5) days after publishing the solicitation documents.

c. Within thirty (30) days after EPA approves the RA Work Plan, Respondents shall notify EPA in writing of the

name, title, and qualifications of any construction contractor proposed to be used in carrying out work under this Order. Additional notification requirements and acceptance procedures are set forth in Section VIII.C.

d. Not later than twenty-one (21) days after EPA's acceptance of a construction contractor in accordance with Section VIII.C. of this Order, Respondents shall submit a Construction Management Plan to EPA for review and approval. The Construction Management Plan shall identify key personnel, their experience, their qualifications, and their responsibilities for construction activities, and shall include a detailed schedule for completing all construction activities. Upon approval by EPA, the Construction Management Plan is incorporated into this Order.

e. Within forty-five (45) days after EPA approves the Construction Management Plan, Respondents shall begin on-site implementation of the Remedial Action. Upon approval by EPA of the Construction Management Plan, Respondents shall implement and comply with the schedules and terms of all deliverables relating to Remedial Action including the RA Work Plan and the Construction Management Plan.

f. The Work performed by Respondents pursuant to this Order shall, at a minimum, achieve the Performance Standards specified in the Record of Decision, the SOW, and in the EPA approved Work Plans.

g. Notwithstanding any action by EPA,

Respondents remain fully responsible for achieving the Performance Standards in the ROD, the SOW, and EPA approved Work Plans. Nothing in this Order, or in EPA's approval of the Statement of Work, or in the Remedial Design or Remedial Action Work Plans, or approval of any other submission, shall be deemed to constitute a warranty or representation of any kind by EPA that full performance of the Remedial Design or Remedial Action will achieve the Performance Standards set forth in the ROD, the SOW, and in the EPA approved Work Plans. Respondents' compliance with such approved documents does not foreclose EPA from seeking additional work to achieve the applicable performance standards.

5. Off-site Shipments

a. Respondents shall, at least twenty-one (21) days prior to any off-Site shipment of hazardous substances from the Site to a waste management facility, provide written notification to the appropriate state environmental official in the receiving state and to EPA's RPM of such shipment of hazardous substances. However, the notification of shipments shall not apply to any off-Site shipments when the total volume of all shipments from the Site to the waste management facility will not exceed ten (10) cubic yards.

b. The notification shall be in writing, and shall include the following information, where available:

(i) the name and location of the facility to which the hazardous substances are to be shipped;

- (ii) the type and quantity of the hazardous substances to be shipped;
- (iii) the expected schedule for the shipment of the hazardous substances; and
- (iv) the method of transportation.

Respondents shall notify the receiving state of major changes in the shipment plan, such as a decision to ship the hazardous substances to another facility within the same state, or to a facility in another state.

c. The identity of the receiving facility and state will be determined by Respondents following the award of the contract for the Remedial Action. Respondents shall provide all relevant information, including information under the categories noted in Section VIII.D.5.b above, on the off-Site shipments as soon as practicable after the award of the contract and at least fourteen (14) days before the hazardous substances are planned to be shipped.

d. All materials removed from the Site (OU1) shall be disposed of or treated at a facility in accordance with Section 121(d)(3) of CERCLA, 42 U.S.C. § 9621(d)(3), the EPA "Revised Off-Site Policy", and all other applicable or relevant and appropriate Federal, State and local regulations.

6. Operation and Maintenance

Respondents shall perform the activities during O&M listed in the SOW and in accordance with the RD and RA Work Plans and the EPA-approved O&M Plan to be submitted pursuant to

this Order. Notification requirements for off-site shipment of wastes, described above, shall also be met during O&M.

7. Progress Reports

a. In addition to the other deliverables set forth in this Order, Respondents shall provide monthly progress reports to EPA with respect to actions and activities undertaken pursuant to this Order. The progress reports shall be submitted on or before the fifth day of each month following the effective date of this Order. Respondent's obligation to submit progress reports continues until EPA gives Respondents written notice that Respondents have demonstrated, to EPA's satisfaction, that all work required pursuant to this Order has been fully performed and all performance standards have been met. At a minimum these progress reports shall:

- i. Describe the actions that have been taken to comply with this Order during the prior month;
- ii. Include all results of sampling and tests and all other data received by Respondents and not previously submitted to EPA;
- iii. Describe all work planned for the next month with schedules relating such work to the overall project schedule for RD/RA completion;
- iv. Describe all problems encountered and

any anticipated problems, any actual or anticipated delays, and solutions developed and implemented to address any actual or anticipated problems or delays; and

v. Include any additional components listed in the SOW.

b. Failure to submit written reports in accordance with the requirements of Section VIII.D.7. and the SOW shall constitute a violation of this Order.

IX. PLANS AND REPORTS REQUIRING EPA APPROVAL

A. 1. All deliverables, reports or other items required by the Order shall be submitted to EPA for approval.

2. To the maximum extent possible communications between the Respondents and EPA and all documents, including reports, approvals, and other correspondence, concerning the activities performed pursuant to this Order, will be directed to the Project Coordinators by overnight mail or equivalent delivery.

B. Unless otherwise provided, three copies of all documents, including reports, approvals, and other correspondence submitted to EPA pursuant to this Order, shall be directed to the EPA Remedial Project Manager identified pursuant to Section X of this Order in accordance with the requirements of that Section. Three copies of all such documents shall simultaneously be submitted to the Commonwealth of Pennsylvania at the following address:

James Kunkle
Bethlehem District Office
Department of Environmental Resources
4530 Bath Pike
Bethlehem, Pennsylvania 18017
(215) 861-2080

C. After review of any deliverable, plan, report or other item that is required to be submitted for review and approval pursuant to this Order, EPA may: (1) approve the submission; (2) approve the submission with required modifications; (3) disapprove the submission and direct Respondents to re-submit the document after incorporating EPA's comments; or (4) disapprove the submission and assume responsibility for performing all or any part of the response action. As used in this Order, the terms "approval by EPA," "EPA approval," or a similar term means the action described in items (1) or (2) of this paragraph.

D. In the event of approval by EPA, Respondents shall proceed to take any action required by the plan, report, or other item, as approved or modified by EPA.

E. Upon receipt of a notice of disapproval or a requirement for a modification, Respondents shall, within twenty-one (21) days or such other time as specified by EPA in its notice of disapproval or requirement for modification, correct the deficiencies and resubmit the plan, report, or other item for approval. Notwithstanding the notice of disapproval, or approval with modifications, Respondents shall proceed, at the direction of EPA, to take any action required by any non-deficient portion of the submission.

F. If any submission is disapproved by EPA, Respondents

AR000045

shall be deemed to be in violation of this Order and EPA may assume responsibility for performing all or any part of the response action. Such EPA performance shall not release Respondents from complying with all other requirements of this Order.

G. EPA's decisions regarding the sufficiency or acceptability of all documents and of any activities performed pursuant to this Order shall control.

H. Notwithstanding any action by EPA, Respondents remain fully responsible for achievement of the performance standards in the ROD and to be delineated in the Remedial Design. Nothing in this Order, or in EPA's approval of the RD Work Plan or Remedial Design, or approval of any other submission, shall be deemed to constitute a warranty or representation of any kind by EPA that full performance of the Remedial Design or the Remedial Action will achieve the performance standards set forth in the ROD and to be set forth in the Remedial Design. Respondents' compliance with such approval documents does not foreclose EPA from seeking additional work to achieve the applicable performance standards.

X. DESIGNATED PROJECT COORDINATORS

A. The EPA's Project Coordinator shall be the EPA Remedial Project Manager. Unless otherwise directed by the EPA Remedial Project Manager, all communications, whether written or oral, from Respondents to EPA shall be directed to EPA's Remedial Project Manager. EPA's Remedial Project Manager is:

Frances L. Costanzi
U.S. Environmental Protection Agency

AR000046

Region III
841 Chestnut Building (3HW22)
Philadelphia, PA 19107
(215) 597-3923

B. EPA has the unreviewable right to change its Remedial Project Manager. If EPA changes its Remedial Project Manager, EPA will inform Respondents in writing of the name, address, and telephone number of the new Remedial Project Manager.

C. EPA's Remedial Project Manager shall have the authority lawfully vested in a Remedial Project Manager by the National Contingency Plan, 40 C.F.R. Part 300 et seq., and any amendment thereto. In addition, EPA's Remedial Project Manager shall have authority, consistent with the NCP, to halt any work required by this Order, and to take any necessary response action when the Remedial Project Manager determines that conditions at the Site [OU1] may present an imminent and substantial endangerment to public health or welfare or the environment.

D. Within ten (10) days after the effective date of this Order, Respondents shall designate a Project Coordinator and shall submit the name and qualifications of the Project Coordinator, including any support entities and staff, to EPA for review and acceptance. Respondents' Project Coordinator shall be responsible for overseeing the Respondents' implementation of this Order. If Respondents wish to change their Project Coordinator, Respondents shall provide written notice to EPA, five (5) days prior to changing the Project Coordinator, of the name and qualifications of the new Project Coordinator.

E. Respondents' selection of a Project Coordinator shall be

AR000047

subject to EPA acceptance. If EPA does not accept the selection of the Project Coordinator, Respondents shall submit to EPA a list of proposed Project Coordinators, including primary support entities and staff, that would be acceptable to them, within thirty (30) days after receipt of EPA's notice not to accept the Project Coordinator previously selected. EPA will then provide written notice to Respondents, and the Respondents may then select any accepted Project Coordinator from EPA's list and shall notify EPA of the name of the Project Coordinator selected within twenty-one (21) days of EPA's designation of accepted Project Coordinators.

F. Each Project Coordinator will be responsible for overseeing the implementation of this Order.

G. No informal advice or guidance from the EPA Remedial Project Manager shall relieve Respondents of any obligations under this Order.

XI. FAILURE TO ATTAIN PERFORMANCE STANDARDS

A. In the event that EPA determines that additional response activities are necessary to meet applicable performance standards, EPA may notify Respondents that additional response actions are necessary.

B. Unless otherwise stated by EPA, within thirty (30) days of receipt of notice from EPA that additional response activities are necessary to meet any applicable performance standards in the ROD and to be delineated in the RD, Respondents shall submit for approval by EPA a work plan for the additional response

activities. The work plan shall conform to the applicable requirements of this Order. Upon EPA's approval of the work plan for additional response activities, the work plan shall become an enforceable part hereof and Respondents shall implement that work plan in accordance with the provisions and schedule contained therein.

XII. EPA PERIODIC REVIEW

Under Section 121(c) of CERCLA, 42 U.S.C. § 9621(c), and any applicable regulations, EPA must review the Remedial Action at least every five (5) years after initiation of the Remedial Action, if hazardous substances remain on the Site, to assure that the work performed pursuant to this Order adequately protects human health and the environment. Until such time as EPA certifies completion of the Work, Respondents shall conduct the requisite studies, investigations, or other response actions as determined necessary by EPA in order to permit EPA to conduct the reviews under Section 121(c) of CERCLA, 42 U.S.C. § 9621(c). As a result of any reviews performed under this Section, Respondents may be required to perform additional work or to modify work previously performed.

XIII. ENDANGERMENT AND EMERGENCY RESPONSE

A. In the event of any action, occurrence or situation during the performance of the Work that causes or threatens to cause a release of a hazardous substance or that may present an immediate threat to public health or welfare or the environment, Respondents shall immediately take all appropriate action to

AR000049

prevent, abate, or minimize such release or endangerment, and shall immediately notify EPA's Remedial Project Manager. If this person is not available Respondents shall notify Region III's Eastern Response Section by telephoning (215) 597-9898.

Respondents shall take such action in consultation with EPA's RPM and in accordance with all applicable provisions of this Order, including but not limited to the Health and Safety Plan and the Contingency Plan developed pursuant to the Statement of Work.

B. Nothing in the preceding paragraph shall be deemed to limit any authority of the United States to take, direct, or order all appropriate action to protect human health and the environment or to prevent, abate, or minimize an actual or threatened release of hazardous substances on, at, or from the Site.

XIV. SITE ACCESS

A. As of the effective date of this Order, each Respondent leasing, owning, or otherwise controlling property at the Site shall provide access to EPA, the Commonwealth of Pennsylvania and the Respondents and their respective employees, agents, consultants, contractors, and other authorized representatives for the purposes of conducting any activity required by or related to this Order. Such access shall permit EPA and its employees, agents, consultants, contractors, and other authorized representatives to conduct all activities described in Section XIV.C.

B. To the extent that Work required by this Order must be

performed on property not presently owned or controlled by Respondents, the Respondents shall use best efforts to obtain access agreements from the present owners of such property within thirty (30) days of the effective date of this Order. At a minimum, best efforts shall include, but shall not be limited to, a certified letter from Respondents to the present owners of such property requesting access agreements fulfilling the requirements of Section XIV.A. and C. In the event that the property owners refuse to provide such access or access agreements are not obtained within thirty (30) days of the effective date of this Order, whichever occurs sooner, the Respondents shall immediately notify EPA, in writing, of all efforts to obtain access and the circumstances of their failures to secure access agreements. EPA may, in its discretion, thereafter assist Respondents in obtaining access.

C. EPA and its employees, agents, consultants, contractors, and other designated representatives shall have the authority to enter and freely move about all property subject to this Order at all reasonable times for the purposes of, inter alia, inspecting records, operating logs, and contracts related to the Site; reviewing the progress of the Respondents in carrying out the terms of this Order; conducting such tests and taking such samples as EPA deems necessary; using a camera, sound recording, or other documentary type equipment; and verifying the data submitted to EPA by the Respondents. In addition, EPA and its employees, agents, consultants, contractors, and other authorized

AR000051

representatives shall have authority to enter, at all reasonable times, all areas in which records related to the performance of the Work required by this Order are retained. The Respondents shall permit such persons to inspect and copy all records, files, photographs, documents, and other writings, including all sampling and monitoring data, in any way pertaining to Work undertaken pursuant to this Order. Nothing herein shall be interpreted as limiting the inspection or information gathering authorities of EPA under Federal law.

D. Notwithstanding any provision of this Order, EPA retains all access authorities and rights under CERCLA and any other applicable statute and regulation.

XV. SAMPLING AND DATA/DOCUMENT AVAILABILITY

A. Respondents shall notify EPA in writing not less than fourteen (14) days in advance of any sample collection activity to be undertaken pursuant to this Order.

B. 1. Subject to the provisions contained in Section XV.B.2 of this Order, EPA and its authorized representatives shall have full access to all information maintained or created by, or on behalf of, Respondents in connection with activities conducted pursuant to this Order including, but not limited to, contractual documents, sampling data, and field notes. All such information requested by EPA and maintained by Respondents and/or Respondents' contractors, agents, or assigns (and, where appropriate, information required by Section XV.B.2 of this Order), shall be made available to EPA or its authorized

representatives within thirty (30) days of receipt of any such request.

2. Respondents' obligation to disclose information requested by EPA pursuant to Section XV.B.1 of this Order is subject to applicable privileges recognized by Federal courts under Federal law, provided that no sample results or analytical data shall be claimed as privileged. Where a claim of privilege is invoked as to information, Respondents shall identify such information and state the basis of any privilege claimed. In the event Respondents withhold a document as privileged, Respondents shall provide EPA with the date, title, author, and addressee/recipient of the document; a description of the contents of the document; and the identity and basis of each privilege asserted.

C. Upon reasonable notice, Respondents and/or their contractors or subcontractors shall make themselves available for such meetings, conferences, and/or inspections with EPA, or its representatives, as may be necessary for EPA to oversee the performance of Work required by this Order.

D. At the request of EPA, Respondents shall provide EPA or its authorized representatives with split or duplicate samples of any material sampled in connection with the implementation of this Order and/or shall permit EPA or its authorized representatives to take such split or duplicate samples of any samples taken.

E. The Respondents may assert a claim of business

AR000053

confidentiality covering part or all of the information or documentation requested by or provided under this Order in the manner described in 40 C.F.R. § 2.203(b). Such an assertion shall be substantiated in accordance with 40 C.F.R. § 2.204(e)(4) at the time the assertion is made. Information subject to such a claim will be handled in accordance with the procedures set forth in 40 C.F.R. Part 2, Subpart B. If no claim of business confidentiality accompanies the information or documentation when it is submitted or made available to EPA, it may be made available to the public by EPA without further notice to Respondents. Respondents shall not assert confidentiality claims with respect to any data related to Site conditions, sampling, analytical or monitoring data.

F. Respondents shall maintain for the period during which this Order is in effect, an index of documents that Respondents claim confidential business information. The index shall contain, for each document, the date, author, addressee and subject of the document. Upon written request from EPA, Respondents shall submit a copy of the index to EPA.

G. Respondents shall cooperate with EPA to ensure that all data generated as part of Work to be performed under this Order is maintained in a computerized system that is compatible with EPA's Personal Computer Data Management System. The means of storing and manipulating data generated as part of Work to be performed under this Order shall be described, in a Data Management Plan, as a component of the Sampling and Analysis

Plan. Upon request from EPA, Respondents' computerized data bases pertaining to the Work shall be provided to EPA.

XVI. QUALITY ASSURANCE

A. Respondents shall use the quality assurance and quality control (QA/QC) procedures, including chain of custody procedures, described in the "EPA NEIC Policies and Procedures Manual," May 1978, revised May 1986, EPA Document Number 330/9-78-001-R; EPA's "Guidelines and Specifications for Preparing Quality Assurance Program Documentation," June 1, 1987; "Preparing Perfect Project Plans", October 1989, (EPA/600/9-89/087); EPA's "Data Quality Objectives for Remedial Response Activities," March 1987, (EPA/540/G87/003 and 004); and any amendments to these documents, while conducting all sample collection and analysis activities required herein by this Order.

B. In order to provide quality assurance and maintain quality control regarding all samples collected pursuant to this Order, Respondents shall at a minimum:

1. Use only laboratories that have a documented Quality Assurance Program that complies with EPA guidance document QAMS-005/80.

2. Ensure that the laboratory the Respondents use for analysis performs the analyses according to a method or methods deemed satisfactory to EPA and submits all protocols to be used for analyses to EPA at least twenty-one (21) days before beginning analysis.

3. Ensure that EPA personnel and EPA's authorized

representatives are allowed reasonable access to the laboratory(ies), records and personnel utilized by the Respondents for analysis of samples collected pursuant to this Order.

4. Prepare a Sampling and Analysis Plan for the sample collection and analyses to be conducted pursuant to this Order. Respondents shall submit the Sampling and Analysis Plan to the EPA Remedial Project Manager for review and approval prior to initiating any field investigation. The purpose of the plan is to present, in detail, the policy, organization, functional activities, quality assurance and quality control protocols necessary to achieve data quality objectives to be set forth in the RD and RA Work Plans and the sampling protocols and procedures to be used, and the types, locations and frequency of samples to be taken as a part of the RD/RA. The guidances referenced in Section XVI.A. above, shall be used as guidance in the preparation of the Sampling and Analysis Plan; additional guidance may be provided by EPA as requested.

5. Submit, as part of the Sampling and Analysis Plan, a Quality Assurance Project Plan ("QAPP") for the sample collection, transportation, analysis and reporting to be conducted during the Design Phase. Respondents also shall submit subsequent QAPPs, as appropriate, for the Remedial Action and O&M phases pursuant to this Order. These subsequent QAPPs will be submitted to the EPA Remedial Project Manager for review and approval prior to initiating any field investigations to be

described in the respective QAPP and in accordance with the schedule to be included in the RD and RA Work Plans. The purpose of the QAPP is to present, in detail, the data quality objectives, sample collection procedures, and data analysis processes and the procedures to ensure that data quality objectives are met.

6. Ensure, except where otherwise specified in the RD and RA Work Plans and subsequent EPA-approved plans to be prepared as part of this Order, that laboratory(ies) analyzing samples required by this Order shall use the methods described by, and submit deliverables delineated in, the current "Statement of Work of the EPA Contract Lab Program" ("CLP"). All constituents and physical parameters to be analyzed for which CLP methods will not be used will be described in detail in the appropriate QAPP and approved by the EPA Remedial Project Manager prior to conducting of the sampling and analysis to be described in the respective QAPP.

7. Ensure that any laboratory(ies) analyzing samples pursuant to this Order demonstrate its capability to perform analyses throughout RD/RA in compliance with CLP requirements through the periodic analysis of Performance Evaluation ("PE") samples. Analysis of PE samples may be waived by EPA if the laboratory has satisfactorily analyzed PE samples submitted by EPA or PADER within the past six months. Documentation of such PE sample analyses are to be submitted to the EPA Remedial Project Manager for verification in accordance with the schedule

to be included in the Work Plan.

8. Conduct, in accordance with the QAPP, an appropriate number of audits of the laboratory(ies) that will analyze samples from the Site at a frequency to be specified in the QAPP during the time the laboratory(ies) is conducting analyses. The audits will be conducted to verify analytical capability. Audit reports must be submitted to the EPA Remedial Project Manager within fifteen (15) days of completion of each audit. Respondents must report deficiencies, including all those which adversely impact data quality, reliability or accuracy, and take corrective action within two days of the time the Respondents knew or should have known of the deficiency. Laboratories which are CLP Laboratories need not be audited if the CLP procedures are employed by Respondents.

9. Conduct, in accordance with the QAPP, an appropriate number of field audits during RD/RA to verify that sampling is being performed in accordance with the Sampling and Analysis Plan. Respondents shall submit a report of the field audit to the EPA Remedial Project Manager within fifteen (15) days of completion of the audit. Respondents must report serious deficiencies in implementation of the Sampling and Analysis Plan and propose corrective action within twenty-four (24) hours of the time the Respondents or any contractor or subcontractor discovers any deficiency. Respondents shall take immediate action to correct any deficiency.

10. Provide data validation of analyses performed by

the laboratory(ies) in accordance with the "Functional Guidelines for Data Review" for data derived by CLP methods, or if another method is used, the data validation shall be performed in accordance with the QA/QC data validation criteria set forth in that method. For methods lacking QA/QC data validation protocols, Respondents must establish validation criteria such as those in Section 8 of the EPA Series Methods in 40 C.F.R. § 136. The appropriate quality assurance data validation summary reports shall be submitted, along with sample data and summary sheets, to the EPA Remedial Project Manager in accordance with reporting requirements to be described in the RD and RA Work Plans, Remedial Design, and O&M Plan.

11. Unless otherwise directed by the EPA Remedial Project Manager, Respondents shall notify EPA not less than fourteen (14) days in advance of any sample collection activity. At the request of EPA, Respondents shall allow split or duplicate samples to be taken by EPA or its authorized representatives, of any samples collected by Respondents with regard to the Site or pursuant to the implementation of this Order. In addition, EPA shall have the right to take any additional samples that EPA deems necessary.

12. Notwithstanding any provision of this Order, the United States retains all of its information gathering, inspection and enforcement authorities and rights under CERCLA, RCRA and any other applicable statutes or regulations.

XVII. RECORD PRESERVATION

A. Respondents shall preserve, during the pendency of this Order and for a minimum of six (6) years after its termination, all records and documents in their possession that relate in any way to implementation of this Order, despite any document retention policy to the contrary.

B. Respondents shall use their best efforts to obtain copies of all documents relating in any way to the Site and which are in the possession of their employees, agents, accountants, contractors, or attorneys. After expiration of the six (6) year document retention period, Respondents shall notify EPA at least thirty (30) days prior to the destruction of any documents relating to this Order. Upon request by EPA and subject to Sections XV.B. and XV.E. of this Order, Respondents shall make available to EPA such records or copies of any such records.

C. Respondents shall ensure that any agreement between Respondents and any agent, contractor, consultant, or other person retained to perform or oversee Work pursuant to this Order shall explicitly require said agent, contractor, consultant, or other person to maintain and preserve, during the pendency of this Order and for a minimum of six (6) years after termination of this Order, all data, records, and documents within their respective possession or control which relate in any way to this Order or to hazardous substances management and disposal at the Site.

D. Respondents shall not destroy any records relating to

AR000060

this Order until notified by EPA, in accordance with this Section, that EPA has waived its right to obtain such records from Respondents.

XVIII. DELAY IN PERFORMANCE

A. Any delay in performance of this Order that, in EPA's judgment, is not properly justified by Respondents under the terms of this Section shall be considered a violation of this Order. Any delay in performance of this Order shall not affect Respondents' obligations to perform fully all obligations under the terms and conditions of this Order.

B. Respondents shall notify EPA of any delay or anticipated delay in performing any requirement of this Order. Such notification shall be made by telephone to EPA's Remedial Project Manager within forty-eight (48) hours after Respondents first knew or should have known that a delay might occur. Respondents shall adopt all reasonable measures to avoid or minimize any such delay. Within five (5) business days after notifying EPA by telephone, Respondents shall provide written notification that fully describes the nature of the delay, the measures taken and those planned to minimize the delay, and a schedule for implementing the measures that will be taken to mitigate the effect of the delay. Increased costs or expenses associated with implementation of the activities called for in this Order are not justification for any delay in performance.

XIX. ENFORCEMENT AND RESERVATIONS OF RIGHTS

A. EPA reserves all rights, claims, interests, and defenses

AR000061

it has under CERCLA or any other law or in equity.

B. Nothing herein shall be construed to prevent EPA from seeking legal or equitable relief to enforce the terms of this Order, to seek injunctive relief, or to seek the imposition of statutory penalties.

C. This Order concerns the first of two operable units planned to address contamination at the Site. EPA reserves all rights, including the right to institute legal action against the Respondents, in connection with the performance of any response actions not addressed by this Order.

D. EPA reserves the right to disapprove of Work performed by Respondents pursuant to this Order, to require that Respondents correct and/or re-perform any and all Work disapproved by EPA, and to require that Respondents perform response actions in addition to those required by this Order.

E. EPA reserves the right to take enforcement actions, including actions for monetary penalties, for any violation of law, regulation or of this Order. Failure to comply with this Order subjects Respondents to the assessment of civil penalties of up to \$25,000 per day and/or punitive damages in an amount up to three times the amount of any costs incurred by the United States as a result of such failure pursuant to Sections 106(b) and 107(c) of CERCLA, 42 U.S.C. §§ 9606(b) and 9607(c). EPA may also undertake other actions as it may deem necessary or appropriate for any purpose including, but not limited to, actions pursuant to Sections 104 and/or 106 of CERCLA, 42 U.S.C.

AR000062

§§ 9604 and/or 9606.

F. EPA reserves the right to undertake removal and/or remedial actions, including all actions required by this Order, at any time such actions are appropriate under CERCLA and the NCP, and to seek reimbursement from Respondents for any costs incurred.

G. EPA reserves the right to bring an action against Respondents pursuant to Section 107 of CERCLA, 42 U.S.C. § 9607, for recovery of all response costs incurred by the United States in connection with this Order and not reimbursed by Respondents, as well as any other costs incurred by the United States in connection with response actions conducted pursuant to CERCLA at the Site. This reservation shall include but not be limited to past costs, direct costs, indirect costs, the costs of oversight, the costs of analyzing the cost documentation to support oversight cost demand, as well as accrued interest as provided in Section 107(a) of CERCLA, 42 U.S.C. § 9607(a).

XX. COMMUNITY RELATIONS

As requested by EPA, Respondents shall participate in the preparation of all appropriate information disseminated to the public and in public meetings which may be held or sponsored by EPA to explain activities at or concerning the Site (OU1).

XXI. GENERAL PROVISIONS

A. Nothing in this Order shall constitute or be construed as a release from any claim, cause of action, or demand in law or equity against any person, firm, partnership, or corporation not

AR000063

bound by this Order for any liability it may have arising out of or relating in any way to the generation, storage, treatment, handling, transportation, release, or disposal of any hazardous substances, hazardous wastes, pollutants, or contaminants found at, taken to, or taken from the Site.

B. This Order does not constitute any decision on pre-authorization of funds under Section 111(a)(2) of CERCLA, 42 U.S.C. § 9611(a)(2).

C. Neither EPA nor the United States, by issuance of this Order, assumes any liability for any acts or omissions by Respondents, or Respondents' employees, agents, contractors, or consultants engaged to carry out any action or activity pursuant to this Order, nor shall EPA or the United States be held as a party to any contract entered into by Respondents, Respondents' employees, agents, contractors, or consultants engaged to carry out the requirements of this Order.

D. Nothing herein shall constitute or be construed as a satisfaction or release from liability of Respondents or any other person.

XXII. EFFECTIVE DATE AND OPPORTUNITY TO CONFER

A. Not later than twenty-five (25) days from the date of issuance of this Order, Respondents may confer with EPA to discuss the scope and applicability of this Order, the findings upon which this Order is based, the appropriateness of any action or activity required to be undertaken hereby, or other issues directly relevant to issuance of this Order. Such a conference

is not, and shall not be deemed to be, an adversarial hearing or part of a proceeding to challenge this Order, and no official stenographic record of such proceeding shall be kept. Any request for a conference within the prescribed time frame shall be made to:

Kenneth J. Markowitz
Assistant Regional Counsel
U.S. Environmental Protection Agency
841 Chestnut Building (3RC21)
Philadelphia, Pennsylvania 19107
(215) 597-3186

B. This Order is deemed "issued" on the date it is signed by the Regional Administrator of EPA Region III. This Order shall become effective ninety (90) days following the date on which it is issued.

XXIII. NOTICE OF INTENT TO COMPLY

A. Respondents shall provide, not later than five (5) days after the effective date of this Order, written notice to EPA's Remedial Project Manager stating whether they will comply with the terms of this Order. If Respondents do not unequivocally and unqualifiedly commit to perform the RD and RA as provided by this Order, they shall be deemed to have violated this Order and to have failed or refused to comply with this Order. Respondents shall describe, using facts that exist on or prior to the effective date of this Order, any "sufficient cause" defenses asserted by Respondents under Sections 106(b) and 107(c)(3) of CERCLA, 42 U.S.C. §§ 9606(b) and 9607(c)(3). The absence of a response by EPA to the notice required by this Section shall not be deemed to be acceptance of Respondents' assertions.

AR000065

B. Failure by any Respondent to provide such notice shall be a violation of this Order and deemed to be a decision by such Respondent not to comply with the terms of this Order. Said failure to comply may trigger an agency decision to file a judicial action or to initiate a Superfund response action at the Site.

XXIV. CERTIFICATION OF COMPLETION AND TERMINATION

A. Within ninety (90) days after Respondents conclude that the RA has been fully performed and the remedial objectives proposed in the ROD have been attained, they shall so notify EPA. Respondents shall conduct a pre-certification inspection to be attended by the EPA Remedial Project Manager, a Registered Professional Engineer and Respondents' Project Coordinator, to be followed by a written report submitted by the Respondents to EPA, within thirty (30) days of the pre-certification inspection. This report shall certify that the RA has been completed in full satisfaction of the requirements of this Order. If, after completion of the pre-certification inspection and receipt and review of the written report, EPA determines that the RA or any portion thereof has not been completed in accordance with this Order, EPA shall notify Respondents in writing of the activities that must be undertaken to complete the RA and shall set forth in the notice a schedule for performance of such activities. Respondents shall then perform all activities described in the notice in accordance with the specifications and schedules established therein. If EPA concludes, following the initial or

AR000066

any subsequent notification of completion by Respondents that the RA has been fully performed in accordance with this Order, EPA shall so certify in writing to Respondents. This certification shall constitute the certification of completion of the RA for purposes of this Order. This certification, however, shall not limit EPA's right to perform periodic reviews pursuant to Section 121(c) of CERCLA, 42 U.S.C. § 9621(c).

B. Within ninety (90) days after Respondents conclude that all phases of the Work have been fully performed, that all remedial objectives proposed in the ROD and/or revised by EPA in the Periodic Review discussed in Section XII of this Order and performance standards set forth in the ROD and to be set forth in the Remedial Design have been attained, and that O&M activities have been completed, Respondents shall so notify EPA by submitting a written report by a Registered Professional Engineer certifying that the Work has been completed in full satisfaction of the requirements of this Order. EPA will require such additional activities as may be necessary to complete the Work or EPA will issue written certification that the Work has been completed, as appropriate, in accordance with the procedures set forth in Section XXIV.A. for certification of completion of the RA. EPA's notification shall not limit EPA's right to perform periodic reviews or to take or require any action that in the judgment of EPA is appropriate at the Site in accordance with Sections 104 and/or 106 of CERCLA, 42 U.S.C. §§ 9604 and/or 9606.

C. The written report provided to EPA pursuant to Section

AR000067

XXIV.B. of this Order shall be accompanied by a sworn certification from the President, Vice President, Secretary, or Treasurer of each Respondent, which certification shall be in the following form:

"Except as provided below, I certify that the information contained in or accompanying this [type of submission] is true, accurate, and complete.

As to [the/those] portion(s) of this [type of submission] for which I cannot personally verify [its/their] accuracy, I certify under the penalty of law that this [type of submission] and all attachments were 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 for knowing violations.

Signature: _____

Name: _____

Title: _____

D. If EPA determines that all activities have been fully performed in accordance with this Order, EPA will so notify the Respondents. In the event EPA determines that activities have not been fully performed in accordance with the requirements of this Order, EPA will notify Respondents in writing of the activities or tasks which must be completed or undertaken to achieve compliance with this Order, together with a schedule for completing such actions.

AR000068

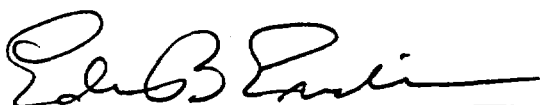
XXV. ADMINISTRATIVE RECORD

The Administrative Record compiled in support of this Order may be reviewed at the EPA Region III offices by contacting the EPA Remedial Project Manager.

XXVI. THE UNITED STATES NOT LIABLE

The United States, by issuance of this Order, assumes no liability for any injuries or damages to persons or property resulting from acts or omissions by Respondents, or their directors, officers, employees, agents, representatives, successors, assigns, contractors, or consultants in carrying out any action or activity pursuant to this Order. Neither EPA nor the United States may be deemed to be a party to any contract entered into by Respondents or their directors, officers, employees, agents, successors, assigns, contractors, or consultants in carrying out any action or activity pursuant to this Order.

IT IS SO ORDERED.



EDWIN B. ERICKSON
Regional Administrator
U.S. Environmental Protection Agency
Region III

SEP 28 1990

DATE

AR000069

STATEMENT OF WORK

Dorney Road Landfill Site

Operable Unit No. 1

I. Introduction

A. The function of this Statement of Work (SOW) is to describe the activities to be performed by the Respondents pursuant to the Unilateral Administrative Order (Order) to which this SOW is attached. The Work to be performed under the Order will implement the remedy that has been selected by EPA for the Dorney Road Landfill NPL Site, Operable Unit No.1 (OU1) in the September 1988 Record of Decision (ROD).

B. The Dorney Road Landfill Site (Site) is located along the southwest boundary of Upper Macungie Township in Lehigh County Pennsylvania, approximately eight miles southwest of Allentown. The ROD for the Site (OU1), appended to this Order as "Exhibit 1", describes the Site. For further information, refer to the Dorney Road RI/FS, dated August 11, 1988.

II. Remedial Action Description

A. The selected remedy is described in the ROD. The major components of the selected remedy will, at a minimum:

1. Eliminate present on-site waters;
2. Regrade the Site;
3. Cover the Site with an impermeable cap;
4. Implement runoff/runoff controls;
5. Monitor runoff;
6. Monitor ground water;
7. Construct a perimeter fence; and
8. Obtain a deed notice.

B. This Remedial Action will protect human health and the environment by preventing dermal contact and incidental ingestion of landfill soil and waste. It will also minimize the continued leaching of precipitation and on-site ponded waters through the contaminated landfill media, thereby isolating the source of

AR000070

ground water contamination.

III. Definition of Remedial Design and Remedial Action

A. 1. Remedial Design is defined as those activities to be undertaken by the Potential Responsible Parties to develop the final plans, drawings, specifications, general provisions, and special requirements necessary to translate the Record of Decision (ROD) into the remedy pursuant to the Remedial Design Work Plan and Order.

2. The final product of the Remedial Design is a technical package that contains, or addresses, all the elements necessary to accomplish the Remedial Action including, in addition to technical elements, all design support activities, permitting and access requirements, and institutional controls.

B. Remedial Action is the actual construction (including procurement) of the remedy, or implementation phase of the site clean up. The Remedial Action is based on the Remedial Design to achieve the clean up results specifies in the Unilateral Order.

IV. EPA Approval

EPA "Approval" of Remedial Action and Remedial Design contractors, plans, specifications, processes and other submittal within the context of this Unilateral Order is administrative in nature to allow the Potential Responsible Parties to proceed to the next step. It does not imply any warranty of performance or that remedy, when constructed, will meet performance standards or will function properly and be accepted.

V. Designation of Project Coordinator

Within ten (10) days after the effective date of the Order, the Respondents will submit in writing for acceptance to EPA the name and qualifications of the Project Coordinator proposed to be used in carrying out the overall coordination and management of all activities required under this Order, including any support entities and staff, in accordance with Section X of this Order. The Project Coordinator may be a member of the Respondents' staff, an independent contractor, or a member of the Design Professional's staff.

VI. Review and Acceptance of Design Professional

A. Within fourteen (14) days after the effective date of the Order the Respondents will submit the name and qualifications of the Design Professional for acceptance by EPA based on project-specific qualifications and professional competence. The Design Professional may come from within the ranks of the Respondents' own staff or through a contractual relationship with

a private consulting entity. In either case, the factors to be considered in EPA acceptance will include professional and ethical reputation, professional registration, demonstrated design experience and qualifications specifically required for the project, sufficient business (professional, technical, and support staff) to accomplish the project within the required schedule, and sufficient business background and financial resources to provide uninterrupted services throughout the life of the project.

B. The submitted information about the Design Professional will include a written statement of qualification in sufficient detail to allow EPA to make a full and timely evaluation, and will be done in accordance with Section VIII.C. of this Order.

VII. Remedial Design Work Plan

A. Within thirty (30) days after EPA's acceptance of a Project Coordinator, the Respondents will submit the Remedial Design Work Plan for approval by EPA. The RD Work Plan will describe the Respondents plan for implementation of the Remedial Design within the terms and conditions of the Order and this SOW. It will contain at a minimum the following:

1. Tentative formation of the Design Team;
2. A Health and Safety Plan for Design activities;
3. Requirements for additional field data collection;
4. QA/QC Plan for field work;
5. Requirements for treatability studies;
6. A schedule of completion of the design, including all required deliverables and design review meetings;
7. The tasks listed in Section VIII.D. of the Order; and
8. A plan to address any Rod Modification or ESD for the Site.

B. EPA will review the RD Work Plan in accordance with Section IX of the Order.

VIII. Design Reviews

Upon approval of the RD Work Plan by EPA, the Respondents will implement the Work Plan in accordance with the RD schedule contained therein. Such implementation shall include EPA review

and/or approval of plans, specifications, submittals, and other deliverables. The purpose of the design reviews is for EPA to assess the feasibility of the design to achieve the Remedial Action (RA) goals in accordance with ROD and Order. EPA "Approval" of design submittals is administrative in nature to allow the Respondents to proceed to the next step. It does not imply acceptance of later design submittals that have not been reviewed, or that the remedy, when constructed, will meet performance standards or will function properly and be accepted. These design reviews will consist of the following:

A. Preliminary Design Submittal: Preliminary design begins with initial design and ends with the completion of approximately 30 percent of the design effort. Besides Preliminary Design, other standard tasks are required before commencing the design such as data gathering and treatability studies, and such activities necessary to support the design, such as the Design Criteria Report, Project Delivery Analysis, and Value Engineering screening. These external tasks are closely related to the actual design, and are typically performed by the designer. By the schedule established in the approved RD Work Plan, the Respondents will submit to EPA the Preliminary Design submittal which will consist of the following:

1. Design Criteria: During the preliminary design phase, concepts supporting the technical aspects of the design, concepts supporting the technical aspects of the design are defined in detail and presented in a "Design Criteria Report" prepared by the designer;
2. Project Delivery Strategy: This describes the designers strategy for delivery the project. It focuses on the management approach to carry out the design and implement the RA. Items to be addressed include procurement method and contracting strategy, phasing alternatives, health and safety considerations, review requirements, and contractor and equipment availability concerns;
3. Results of treatability studies and additional field sampling;
4. Preliminary plans, drawings, and sketches;
5. Outline of required specifications; and
6. Preliminary construction schedule.

B. Intermediate Design Submittal: An Intermediate Design Submittal will be submitted at completion of approximately 60 percent of the design effort. The Intermediate Design will

consist of a continuation and expansion of the Preliminary Design submittal. The Intermediate Design submittal shall be submitted in accordance with the approved RD Design schedule, and will clearly address comments of the Preliminary Design Review, and clearly show any modification of the design as a result of any value engineering recommendations by the Design Professional or others.

C. **Pre-final/Final Design Review:** By the schedule established in the approved RD Work Plan, the Respondents will submit to EPA the Pre-Final and Final Design submittals. The Pre-Final Design will be submitted at completion of approximately 90% of the design effort. The Pre-final and Final Design submittals will include the following:

1. Plans and specifications;
2. Construction schedule;
3. Operation and Maintenance (O&M) Plan;
4. **Field Sampling Plan:** This defines in detail the sampling and data gathering methods to be used during construction of a project. It is the basis for ascertaining whether the performance standards have been achieved by the RA;
5. **Construction Quality Assurance Plan (CQAPP):** This plan describes the site specific components of the quality assurance program. The purpose is to ensure, with a reasonable degree of certainty, that the completed project meets or exceeds all design criteria, plans and specifications. Although the overall content of the CQAPP depends on site specific factors, at minimum, the following elements should be included in the plan:
 - a. Responsibilities and authorities of all organizations and key personnel involved in the design and construction of the site remediation;
 - b. The qualifications of the quality assurance personnel to demonstrate they possess the training and experience necessary to fulfill their identified responsibilities;
 - c. The observations and tests that will be used to monitor construction, and the frequency of performance of these activities;
 - d. The sampling activities, sample size, sample

locations frequency of testing, acceptance and rejection data sheets, problem identification and corrective measures reports, evaluation reports, and final documentation. Also, describe the provisions for the final storage of all records consistent with requirements of the Order.

6. Contingency Plan: This is written for the local affected population in the event of an accident or emergency at the Site. It may incorporate an Air Monitoring Plan and a Spill Control and Countermeasures Plan, if applicable, for the site. The following is a preliminary list of items that could be included in a Contingency Plan:

a. Name of the person responsible for responding in the event of an emergency incident;

b. Plan and date for meeting with the local, State, Federal agencies involved in the cleanup, as well as local emergency squads and hospitals;

c. First aid and medical information including names of personnel trained in first aid, clearly marked map with the locations of medical facilities, all necessary emergency phone numbers, fire, rescue, local hazardous materials teams, and National Emergency Response Team;

d. Air Monitoring Plan; Air monitoring will be necessary at any site when the site specific risk assessment specifies short or long term risk via the inhalation/air transport pathway. This section details the minimum requirements for air monitoring both on-site and at the perimeter of the Site. Air monitoring may include personnel monitoring, on-site and/or off-site area monitoring, and perimeter monitoring. Trigger concentrations to implement the Contingency Plan should be specified; and

e. Spill Control and Countermeasures Plan: This plan will provide contingency measures for potential spills and discharges from material handling and/or transportation. It describes methods, means and facilities required to prevent contamination of soil, water, atmosphere, uncontaminated structures, equipment, or material from the discharge of wastes due to spills; provides for equipment and personnel to perform emergency measures required to contain any spillage and to remove and properly dispose of any

media that becomes contaminated due to spillage, and provides for equipment and personnel to perform decontamination measures that may be required to remove spillage from previous uncontaminated structures, equipment of material.

IX. Remedial Action Work Plan

Within thirty (30) days after approval of the Final Remedial Design submittal, the Respondents shall submit the RA Work Plan for EPA review and approval. The RA Work Plan will describe the Respondents' plan for implementation of the Remedial Action within the terms and conditions of the Order and the SOW and as set forth in the Final Remedial Design. It will contain at a minimum the following:

- A. Description of the work and field operations;
- B. Identification of the Remedial Action Team for construction management, including key personnel, descriptions of duties, and lines of authority;
- C. Identification of the RA construction forces if the construction is to be accomplished by the Respondents' "in-house" resources; or a plan for the qualification and procurement of a RA Contractor if the contractor is to be obtained through a construction contract;
- D. A description of the roles and relationships of the Respondents, the Respondents' Project Coordinator, Resident Engineer, Independent Quality Assurance Team, Remedial Design Professional, and the Remedial Action Contractor;
- E. A plan for the administration of construction changes to include EPA review changes that may impact the implementation of the ROD in accordance with Order and the SOW;
- F. Transport and Disposal Plan for contaminated material that is to be removed transported and disposed of at a RCRA facility;
- G. A plan for implementing the Construction QAPP (CQAPP), including criteria and composition of the Independent Quality Assurance Team;
- H. A plan for implementing any permitting requirements;
- I. A plan to demonstrate compliance with NEPA and other environmental statutes.
- J. A strategy for implementing the contingency plan, air

monitoring plan, and ground water monitoring plan;

K. A Health and Safety Plan for field construction activities;

L. Procedures for data collection during the RA to validate the completion of the project; and

M. Requirements for project closeout;

N. Operation and Maintenance Plan.

X. Review and Acceptance of Remedial Action Contractor

Prior to initiation of any construction activities, the Respondents will submit the name and qualifications of the RA Contractor for acceptance by EPA, in accordance with Section VIII.C. of the Order. Whether the contractor is obtained by way of a construction contract, or through the assignment of Respondent "in-house" resources, the information submitted will include a statement of qualification in sufficient detail to allow EPA to make a full and timely evaluation. Acceptance will be based on professional and ethical reputation, previous experience in the type of construction activities to be implemented, and demonstrated capability to perform the required construction activities.

XI. Selection of the Independent Quality Assurance Team

Prior to initiation of any construction activities, the Respondents will submit the name and qualifications of the Independent Quality Assurance Team (IQAT) for acceptance by EPA. The IQAT is used to provide confidence to the Respondents that the Selected Remedy is constructed to meet project requirements. The IQAT implements the Construction Quality Assurance Plan by selectively testing and inspecting the work of the RA Contractor. The IQAT is required to be "independent" and autonomous from the RA Contractor, and may come from within the ranks of the Respondents' own staff, the RD Professional organization, or through a separate contractual relationship with a private consulting entity. Acceptance will be based on professional and ethical reputation, previous experience in the type of quality assurance activities to be implemented, and demonstrated capability to perform the required activities. In addition, EPA acceptance will be based on the requirement for independence between the IQAT contractor and the RA contractor. The submitted information about the IQAT contractor will include a written statement of qualification in sufficient detail to allow EPA to make a full and timely evaluation of the contractor's qualifications and facilities.

XII. Review of the Construction Management Plan

Within twenty-one (21) days of acceptance of the RA Contractor, the Respondents will submit to EPA for review and acceptance the Construction Management Plan. The RA Contractor is responsible for all activities necessary to manage, control, and document Work so as to ensure compliance with project requirements, i.e., plans and specifications. The Construction Management Plan is prepared by the RA Contractor and it should be indicative of the scope and complexity of the work as well as the project requirements. It is the RA Contractor's management tool and should include:

- A. A description of organization providing quality control, including lines of authority;
- B. The name, qualifications, duties, responsibilities, and authorities of each person who is assigned a quality control function;
- C. A copy of a signed letter which describes the responsibilities and delegates the authorities of the quality control manager;
- D. Methods of performing the quality control inspections, including when inspection should be made and what to look for;
- E. Control testing procedures for each specific test. This includes information which authenticates that personnel and laboratories performing the test are qualified, and that the equipment and procedures to be used complies with applicable standards;
- F. Procedures for scheduling and managing submittals, including those of subcontractors, off-site fabricators, suppliers and purchasing agents; and
- G. Reporting procedures, including frequency of reports and reports formats.

XIII. Pre-Construction Conference

A. Prior to the start of construction, the Respondents will schedule and initiate a pre-construction conference. The participants will include all parties involved in the RA including but not limited to the Respondents and/or representatives including the Project Coordinator, the EPA Remedial Project Manager and any EPA Oversight Officials, the Remedial Design Professional, the Independent Quality Assurance Team, the RA Contractor, and representatives of the State.

B. The purpose of the pre-construction conference will be to establish relationships among all parties involved in the RA, including lines of communication, lines of authority, and scope of work.

XIV. Construction Oversight

During the implementation of the RA the Respondents will be responsible for assuring access for the RPM and/or the Oversight Officials to the Site, all land, and facilities required for the monitoring of compliance with the Order. The Respondents will provide accommodations or office trailer space sufficient for the RPM and/or Oversight Officials to accomplish the oversight duties.

XV. Pre-Final/Final Inspection

A. Upon completion of the construction process for RA, the Respondents shall conduct a pre-final (pre-certification) and final inspection of completed work. In addition to representatives of the Respondents, the participants will include the EPA remedial Project Manager, designated Oversight Officials, and other agencies with a jurisdictional interest in attendance (e.g. the State). The purpose of the inspection is to determine if all aspects of the plans and specifications have been implemented at the Site, and that the remedy is operational and functional. The final Operation and Maintenance Plan will be presented for review sufficiently in advance of the pre-final inspection to allow for comments on these plans to coincide with the inspection comments. If any items have not been completed, the Respondents will develop a punch list which details the outstanding items still requiring completion or correction before acceptance of work. Acceptance of work may not be granted until the start-up and operation of treatment systems. This may also include a demonstrated that performance standards have been met.

B. A final inspection shall be conducted when all the items on the punch list have been completed. All items indicated as requiring correction on the punch list shall be reinspected, and all tests that were originally unsatisfactory shall be conducted again. A final punch list shall be developed for any outstanding deficiencies still requiring correction.

XVI. Project Closeout Report

At the completion of the RA and correction of all punch list items, the Respondents shall prepare a Project Closeout Report which certifies that all items contained in the Order and any incorporated documents (e.g., plans and specifications) have been completed, and that the remedy is operational and functional. The report shall include documentation (e.g. test results)

substantiating that the performance standards have been met, and shall also include "Record Drawings" of the Project. This report is required for the Certification of Completion in accordance with Section XXIV. of the Order.

B. This Order was deemed "issued" when the Regional Administrator signed it on September 28, 1990. The Order shall become effective on February 15, 1991, one hundred and forty (140) days following the date on which the Order was issued.

II. LIMITATION OF MODIFICATION

Except as otherwise stated herein, nothing in this Modification No. 1 ["Modification"] shall alter or otherwise affect any term or condition contained in the Administrative Order.

III. EFFECTIVE DATE

This Modification is effective on the date it is signed by the Region III Regional Administrator.

E. B. Erickson

Edwin B. Erickson
Regional Administrator
EPA Region III

12-27-90

Date

AR000082

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III

94 MAR 29 PM 3:10

IN THE MATTER OF :
:
DORNEY ROAD LANDFILL SITE, :
OPERABLE UNIT NO. 1, UPPER :
MACUNGIE TOWNSHIP, PENNSYLVANIA :
:
CALORIC CORPORATION :
EAST PENN MANUFACTURING :
COMPANY, INC. :
EXIDE CORPORATION :
GAF CORPORATION :
GENERAL ELECTRIC COMPANY :
STROH BREWERY COMPANY :
R. EMORY MABRY :

REGIONAL HEARING CLERK
EPA, REGION III, PHILA. PA

I hereby certify that the
within is a true and correct copy
of the original *modification*
filed in this matter.

[Signature]
Secretary for

Respondents :

Docket No. III-90-45-DC

Proceeding Under Section 106(a)
of the Comprehensive Environmental
Response, Compensation, and
Liability Act of 1980, as amended,
42 U.S.C. § 9606(a)

MODIFICATION NO. 2 TO THE
ADMINISTRATIVE ORDER
FOR REMEDIAL DESIGN AND REMEDIAL ACTION
OPERABLE UNIT NO. 1

Having determined the necessity for implementation of remedial activities at a portion of the Dorney Road Landfill Site in Upper Macungie Township, Lehigh County, Pennsylvania known as "Operable Unit One", the United States Environmental Protection Agency ("EPA") issued an Administrative Order corresponding to EPA Docket No. III-90-45-DC to the above captioned parties on December 27, 1990 ("Order"). Pursuant to Section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended ("CERCLA"), 42 U.S.C. § 9606(a), EPA hereby incorporates the Findings, Conclusions and Determinations of the Administrative Order and further Order as follows:

I. MODIFICATION

The first sentence of Section VIII.D.2.c. of the Order is DELETED and the following clause is ADDED in its place:

AR000083

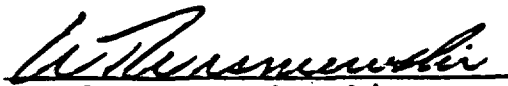
Within one hundred and five (105) days after EPA approves the Pre-final Design, Respondents shall submit a Final Design to EPA for review and approval.

II. LIMITATION OF MODIFICATION

Except as otherwise stated herein, nothing in this Modification No. 2 ("Modification") shall alter or otherwise affect any term or condition contained in the Administrative Order.

III. EFFECTIVE DATE

This Modification is effective on the date it is signed by the Region III Regional Administrator.

for 
Stanley L. Laskowski
Acting Regional Administrator
EPA Region III

3-29-94
Date

AR000084