



149859

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

MAR 19 1999

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

TO: Attached Address List

RE: **Welsh Road Superfund Site**
a/k/a Walsh Road/Barkman Landfill Site

Dear Sir or Madam:

Enclosed is an Administrative Order ("Order") executed in accordance with Section 106 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. § 9606, concerning the Welsh Road Superfund Site, a/k/a Walsh Road/Barkman Landfill Site. By this Order, you are required to implement the Final Landfill Cap Remedial Design approved by the United States Environmental Protection Agency ("EPA") on February 5, 1993, institutional controls, and any additional activities required under Section VI of this Order, including, but not limited to, removal of all vehicles, dumpsters, tires, batteries, underground storage tanks, drums, scrap metal, and other materials from the surface of the Site. This Order also provides that EPA or its authorized representatives may enter the Site at all times necessary to implement this Order and the Record of Decision ("ROD") for the Site. Also enclosed is list of the recipients of this letter.

If you have any questions or comments concerning the Order, please contact Cynthia Nadolski, Senior Assistant Regional Counsel, at (215) 814-2673, or Frank Klanchar, Remedial Project Manager, at (215) 814-3218.

Sincerely,

Abraham Ferdas, Director
Hazardous Site Cleanup Division

Enclosure

cc: Cynthia Nadolski (3RC43)
Frank Klanchar (3HS22)

U.S. ENVIRONMENTAL PROTECTION AGENCY

Welsh Road/Barkman Landfill Superfund Site
Potentially Responsible Parties
3/1/99

1. Mr. Ernest Barkman
R.D. #1, Route 10
Honey Brook, PA 19344

2. Aluminum Company of America (ALCOA)
425 Sixth Avenue
1501 ALCOA Building
Pittsburgh, PA 15219

Mr. Paul H. O'Neill, Chairman and CEO

3. Unisys Corporation
c/o CT Corporation System
1635 Market Street
Philadelphia, PA 19103

Mr. James A. Unruh, CEO

4. E. B. Corp.
R.D. #1, PA Route 10
Honey Brook, PA 19344

Mr. Ernest Barkman, President

5. Bark-Ern, Inc.
R.D. #1, PA Route 10
Honey Brook, PA 19344

Mr. Ernest Barkman, President

6. Ern-Bark, Inc.
R.D. #1, PA Route 10
Honey Brook, PA 19344

Mr. Ernest Barkman, President

7. Mrs. Grace Barkman
R.D. #1, Route 10
Honey Brook, PA 19344

8. Ecolaire, Inc.
c/o Joy Technologies, Inc.
301 Grant Street
Pittsburgh, PA 15219-1490

Mr. John Nils Hanson, Chairman and Executive V.P.

9. Dart Container Corporation of Pennsylvania
60 East Main Street
P.O. Box 546
Leola, PA 17540

Mr. John Murraray, Branch Manager

10. Penguin Industries, Inc.
Airport Industrial Mall
Coatesville, PA 19320

Mr. Robert D. McNeil, President and CEO

11. Sun Company, Inc. (R&M)
1801 Market Street (Ten Penn Center)
27th Floor
Philadelphia, PA 19103-1699

Mr. Robert H. Campbell, Chairman and CEO

12. Fenchurch, Inc.
1120 Post Road
Darian, CT 06820

Mr. James W. Hart, President

13. Waste Management, Inc.
197 Swamp Creek Road
Gilbertsville, PA 19525

Mr. Les W. Rinehardt, Branch Manager

14. Waste Management Disposal Services of PA, Inc.
c/o WMX Technologies, Inc.
3003 Butterfield Road
Oak Brook, IL 60521

Mr. Philip Rooney, President

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III

IN THE MATTER OF:

Welsh Road Superfund Site

Ernest Barkman;
Grace Barkman;
Ern-Bark, Inc.;
Bark-Ern, Inc.;
E.B. Corp., Inc.;
Aluminum Company of America;
Dart Container Corporation
of Pennsylvania;
Ecolaire Incorporated;
Fenchurch, Inc.;
Penguin Industries, Inc.;
Sun Company, Inc. (R&M);
Unisys Corporation;
Waste Management of Pennsylvania, Inc.;
and Waste Management Disposal Services
of PA, Inc.

Respondents.

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

Docket No. III-99-012-DC

ADMINISTRATIVE ORDER
FOR REMEDIAL ACTION

AR001648

TABLE OF CONTENTS

I.	JURISDICTION	1
II.	PARTIES BOUND	1
III.	FINDINGS OF FACT	3
	A. Site Location, History and Uses	3
	B. Responsible Parties	4
	C. Response Actions and Investigations Performed at the Site	6
	D. Release of Hazardous Substances at the Site and Resultant Endangerment	7
	E. Record of Decision	13
	F. Post-ROD Response Actions	15
IV.	CONCLUSIONS OF LAW AND DETERMINATIONS	16
V.	DEFINITIONS	17
VI.	PERFORMANCE OF THE WORK	21
	A. Compliance with the ROD and the Law	21
	B. Selection of Contractor(s)	23
	C. Remedial Action To Be Performed By Respondents	26
	D. Reporting Requirements/Progress Reports	28
	E. Off-Site Shipments	31
	F. Operation and Maintenance ("O&M")	32
	G. Additional Response Actions	33
VII.	SAMPLING AND QUALITY ASSURANCE	34
VIII.	ACCESS TO AND USE OF THE SITE	37
IX.	FAILURE TO PERFORM	40
X.	ENDANGERMENT AND EMERGENCY RESPONSE	41
XI.	EPA PERIODIC REVIEW	42
XII.	DESIGNATED PROJECT COORDINATORS	43
XIII.	PLANS AND REPORTS REQUIRING EPA APPROVAL	46

AR001649

XIV. ASSURANCE OF ABILITY TO COMPLETE WORK	49
XV. INSURANCE	51
XVI. NOTICE OF OBLIGATIONS AND TRANSFER OF INTERESTS	52
XVII. RECORD RETENTION	55
XVIII. ACCESS TO INFORMATION	56
XIX. COMMUNITY RELATIONS	58
XX. CERTIFICATION OF COMPLETION	58
A. Completion of the Remedial Action	58
B. Completion of the Work	60
XXI. NON-LIABILITY OF EPA	61
XXII. ENFORCEMENT AND EPA'S RESERVATION OF RIGHTS	62
XXIII. EFFECT OF ORDER/INVALIDATION OF A PROVISION	64
XXIV. EFFECTIVE DATE AND OPPORTUNITY TO CONFER	64
XXV. NOTICE OF INTENT TO COMPLY	65
XXVI. ADMINISTRATIVE RECORD	66
XXVII. MODIFICATIONS	66

EXHIBIT 1: RECORD OF DECISION

I. JURISDICTION

1. This Administrative Order ("Order"), concerning the Welsh Road Superfund Site ("Site")(a.k.a. Walsh Landfill Site or Barkman Landfill Site) in Chester and Lancaster Counties, Pennsylvania, is issued to the Respondents by the Environmental Protection Agency ("EPA") under the authority vested in the President of the United States by Section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, ("CERCLA"), 42 U.S.C. § 9606(a). This authority was delegated to the Administrator of EPA on January 23, 1987, by Executive Order No. 12580 (52 Fed. Reg. 2923, January 29, 1987), and was further delegated to the EPA Regional Administrators on September 13, 1987, by EPA Delegation No. 14-14-B.
2. Prior notice 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

1. This Order is issued to Ernest Barkman, Grace Barkman, Ern-Bark, Inc., Bark-Ern, Inc., E.B. Corp., Inc., Aluminum Company of America, Dart Container Corporation of Pennsylvania, Ecolaire Incorporated, Fenchurch, Inc., Penguin Industries, Inc., Sun Company, Inc. (R&M), Unisys Corporation, Waste Management of Pennsylvania, Inc., Waste Management Disposal Services of PA, Inc. (collectively, "Respondents").
2. This Order shall apply to and be binding upon the Respondents and their agents, successors and assigns.

3. Except for the requirements of Paragraph VIII.A. (Access to and Use of the Site) and Section XVI (Notice of Obligations and Transfer of Interests) which apply only to those Respondents who own or control the Site (or any portion thereof) or any property where access and/or land use restrictions are needed to implement this Order, all Respondents are jointly and severally responsible for implementing all of the requirements of this Order.

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

5. In the event of any change in name, majority ownership or control of any Respondent, such 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 successor(s) of such Respondent before any change of ownership or control becomes irrevocable.

6. In the event that any Respondent files for bankruptcy or is placed involuntarily in bankruptcy proceedings, such Respondent shall notify EPA within three (3) working days of such filing.

7. 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. If the Respondents are under contract or agreement with any contractor, subcontractor, laboratory, consultant or other person retained to conduct or monitor any portion

of the Work required pursuant to this Order at the time this Order is issued, Respondents shall provide a copy of this Order to all such persons within five (5) days of receipt of this Order. 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 its 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. FINDINGS OF FACT

The following facts, including the Administrative Record for this Order, support issuance of this Order. That Administrative Record is incorporated by reference as if fully set forth herein.

A. Site Location, History and Uses

1. The Welsh Road Site includes an approximately seven-acre area reportedly used for disposal of mixed municipal and industrial wastes between 1963 and approximately 1984. The Site also includes any areas of contamination emanating from the disposal area. The Site is located approximately 1¼ miles north of Honey Brook, Chester and Lancaster Counties, Pennsylvania. The entrance to the Site is located on Welsh Road, approximately 200 feet east of the PA Route 10 intersection.
2. Between 1971 and 1983, the Pennsylvania Department of Environmental Protection ("PADEP") (at the time known as the Pennsylvania Department of Environmental Resources)

conducted inspections at the Site and initiated actions to require the owners and operators of the Site, Ernest and Grace Barkman ("Barkmans"), to obtain a landfill permit or stop disposal activities and properly close the Site. Inspection reports document the disposal of wastes on-site including a leaking oil tanker and 55-gallon drums coated with sludge residue from roofing tar, waste oils, acids and resins. During this period, the Barkmans repeatedly failed to comply with PADEP requirements.

3. In June 1984, EPA sampled several 55-gallon drums and monitoring wells at the Site. Various hazardous substances were detected including toluene, ethylbenzene, 1,1-dichloropropane, chlorobenzene and methylene chloride.

4. EPA proposed the Site for inclusion on the National Priorities List ("NPL") pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, on September 8, 1983. The Site was finalized on the NPL on September 21, 1984 (49 Fed. Reg. 37070).

B. Responsible Parties

1. Ernest Barkman, Grace Barkman, Ern-Bark, Inc., Bark-Ern, Inc., and E.B. Corp., Inc., are the current owners/operators of the Site. The Barkmans, through the corporations Ern-Bark, Inc., and E.B. Corp., Inc., d/b/a Twin County Disposal Company and E.B. Auto Wrecking, owned and/or operated the Site at the time of disposal of hazardous substances.

2. Aluminum Company of America arranged for the disposal of waste containing hazardous substances at the Welsh Road Site and hazardous substances of the type contained in this waste were found at the Site.

3. Dart Container Corporation of Pennsylvania arranged for the disposal of waste containing hazardous substances at the Welsh Road Site and hazardous substances of the type contained in this waste were found at the Site.

4. Ecolaire Incorporated, as the successor to Allen Sherman-Hoff Company, Inc., arranged for the disposal of waste containing hazardous substances at the Welsh Road Site and hazardous substances of the type contained in this waste were found at the Site.

5. Fenchurch, Inc., as a successor to Schick Electric Company and Hart Holding Company, Inc., arranged for the disposal of waste containing hazardous substances at the Welsh Road Site and hazardous substances of the type contained in this waste were found at the Site.

6. Penguin Industries, Inc., arranged for the disposal of waste containing hazardous substances at the Welsh Road Site and hazardous substances of the type contained in this waste were found at the Site.

7. Sun Company, Inc. (R&M), formerly known as Sunoco, arranged for the disposal of waste containing hazardous substances at the Welsh Road Site and hazardous substances of the type contained in this waste were found at the Site.

8. Unisys Corporation, as a successor to Sperry Rand Corporation, arranged for the disposal of waste containing hazardous substances at the Welsh Road Site and hazardous substances of the type contained in this waste were found at the Site.

9. Waste Management of Pennsylvania, Inc., as a successor to E.B. Corp., Inc., was an owner and/or operator of the Site at the time of disposal of hazardous substances.

10. Waste Management Disposal Services of PA, Inc., formerly known as SCA-PA and the successor to Barkman's Trash Disposal Company (a/k/a Barkman Disposal) which was a sole proprietorship owned by Ernest Barkman, was an owner and/or operator of the Site at the time of disposal of hazardous substances.

C. Response Actions and Investigations Performed at the Site

1. On February 22, 1985, EPA issued a unilateral administrative order to Ernest and Grace Barkman pursuant to Section 106 of CERCLA, 42 U.S.C. § 9606, and Section 7003(a) of the Resource Conservation and Recovery Act, 42 U.S.C. § 6973(a). The Order required that the Barkmans characterize, stage and sample 26 drums found on Site; sample visually contaminated soils in the drum staging area; sample a seep located on the eastern perimeter of the landfill; and sample at least eight residential wells in the vicinity of the landfill. After substantial delay, the Barkmans completed these actions with the exception of the residential well sampling, which EPA then completed.

2. In 1985, PADEP entered into a cooperative agreement with EPA to serve as the lead agency for conducting the Remedial Investigation ("RI") and Feasibility Study ("FS") for the Site. RI field studies were initiated in 1987 and a final RI report was completed on December 8, 1988. The human health risks associated with contamination at the Site were documented in the Final Public Health Evaluation completed in January 1990. The Feasibility Study was also completed in January 1990.

3. Based on the RI findings, PADEP issued a drinking water advisory to residents in the vicinity of the Site and began providing bottled drinking water to 44 residences in March 1989 as an interim remedial action.

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

1. The facts below are the major findings of the RI and the Public Health Evaluation concerning the primary contaminants at the Site:

a. Elevated concentrations of arsenic, chromium, copper, lead, and zinc were detected in the composite soil samples collected from the southern portion of the landfill area at the Site. Several sampling locations showed elevated levels of contaminants classified as coal tar derivatives (*i.e.*, acenaphthylene, phenanthrene, fluoranthene, pyrene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, and benzo(a)pyrene, collectively referred to as polynuclear aromatic hydrocarbons ("PAHs")). Subsurface soil samples collected during the construction of a shallow overburden well south of the landfill area showed elevated levels of bis(2-ethylhexyl)phthalate.

b. Groundwater monitoring well samples collected at the Site showed elevated levels of trichloroethane, chloroethane, toluene, total xylenes, bis(2-ethylhexyl)phthalate, arsenic, barium, cadmium, chromium, lead, mercury, zinc, aluminum, iron, and magnesium.

c. Samples collected from residential wells in the vicinity of the Site showed elevated levels of carbon disulfide, 1,1-dichloroethane, chloroform, 2-butanone, 1,1,1-trichloroethane, bromodichloromethane, benzene, toluene, ethylbenzene, total xylenes, di-n-butylphthalate, bis(2-

ethylhexyl)phthalate, iron, magnesium, manganese, barium, cadmium, chromium, cobalt, copper, lead, mercury, zinc, and phenols.

d. Air quality monitoring showed elevated concentrations of chloroform and hydrogen chloride along the western perimeter of the Site.

2. The primary contaminants contributing to the potential for adverse health effects at the Site include 1,1-dichloroethane, chloroform, benzene, trichloroethylene, tetrachloroethylene, PAHs, arsenic, cadmium, lead, and mercury. These contaminants are "hazardous substances" within the meaning of Section 101(14) of CERCLA, 42 U.S.C. § 9601(14) and are included in the list of hazardous substances found at 40 C.F.R. § 302.4.

3. A toxicological assessment of several of the hazardous substances found at the Site is presented below. Those which are carcinogens are classified by the EPA according to the following weight-of-evidence categories: (1) a Group A Human Carcinogen means that there is sufficient evidence from epidemiological studies to support a causal association between exposure and cancer; (2) a Group B1 Probable Human Carcinogen means that there is limited evidence of carcinogenicity of humans from epidemiological studies; (3) a Group B2 Probable Human Carcinogen means that there is limited evidence of carcinogenicity in animals; (4) a Group C Possible Human Carcinogen means that there is limited evidence of carcinogenicity in animals with lack of or inadequate evidence in humans; and (5) a Group D Carcinogen means that there is no evidence of the chemical causing cancer. Some chemicals are classified as systemic toxicants which means that the chemical can potentially damage an organ in the body, other than by cancer.

a. *Arsenic*: Arsenic is a naturally occurring inorganic element widely found in the geologic and aquatic environment. The current evidence suggests that arsenic is a human carcinogen as well as an essential nutrient in the diet of some laboratory animals. Scientific studies report a significant relationship between arsenic ingestion and increased rates of internal organ and skin cancer. The symptom of short-term, high concentration exposure to arsenic include muscle cramps, facial edema, gastrointestinal damage, vomiting, diarrhea and general vascular collapse. EPA has listed arsenic as a Group A probable human carcinogen.

b. *Benzene*: Benzene is a clear, volatile, colorless, highly flammable liquid with a characteristic odor. Benzene is used as a constituent in motor fuels, as a solvent for fats, inks, oils, paints, plastics and rubber, as a chemical intermediate, and in the manufacture of detergents, explosives, pharmaceuticals, and dye-stuffs. Exposure to benzene can occur through skin and eye contact, ingestion and inhalation. Local exposure to benzene may result in skin and eye irritation and dermatitis. Short-term exposure to benzene may lead to central nervous system depression. Headache, dizziness, nausea, convulsions, coma, and death may result from short-term exposure. Long-term exposure to benzene may lead to blood changes such as anemia. Occupational exposure to benzene may result in leukemia. The EPA has classified benzene as a Group A Probable human carcinogen.

c. *Cadmium*: Cadmium can cause a number of adverse health effects. Ingestion of high doses causes severe irritation to the stomach, leading to vomiting and diarrhea, while inhalation can lead to severe irritation of the lungs and may cause death. Drinking water containing high levels of cadmium can cause death. There is very strong evidence that the kidney is the main

target organ of cadmium toxicity following chronic exposure. Long-term ingestion of cadmium has caused kidney damage and fragile bones in humans. Long-term human exposure by the inhalation route may cause kidney damage and lung disease such as emphysema. The most sensitive or critical effect of cadmium exposure is high concentrations of protein in urine, indicative of abnormal kidney function. Long-term inhalation of air containing cadmium by workers is associated with an increased risk of lung cancer. Laboratory rats that breathe cadmium have increased cancer rates. Studies of humans or animals have not demonstrated increased cancer rates from eating or drinking cadmium. EPA classifies cadmium as a Group B1 probable human inhalation carcinogen based on occupational studies.

d. *Chloroform*: Chloroform is widely used as a solvent, in the extraction and purification of pharmaceuticals, and in some sterilization processes. Chloroform is widely distributed in the atmosphere and in water, including municipal drinking water as a consequence of chlorination. Chloroform may produce burns if left in contact with skin. Chloroform is also a relatively potent anesthetic, and can cause liver damage and cardiac arrest at high concentrations. Exposure may result in digestive disturbance, dizziness, mental dullness, and coma. Though no direct evidence exists in humans, chloroform is carcinogenic in experimental animals.

e. *1,1-Dichloroethane ("1,1-DCE")*: 1,1,-DCE is used primarily in the manufacture of polyvinylidene copolymers. Films of copolymers are used in packaging and offer excellent resistance to water vapor and most gases. Acute exposure to high doses of 1,1-DCE may produce nervous system damage while chronic exposure can cause liver damage. Aspects of the reported carcinogenicity of 1,1-DCE appear conflicting, and indicate gender, species, and strain

specificity. Laboratory studies have demonstrated that exposure by inhalation caused angiosarcoma of the liver and other cancers in experimental animals.

f. *Lead*: Lead is used primarily in equipment where pliability and corrosion resistance are required, in solder, in paints and varnishes, in storage batteries, and in alloys. Occupational exposure to lead dust and fumes can occur during mining, refining, smelting, and welding. Children with pica (placing non-food items in the mouth), as well as children exhibiting normal hand-to-mouth activities, who are exposed to lead-contaminated paint chips, dust, or soil can experience elevated blood lead levels, sometimes at elevations significant enough to cause illness. Some of these effects, particularly changes in the levels of certain blood enzymes and in aspects of children's neurobehavioral development, may occur at low blood lead levels. The fetus may also be impacted by blood lead levels below 10 micrograms per deciliter (ug/dl). Lead has been classified as a Group B2 probable human carcinogen. Oral exposure to lead salts, primarily phosphates and acetates, has caused kidney tumors in laboratory animals.

g. *Mercury*: Human exposure to inorganic mercury is mainly through inhalation or ingestion. Occupational studies have demonstrated that chronic exposure to metallic mercury vapor via inhalation primarily affects the central nervous system and the kidneys. Low exposure levels (<100 micrograms (μg) of mercury per cubic meter (m^3)) can cause insomnia, anxiety, and biochemical alterations. Exposures greater than 1 milligram (mg) mercury/ m^3 can result in memory loss, personality changes, body tremors, and damage to lung tissue. Effects on both the nervous system and the kidneys are usually reversible, particularly if the effects are mild. In its carcinogen weight-of-evidence categories, EPA places inorganic mercury in Group D. Human

exposure to organic (usually methyl) mercury is mainly through ingestion. Methyl mercury compounds are known to be toxic via oral exposure, and prenatal and newborn infants are particularly susceptible. Nerve damage causing "pins and needles" sensations in the hands and feet occurred at an estimated body burden of 25 mg of methyl mercury. No confirmed positive report of methyl mercury carcinogenicity in humans has appeared to date, and animal experiments have generally yielded negative results.

h. *Polynuclear Aromatic Hydrocarbons ("PAHs")*: PAHs are a group of chemicals that are formed by the incomplete burning of coal, oil, gas, garbage, tobacco, or almost any other organic substance and can be formed naturally by forest fires and volcanoes. Adverse reproductive effects have occurred in animals that were fed certain PAHs. Long-term ingestion of PAHs in food has resulted in adverse effects on the liver and blood in mice. EPA classifies a small group of PAHs as Group B2 probable human carcinogens. Benzo(a)pyrene is the most potent of the carcinogenic PAHs.

i. *Tetrachloroethylene ("PCE")*: PCE is a Group B2 probable human 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.

j. *Trichloroethylene ("TCE")*: TCE is a colorless, nonflammable, noncorrosive liquid primarily used as a solvent in vapor degreasing. It is also used as a dry-cleaning agent and as a chemical intermediate in the production of paints and varnishes and other chemicals. TCE has low acute toxicity. Chronic inhalation exposure to trichloroethene has been shown to cause liver,

kidney, and nervous system disorders and skin irritation in animals. The EPA has classified TCE as a Group B2 probable human carcinogen.

4. Soils and sediment at the Site contaminated with PAHs, arsenic, and lead pose a potential health hazard to on-site workers through incidental ingestion and dermal contact. Children in the area are also potentially at risk from incidental ingestion of and dermal contact with contaminated sediment, although contamination has been confined to one location.

5. Ground water at the Site contaminated with 1,1-dichloroethane, chloroform, benzene, trichloroethylene, tetrachloroethylene, arsenic, cadmium, lead and mercury poses a potential health hazard to children and adults living and working in the local area and using the ground water for domestic purposes. Exposure can occur through ingestion, inhalation (*e.g.*, during showering) and dermal contact.

E. Record of Decision

1. EPA has decided to address the complex contamination problems at the Welsh Road Site in two phases or operable units. The first operable unit ("OU-1") addresses contamination at the Site currently posing a potential health hazard (*i.e.*, contaminants in residential water supply wells and the contaminated waste and soils that are the source of the residential well contamination). The second operable unit ("OU-2") will address the potential health hazard associated with the potential use of the contaminated ground water at the Site in the future.

2. On March 18, 1990, EPA published notice of its Proposed Remedial Action Plan ("Proposed Plan") for OU-1 of the Site in the *West Chester Daily Local* and the *Lancaster New Era*, major local newspapers of general circulation, pursuant to Section 117 of CERCLA, 42

U.S.C. § 9617. EPA provided an opportunity for written and oral comments from the public on the Proposed Plan and its supporting documents. EPA held a public meeting on March 27, 1990, to explain the Proposed Plan, answer questions, and receive comments.

3. The Administrative Record for the Site, prepared in accordance with Section 113(k) of CERCLA, 42 U.S.C. § 9613(k), includes the Proposed Plan, a transcript of the public meeting, and other supporting documents that EPA relied upon in selecting the remedial action for OU-1 at the Site. The Administrative Record is available to the public at the Honey Brook Public Library and at the EPA Region III office in Philadelphia.

4. EPA's decision on the remedial action to be implemented for OU-1 at the Site is embodied in a Record of Decision ("ROD") executed on June 29, 1990. The Commonwealth of Pennsylvania concurred on the ROD. The ROD includes a responsiveness summary to the public comments. The ROD is appended to this Order as "Exhibit 1" and is incorporated herein by reference.

5. The remedial action selected in the ROD for OU-1 of the Site will protect human health and the environment by eliminating the potential for exposure to contaminants in residential water supply wells, controlling exposure to contaminated wastes and soils at the Site, and reducing the potential for future migration of contaminants. A summary of the selected remedy includes:

a. *Alternative Water Supply.* New water service lines, mains, hydrants, and valves have been constructed and connected to the Honey Brook Borough Water Authority's public water

supply system to provide an alternative water supply to residents impacted by ground water contamination at the Site.

b. *Landfill Cap.* A multi-media landfill cap that meets the requirements of the Pennsylvania Municipal Solid Waste Regulations, 25 Pa. Code § 273.234¹, shall be constructed and maintained at the Site to prevent direct exposure to contaminated wastes and soils and to reduce migration of contaminants to the ground water. Bulky items and debris shall be removed from the surface of the Site prior to construction of the cap. Surface water control measures and a vegetative cover shall be maintained to prevent erosion of the cap. Access to the capped area shall be restricted by construction and maintenance of a fence around the perimeter.

c. *Institutional Controls.* Land use restrictions shall be placed on the deed to the landfill property to prevent future use of the capped area.

d. *Five Year Review.* Site conditions shall be reviewed five years from the commencement of the remedial action to ensure that the remedy remains protective of human health and the environment.

F. Post-ROD Response Actions

1. On August 1, 1990, EPA sent a letter to Ernest Barkman, the only potentially responsible party identified at the time, notifying him of his liability and offering him the opportunity to conduct or fund the remedial action selected in the OU-1 ROD. Mr. Barkman did not respond to EPA's letter and EPA initiated the remedial design for the OU-1 ROD.

¹ At the time the ROD was issued, these regulations were found in 25 Pa. Code Chapter 75. The regulations have been subsequently renumbered.

2. The OU-1 remedial action was separated into two components: the waterline and the cap. EPA completed the remedial design for the waterline and is currently implementing the waterline component of the remedial action. EPA approved the final remedial design for the landfill cap on February 5, 1993.

IV. CONCLUSIONS OF LAW AND DETERMINATIONS

1. The Welsh Road Superfund Site is a "facility" as defined in Section 101(9) of CERCLA, 42 U.S.C. § 9601(9).
2. "Hazardous Substances", as that term is defined in Section 101(14) of CERCLA, 42 U.S.C. § 9601(14), have been disposed of, deposited, stored, placed, or have otherwise come to be located on, and remain at, the Site.
3. The hazardous substances at the Site are being released or threaten to be released, as "release" is defined in Section 101(22) of CERCLA, 42 U.S.C. § 9601(22), from the Site into the environment, and may present an imminent and substantial endangerment to the public health or welfare or the environment.
4. Respondents are all "persons" within the meaning of Section 101(21) of CERCLA, 42 U.S.C. § 9601(21).
5. Respondents Ernest Barkman, Grace Barkman, Ern-Bark, Inc., Bark-Ern, Inc., E.B. Corp., Inc., Waste Management of Pennsylvania, Inc., and Waste Management Disposal Services of PA, Inc., are persons who currently own and/or owned or operated a portion of the Site at the time of disposal of hazardous substances, as the term "owner or operator" is defined at Section

101(20) of CERCLA, 42 U.S.C. § 9601(20), and are therefore liable pursuant to Section 107(a)(1) and/or 107(a)(2) of CERCLA, 42 U.S.C. § 9607(a)(1) and/or 9607(a)(2).

6. Respondents Aluminum Company of America, Dart Container Corporation of Pennsylvania, Ecolaire Incorporated, Fenchurch, Inc., Penguin Industries, Inc., Sun Company, Inc. (R&M), and Unisys Corporation are all persons who by contract, agreement or otherwise arranged for disposal or treatment, or arranged with a transporter for disposal or treatment of hazardous substances owned or possessed by such persons; hazardous substances of the type for which these Respondents and/or their predecessors in interest arranged for disposal have been found at the Site. Therefore, these Respondents are liable pursuant to Section 107(a)(3) of CERCLA, 42 U.S.C. § 9607(a)(3).

7. EPA has determined that actual or threatened releases of hazardous substances from this Site, if not addressed by implementing the response actions selected in the ROD and by achieving the Performance Standards set forth in the ROD, may present an imminent and substantial endangerment to public health, welfare, or the environment.

8. EPA has determined that in order to implement the response actions selected in the ROD, the Work required by this Order must be performed.

V. DEFINITIONS

Unless otherwise expressly provided herein, terms used in this Order that are defined in CERCLA or in regulations promulgated pursuant to 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:

1. "CERCLA" shall mean the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. §§ 9601 - 9675.
2. "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.
3. "Data Quality Objectives" or "DQOs" are qualitative and quantitative statements which specify the quality of the data required to support EPA decisions during the remedial response actions. DQOs are determined based on the end uses of the data to be collected.
4. "Duly Authorized Representative" shall mean a person designated in accordance with the procedures set forth in 40 C.F.R. § 270.11(b) and approved as a Duly Authorized Representative by EPA.
5. "EPA" shall mean the United States Environmental Protection Agency and any successor departments or agencies of the United States.
6. "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.
7. "Operation and Maintenance" or "O&M" shall mean all activities required to ensure the long-term effectiveness of the Remedial Action as detailed in the Operation and Maintenance

Plan developed pursuant to this Order and the ROD, and approved by EPA. Operation and maintenance requirements are not limited to the requirements identified in the Final Landfill Cap Remedial Design approved by EPA on February 5, 1993. The O&M requirements in the Remedial Design are intended to ensure that the landfill cap is fully operational and functional and are not intended to ensure the long-term effectiveness of the remedy.

8. "Order" shall mean this Order and all exhibits appended hereto. In the event of conflict between the Order and any exhibit, the Order shall control.

9. "Owner/operator Respondents" shall mean Ernest Barkman, Grace Barkman, Ern-Bark, Inc., Bark-Ern, Inc., and E.B. Corp., Inc.

10. "PADEP" shall mean the Pennsylvania Department of Environmental Protection, f/k/a the Pennsylvania Department of Environmental Resources, and any successor departments or agencies.

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

"Performance Standards" shall include: (1) those Standards set forth in Section X of the ROD which are applicable to the Remedial Action and Work required by this Order; (2) the applicable or relevant and appropriate requirements set forth in Section XI of the ROD which are applicable to the Remedial Action and Work required by this Order; and (3) any Performance Standards in the Final Landfill Cap Remedial Design approved by EPA on February 5, 1993.

12. "Record of Decision" or "ROD" shall mean, unless otherwise stated, the EPA Record of Decision for Operable Unit One of the Walsh Landfill Site (a.k.a. Welsh Road/Barkman landfill Site), which was signed on June 29, 1990, by the Regional Administrator of EPA Region III and all attachments thereto. The ROD is appended hereto as Exhibit 1.

13. "Remedial Action" or "RA" shall mean those activities, except for Operation and Maintenance ("O&M"), to be undertaken by Respondents to implement the Final Landfill Cap Remedial Design approved by EPA on February 5, 1993, institutional controls, and any additional activities required under Section VI (Performance of the Work) and Section XIII (Plans and Reports Requiring EPA Approval) of this Order, including, but not limited to, removal of all vehicles, dumpsters, tires, batteries, underground storage tanks, drums, scrap metal, and other materials from the surface of the Site.

14. "Remedial Action Work Plan" shall mean a plan for Remedial Action, including a schedule for implementation of Remedial Action, submitted by Respondents pursuant to Paragraph VI.C.3. of this Order and approved by EPA.

15. "Remedial Design" shall mean the Final Landfill Cap Remedial Design approved by EPA on February 5, 1993.

16. "Respondents" shall mean Ernest Barkman, Grace Barkman, Ern-Bark, Inc., Bark-Ern, Inc., E.B. corp., Inc., Aluminum Company of America, Dart Container Corporation of Pennsylvania, Ecolaire Incorporated, Fenchurch, Inc., Penguin Industries, Inc., Sun Company, Inc. (R&M), Unisys Corporation, Waste Management of Pennsylvania, Inc., and Waste Management Disposal Services of PA, Inc.

17. "Site" shall mean the Welsh Road Superfund Site (a.k.a. Walsh Landfill/Barkman Landfill Site), a "facility" as defined in Section 101(9) of CERCLA, 42 U.S.C. § 9601(9). The Site is located in Chester and Lancaster Counties, Pennsylvania. The Site includes an approximately seven-acre area used for disposal of mixed municipal and industrial wastes and all of the areas to which Site-related contaminants have come to be located.

18. "State" shall mean the Commonwealth of Pennsylvania.

19. "Waste Material" shall mean (1) any "hazardous substance" under Section 101(14) of CERCLA, 42 U.S.C. § 9601(14), and (2) any pollutant or contaminant under Section 101(33) of CERCLA, 42 U.S.C. § 9601(33).

20. "Work" shall mean all activities Respondents are required to perform under this Order to implement the landfill cap, fence, and deed restriction components of the remedy selected in Section X of the ROD. The "Work" includes the Remedial Action and O&M as defined above, tasks to be performed in accordance with the Final Landfill Cap Remedial Design approved by EPA on February 5, 1993, and any EPA-approved Work Plan required by this Order, and any other activities required to be undertaken pursuant to this Order.

VI. PERFORMANCE OF THE WORK

A. Compliance with the ROD and the Law

1. Based on the foregoing, and the Administrative Record supporting this Order, it is hereby ordered that Respondents implement the the landfill cap, fence, and land use (deed) restriction components of the remedy selected in Section X of the ROD, including, but not limited to,

removal of all vehicles, dumpsters, tires, batteries, underground storage tanks, drums, scrap metal, and other materials from the surface of the Site. This Work shall be conducted in accordance with CERCLA, the NCP, and the requirements and schedules specified in this Order and any future written modifications to this Order, including, but not limited to, achieving the applicable Performance Standards as defined in Paragraph 10 of Section V of this Order.

Respondents shall jointly propose contractors and shall jointly comply with the provisions of this Section VI of the Order.

2. Nothing in this Order, in Section X of the ROD (Selected Remedy), or in EPA's approval of the Remedial Action Work Plan, constitutes a warranty or representation of any kind by EPA that compliance with this Order, the ROD, or the EPA-approved Remedial Action Work Plan will achieve the Performance Standards, or that such compliance will foreclose EPA from seeking compliance with all terms and conditions of this Order, including, but not limited to, the Performance Standards.

3. All actions and activities carried out by Respondents pursuant to this Order shall be performed in accordance with all applicable federal, state, and local laws and regulations. Respondents shall also comply with all applicable or relevant and appropriate requirements of federal and state environmental laws and regulations and relevant guidance documents as set forth in the ROD.

4. Respondents shall obtain all permits and authorizations necessary for off-Site Work and shall submit timely and complete applications and requests for any such permits or authorizations.

5. This Order is not, and shall not be construed to be, a permit issued pursuant to any federal, state, or local statute or regulation.

6. In the event EPA determines that Respondents have failed to implement any provision(s) of the Work in an adequate or timely manner, or has otherwise violated this Order, EPA may exercise any and all rights it may have, including but not limited to, those expressly reserved in Section XXII (Enforcement and EPA's Reservation of Rights) of this Order.

B. Selection of Contractor(s)

1. General

a. All aspects of the Work to be performed by the Respondents pursuant to this Order shall be under the direction and supervision of Respondents' Project Coordinator as approved by EPA pursuant to Section XII (Designated Project Coordinators) of this Order.

b. Neither the United States on behalf of EPA, nor EPA, shall be held out to be, or be considered, a party to any contract between or among Respondents and any contractor, including any subcontractor, or other person(s) retained to conduct Work pursuant to this Order.

c. For purposes of this Section VI.B (Selection of Contractor(s)), the term "contractor(s)" shall be deemed to include contractor(s) and subcontractor(s).

2. Construction Management Contractor

a. Within five (5) days after the effective date of this Order, the Respondents shall notify EPA and the State in writing of the name, title, and qualifications of the Construction Management Contractor to be used to prepare the Remedial Action Work Plan and oversee its implementation.

b. EPA will notify Respondents in writing of its acceptance or disapproval of the selection of the Construction Management Contractor. If EPA disapproves of the selection of the Respondents' proposed Construction Management Contractor, the Respondents shall submit to EPA the names, titles, and qualification of at least three (3) contractors who would be acceptable to the Respondents within fourteen (14) days of receipt of EPA's disapproval. Except as provided below, EPA will provide written notice of the name of the contractor(s) whose selection EPA accepts. The Respondents may select any contractor(s) from that list and shall notify EPA and the State in writing of the name(s) of the contractor(s) selected within fourteen (14) days of EPA's designation. The Respondents shall notify EPA and the State of the date the Respondents enter into an agreement or contract with such contractor(s) to perform the Work for which the selection of such contractor(s) were accepted by EPA. In the event EPA does not accept the selection of any of the contractors proposed in the Respondents' list, EPA may direct the Respondents to submit to EPA the names and qualifications of at least three (3) additional contractors whose selection would be acceptable to the Respondents within fourteen (14) days of receipt of EPA's disapproval.

c. If at any time during the pendency of this Order a decision is made by the Respondents to retain an additional or substitute Construction Management Contractor, the Respondents shall give written notification to EPA and shall obtain acceptance from EPA in accordance with the procedures described in Paragraphs VI.B.2.a. and b., above, before any new contractor performs, directs, or supervises any Work pursuant to this Order.

3. Construction Contractor(s)

a. Within thirty (30) days after EPA approves the Remedial Action Work Plan submitted by the Respondents pursuant to Paragraph 1 of Section VI.C. of this Order, and prior to the commencement of any Work thereunder, the Respondents shall notify EPA in writing of the name(s), title(s) and qualifications of all contractor(s) and the personnel of such contractor(s) proposed to be used in carrying out Work required by such approved Remedial Action Work Plan.

b. EPA will accept or disapprove the selection of the Construction Contractor(s) proposed by the Respondents in accordance with the procedures described for the acceptance or disapproval of Construction Management Contractor in Paragraph VI.B.2.b. above.

c. If at any time during the pendency of this Order a decision is made by the Respondents to retain an additional or substitute Construction Contractor, the Respondents shall give written notification to EPA and shall obtain acceptance of the selection from EPA in accordance with the procedures described in Paragraphs VI.B.2.a. and b., above, before the new contractor(s) performs, directs, or supervises any Work pursuant to this Order.

4. Disapproval of Contractor(s)

EPA retains the right to disapprove at any time the selection of contractors, supervisory personnel and other persons retained to conduct any of the Work required by this Order. In such event, the Respondents shall propose replacements in accordance with the requirements of this Section VI.

C. Remedial Action To Be Performed By Respondents

1. Remedial Action Work Plan

a. Not later than thirty (30) days after Respondents notify EPA and the State of their selection of a Construction Management Contractor acceptable to EPA pursuant to Paragraph 2 of Section VI.B. of this Order, Respondents shall submit a Remedial Action Work Plan ("RA Work Plan") to implement clearing of the Site and the landfill cap, fence, and deed restriction components of the remedy to EPA for review and approval. The RA Work Plan shall be developed in accordance with the ROD, any amendment to the ROD, and any Explanation of Significant Differences ("ESD") issued by EPA pursuant to Section 117 of CERCLA, 42 U.S.C. § 9617 and shall be consistent with the EPA-approved Final Landfill Cap Remedial Design approved by EPA on February 5, 1993. The RA Work Plan shall include, at a minimum, (1) the methodologies and plans for removal of all vehicles, dumpsters, tires, batteries, underground storage tanks, drums, scrap metal, and other materials from the surface of the Site and implementation of the Final Landfill Cap Remedial Design; (2) the process for selection of the Construction Contractor(s); (3) a Construction Quality Assurance Plan ("CQAP") detailing the approach to quality assurance to be used during the clearing of the Site and construction activities, the person(s) responsible for implementing the CQAP, and documentation that this person(s) is independent of the Construction Contractor(s); (4) a Sampling and Analysis Plan ("SAP") prepared pursuant to Section VII (Sampling and Quality Assurance) of this Order; (5) the process for identification of and satisfactory compliance with any applicable permitting requirements; (6) an Operations and Maintenance ("O&M") Plan; (7) a Contingency Plan; and

(8) a Performance Standards Assessment Plan. The RA Work Plan shall also include an expeditious schedule for implementing all the tasks in the RA Work Plan and shall identify the key personnel responsible for implementing each task.

b. Not later than thirty (30) days after Respondents notify EPA and the State of their selection of a Construction Management Contractor acceptable to EPA pursuant to Paragraph 2 of Section VI.B. of this Order, Respondents shall submit for EPA acceptance a Health and Safety Plan for Remedial Action activities. Upon acceptance by EPA, the Health and Safety Plan for the Remedial Action shall be incorporated in, and enforceable as part of the EPA-approved Remedial Action Work Plan. The Respondents shall ensure that the Health and Safety Plan for Remedial Action, as accepted by EPA, is met by Respondents' contractor(s).

c. Upon approval by EPA, the RA Work Plan shall be incorporated into this Order as a requirement of this Order.

2. Remedial Action

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

b. Respondents shall submit to EPA a copy of any solicitation documents, including but not limited to the Request For Proposals used to procure a Construction Contractor(s), not later than five (5) days after publishing the solicitation documents.

c. Not later than twenty-one (21) days after EPA's acceptance of the Construction Contractor(s) in accordance with Paragraph 3 of Section VI.B. of this Order, Respondents shall submit to EPA, for approval by EPA, a Construction Management Plan. 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 shall be incorporated into this Order and made an enforceable part hereof.

d. Within thirty (30) 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 the Remedial Action including the EPA-approved RA Work Plan and the EPA-approved Construction Management Plan.

e. The Work performed by the Respondents pursuant to this Order shall, at a minimum, achieve the Performance Standards specified for the Remedial Action in the Record of Decision and in the EPA-approved Remedial Design and shall be consistent with CERCLA and the NCP.

f. Notwithstanding any action by EPA, Respondents remain fully responsible for achieving the Performance Standards for the Remedial Action set forth in the ROD and the EPA-approved Remedial Design.

D. Reporting Requirements/Progress Reports

1. In addition to any other requirement of this Order, Respondents shall submit to EPA three (3) copies, and to the State, two (2) copies, of a written monthly progress report that provides a

summary of actions and activities undertaken pursuant to this Order. The progress reports shall be submitted on or before the fifth day of each calendar month following the effective date of this Order. Respondents' obligation to submit progress reports continues until EPA gives 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. The monthly progress report shall: (a) describe the actions which have been taken toward achieving compliance with this Order during the previous month; (b) include all results of sampling and tests and all other data pertaining to the Work received or generated by Respondents or their contractors or agents (and not previously submitted to EPA) in the previous month; (c) identify all work plans, plans, and other deliverables required by this Order which were completed and submitted during the previous month; (d) describe all actions, including, but not limited to, data collection and implementation of work plans, which are scheduled for the next month and provide other information relating to the progress of construction, including, but not limited to, critical path diagrams, Gantt charts, and Pert charts; (e) include information regarding percentage or quantities of Work completed, delays encountered or anticipated that may affect the future schedule for implementation of the Work, and a description of efforts made to mitigate those delays or anticipated delays; (f) describe any modifications to the work plans or other schedules that Respondents have proposed to EPA or that have been approved by EPA; and (g) describe all activities, as approved by EPA under Section XIX (Community Relations) undertaken in support of the Community Relations Plan during the previous month and those to

be undertaken in the next month. If requested by EPA, Respondents shall also provide briefings for EPA and the State to discuss the progress of the Work.

2. Except as otherwise provided in the next sentence, Respondents shall notify EPA of any anticipated change to the EPA-approved schedule for performance of any activity including, but not limited to, implementation of work plans, no later than seven (7) days prior to the scheduled performance of the activity. Notwithstanding the foregoing, Respondents shall notify EPA of any anticipated change to the EPA-approved schedule for the performance of data collection no later than thirty (30) days prior to the performance of such activity, unless otherwise directed by EPA. All modifications to the EPA-approved schedule must be approved by EPA in writing.

3. In addition to the reporting required by Section 103 of CERCLA, 42 U.S.C. § 9603, and Section 304 of the Emergency Planning and Community Right-to-Know Act ("EPCRA"), 42 U.S.C. § 11004, upon the occurrence of any event during performance of the Work that Respondents are required to report pursuant to Section 103 of CERCLA, 42 U.S.C. § 9603, or Section 304 of EPCRA, 42 U.S.C. § 11004, Respondents shall, within twenty-four (24) hours of the onset of such event, orally notify the EPA Remedial Project Manager ("RPM") or the Chief, Western Pennsylvania Remedial Section, Superfund Remedial Branch, Hazardous Site Cleanup Division, EPA Region III ("Section Chief") (in the event of the unavailability of the EPA Remedial Project Manager), or, in the event that neither the EPA Remedial Project Manager nor the Section Chief is available, the EPA Region III Hotline at (215) 814-9016. Within ten (10) days of the onset of such an event, Respondents shall furnish to EPA and the State a written report, signed by the Respondents' Project Coordinator, setting forth the events which occurred

and the measures taken, and to be taken, in response thereto. Within thirty (30) days of the conclusion of such an event, Respondents shall submit a report setting forth all actions taken in response thereto.

4. Respondents shall submit to EPA two (2) copies, and to the State two (2) copies, each year within thirty (30) days of the anniversary of the effective date of this Order, a report setting forth the status of the Work, which shall at a minimum include a statement of major milestones accomplished in the preceding year, a statement of tasks remaining to be accomplished, and a schedule for implementation of the remaining Work.

5. Failure to submit written reports in accordance with the requirements of this Order shall constitute a violation of this Order.

E. Off-Site Shipments

1. Respondents shall, at least twenty-one (21) days prior to any off-Site shipment of Waste Materials which are generated as part of the Remedial Action activities from the Site to a waste management facility, provide written notification to the appropriate state environmental official in the receiving facility's state and to the EPA Remedial Project Manager of such shipment of Waste Materials. However, the requirement to notify EPA shall not apply to any off-site shipment when the total volume of all shipments from the Site to the facility will not exceed ten (10) cubic yards.

2. Respondents shall include in the written notification the following information: (a) the name and location of the facility to which the hazardous substances or Waste Materials are to be shipped; (b) the type and quantity of the hazardous substances or Waste Materials to be shipped;

(c) the expected schedule for the shipment of the hazardous substances or Waste Materials; and
(d) the method of transportation. Respondents shall notify the state in which the planned receiving facility is located of major changes in the shipment plan, such as a decision to ship the hazardous substances or Waste Materials to another facility within the same state, or to a facility in another state.

3. The identity of the receiving facility and the state will be determined by the Respondents. Respondents shall provide written notification required by this Section VI.E., including the information required by Paragraph 2 of this Section VI.E., immediately above, as soon as practicable, but in no case less than fourteen (14) days before the Waste Materials are actually shipped.

4. All Waste Materials that Respondents remove from the Site 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), 40 C.F.R. § 300.440, and all other applicable or relevant and appropriate federal, state and local laws and regulations.

F. Operation and Maintenance ("O&M")

Respondents shall perform the activities during O&M in accordance with the applicable Performance Standards, the EPA-approved Remedial Design, the EPA-approved RA Work Plan and the EPA-approved O&M Plan to be submitted pursuant to this Order. Notification requirements for off-site shipments of Waste Materials, described above, shall also be met during the O&M.

G. Additional Response Actions

1. In the event that EPA determines that additional response actions are necessary to meet applicable Performance Standards in the ROD, or EPA determines, in accordance with Section XI, below, that the Remedial Action required by this Order is not protective of public health, welfare and/or the environment, EPA may notify Respondents that additional response actions are necessary.
2. Unless otherwise stated by EPA, within thirty (30) days of receipt of notice from EPA that additional response actions are necessary to meet any Performance Standard(s) in the ROD, the EPA-approved Remedial Design, the EPA-approved RA Work Plan or, pursuant to Section XI, below, are necessary to protect public health, welfare and/or the environment, Respondents shall submit to EPA for approval a work plan for the additional response actions. The work plan shall conform to the applicable requirements of this Order.
3. Upon EPA's approval of the work plan for additional response actions, 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. Unless otherwise directed by EPA, Respondents shall not commence physical on-site implementation of the work plan for additional response actions prior to the date for commencement set forth in the EPA-approved plan.
4. Any additional response actions that Respondents propose are necessary to carry out the requirements to the ROD applicable to the Work to be performed pursuant to this Order or to achieve the applicable Performance Standards shall be subject to approval by EPA, and, if

authorized by EPA, shall be completed by Respondents in accordance with plans, specifications, and schedules approved by EPA.

5. If required by Sections 113(k)(2) or 117 of CERCLA, 42 U.S.C. §§ 9613(k)(2) or 9617, or the NCP, 40 C.F.R. Part 300, Respondents and the public will be provided with an opportunity to submit written comments for the record during the public comment period on any additional response actions proposed pursuant to this Section VI.G. After the expiration of any such required comment period, the Director, Hazardous Site Cleanup Division, EPA Region III, or his/her delegate will determine in writing whether additional response actions are appropriate.

VII. SAMPLING AND QUALITY ASSURANCE

1. Respondents shall consult with EPA in planning for, and prior to, all sampling and analysis required by this Order, and by any plan which EPA approves pursuant to this Order. Unless otherwise directed by the EPA Remedial Project Manager, Respondents shall not commence sampling until EPA approves the Remedial Action Work Plan and the Sampling and Analysis Plan ("SAP").

2. Respondents shall prepare a SAP, consisting of a Quality Assurance Project Plan ("QAPjP") and a Field Sampling Plan ("FSP"), for sample collection, transportation, analysis, validation and reporting to be conducted pursuant to this Order. The SAP shall be submitted as part of the Remedial Action Work Plan to the EPA Remedial Project Manager for review and approval prior to commencing sampling and analysis or field investigation. Each plan shall specify, for the phase of activity addressed, the data quality objectives ("DQOs"), sample

collection and transportation procedures, data analysis methods, data reduction, data review, and reporting procedures. The FSP shall also include the types, locations, analytical parameters, and frequency of samples. Selection of analytical methods shall be justified in conjunction with the DQOs. The guidelines referenced in Paragraph 3 of this Section VII., immediately below, and any additional guidance provided to the Respondents by EPA, shall be followed in the preparation of the SAP.

3. While conducting all sample collection and analysis activities required by this Order, Respondents shall implement quality assurance, quality control and chain of custody procedures in accordance with "EPA Requirements for Quality Assurance Project Plans for Environmental Data Operation," (US EPA Quality Assurance Management Staff: August 1994) (EPA QA/R-5); "EPA NEIC Policies and Procedures Manual," (May 1986) (EPA 330/978-001-R); National Functional Guidelines for Inorganic Data Review (EPA 540/R-94/013) and Modifications to the National Functional Guidelines for Inorganic Data Review (EPA Region III: April 1993); National Functional Guidelines for Organic Data Review (EPA 540/R-94/012) and Modifications to the National Functional Guidelines for Organic Data Review (EPA Region III: September 1994); Region III Innovative Approaches to Data Validation," (EPA Region III: September 1994); "Data Quality Objectives Process for Superfund," (EPA 540/R-93/071: September 1994); and subsequent amendments to such guidelines upon notification by EPA to Respondents of such amendments. Amended guidelines shall apply only to procedures conducted after such notification. Prior to the commencement of any sampling and analysis under this Order, Respondents shall submit to EPA for approval a QAPjP for the Work that is

consistent with the NCP and the guidance documents cited above. Respondents shall ensure that EPA and State personnel and their authorized representatives are allowed access at reasonable times to all laboratories utilized by Respondents in implementing this Order. In addition, Respondents shall ensure that such laboratories shall analyze all samples submitted by EPA pursuant to the EPA-approved QAPjP for quality assurance monitoring. Respondents shall ensure that the laboratories they utilize for the analysis of samples taken pursuant to this Order perform all analyses according to accepted EPA methods. Respondents shall submit to EPA the selected laboratory's(ies) Quality Assurance Program Plan ("QAPP") and their qualifications, which shall include, at a minimum, previous certifications, Performance Evaluation ("PE") results, equipment lists and personnel résumés. Respondents shall ensure that all field methodologies utilized in collecting samples for subsequent analysis pursuant to this Order will be conducted in accordance with the procedures set forth in the QAPjP approved by EPA. At the request of EPA, Respondents shall conduct one or more audits of the selected laboratory(ies) to verify analytical capability and compliance with the QAPjP. Auditors shall conduct lab audits during the time the laboratory(ies) is analyzing samples collected pursuant to this Order. The lab audit shall be conducted according to procedures available from the Office of Analytical Services and Quality Assurance, EPA Region III. Audit reports shall be submitted to the EPA Remedial Project Manager within fifteen (15) days of completion of the audit. The Respondents shall report deficiencies, including all those which adversely impact data quality, reliability, or accuracy, and take action to correct such deficiencies within twenty-four (24) hours of the time the Respondents knew or should have known of the deficiency.

4. Upon request, Respondents shall allow split or duplicate samples to be taken by EPA and the State, or their authorized representatives. Respondents shall notify EPA and the State not less than thirty (30) days in advance of any sample collection activity unless shorter notice is agreed to by EPA. In addition, EPA and the State shall have the right to take any additional samples that EPA or the State deem necessary. Upon request, EPA and the State shall allow the Respondents to take split or duplicate samples of any samples taken as part of EPA's oversight of the Respondents' implementation of the Work.

5. Respondents shall submit to EPA and the State two (2) copies each of the results of any sampling and/or test or other data obtained or generated by or on behalf of the Respondents with respect to the Site and/or implementation of this Order unless EPA agrees otherwise.

6. Notwithstanding any provision of this Order, EPA hereby retains all of its information gathering and inspection authorities and rights, including enforcement actions related thereto, under CERCLA, RCRA, and any other applicable statute or regulations.

VIII. ACCESS TO AND USE OF THE SITE

1. If the Site (or any portion thereof), or any other property where access and/or land use restrictions are needed to implement this Order, is owned or controlled by any of the Respondents, such Respondents shall implement the following:

a. Commencing on the effective date of this Order, Respondents shall provide access to EPA, the State, the other Respondents and their respective authorized representatives, employees, agents, consultants, or contractors for the purposes of conducting any activity related

to this Order including, but not limited to, monitoring the work; verifying any data or information submitted to EPA or the State; conducting investigations relating to contamination at or near the Site; obtaining samples; assessing the need for, planning, or implementing additional response actions at or near the Site; inspecting and copying records, operating logs, contracts, or other documents maintained or generated by Respondents or their agents, consistent with Section XVIII (Access to Information); assessing Respondents' compliance with this Order; and determining whether the Site (or any portion thereof) or other property is being used in a manner that is prohibited or restricted, or that may need to be prohibited or restricted, by this Order.

b. Commencing on the effective date of this Order and thereafter, refrain from using the Site (or any portion thereof), or such other property, in any manner that would interfere with or adversely affect the integrity or protectiveness of the remedial measures to be implemented pursuant to this Order. In addition, such Respondents shall refrain from using the Site (or any portion thereof), or such other property, for any purpose which might interfere with, obstruct, or disturb the performance, support, or supervision of the Work, including any EPA-approved operation and maintenance activities taken pursuant to this Order. Unless otherwise required for implementation of the Work under this Order, such restrictions on use of the Site include, but are not limited to, the following: Property deeds for the landfill area shall be modified, where appropriate, to indicate the landfill presence, restrict future use and property development, and to restrict use of ground water by placing limitations on the installation of ground water wells.

2. If the Site (or any portion thereof), or any other property where access and/or land use restrictions are needed to implement this Order, is owned or controlled by persons other than any of the Respondents, Respondents shall use best efforts to secure the following from such persons:

a. An agreement to provide access thereto for EPA, the State, the Respondents and their respective authorized representatives, employees, agents, consultants, or contractors, for the purpose of conducting any activity related to this Order including, but not limited to, those activities listed in Paragraph 1.a. of this Section VIII;

b. An agreement to abide by the obligations and restrictions established by this Paragraph 1.b. of this Section VIII, or that are otherwise necessary to implement, ensure non-interference with, or ensure the protectiveness of the remedial measures to be performed pursuant to this Order. Unless otherwise required for implementation of the Work under this Order, such obligations and restrictions include, but are not limited to the following: Property deeds for the landfill area shall be modified, where appropriate, to indicate the landfill presence, restrict future use and property development, and to restrict use of ground water by placing limitations on the installation of ground water wells.

3. If, within forty-five (45) days of the effective date of this Order, Respondents have not submitted access and/or land use restriction agreements required by Paragraph 2 of this Section VIII, Respondents shall promptly notify EPA in writing and shall include in that notification a summary of the steps that Respondents have taken to attempt to comply with Paragraph 2 of this Section VIII. EPA may, as it deems appropriate, assist Respondents in obtaining access or land use restrictions.

4. If EPA determines that land use restrictions in the form of state or local laws, regulations, ordinances or other governmental controls are needed to implement the remedy selected in the ROD, ensure the integrity and protectiveness thereof, or ensure non-interference therewith, Respondents shall cooperate with EPA's efforts to secure such governmental controls.

5. Notwithstanding any provision of this Order, EPA retains all of its access authorities and rights, as well as all of its rights to require land use restrictions, including enforcement authorities related thereto, under CERCLA, RCRA and any other applicable statutes or regulations.

IX. FAILURE TO PERFORM

1. In the event of an inability or anticipated inability on the part of Respondents to perform any of the actions required by this Order in the time and/or manner required herein, the Respondents' Project Coordinator, as defined in Section XII (Designated Project Coordinators), below, shall notify EPA orally within forty-eight (48) hours of such event and in writing as soon as possible, but in no event more than ten (10) days after Respondents knew or should have known about such event. Such notice shall set forth the reason(s) for, and the expected duration of, the inability to perform; the actions taken and to be taken by Respondents to avoid and mitigate the impact of such inability to perform; and the proposed schedule for completing such actions. Such notification shall not relieve Respondents of any obligation of this Order.

2. 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.

3. Any delay in performance of this Order or inability to perform any action required by this Order shall not affect Respondents' obligation to fully perform all activities required under the terms and conditions of this Order.

4. Failure of Respondents to carry out any requirement of this Order in accordance with the terms and conditions specified herein may result in the unilateral performance of the required actions by EPA pursuant to applicable authorities, an action to recover treble damages pursuant to CERCLA, and/or the initiation of an enforcement action against Respondents to require Respondents to perform such actions, in addition to any other relief that may be available to EPA pursuant to applicable law.

5. Nothing in this Section or any other provision of this Order shall be construed to limit any powers EPA may have under CERCLA, the NCP, or any other law or regulation.

6. Increased costs or expenses associated with implementation of the activities called for in this Order are not justification for any delay in performance or failure to perform.

X. ENDANGERMENT AND EMERGENCY RESPONSE

1. In the event of any action, occurrence, or situation during the performance of the Work which causes or threatens to cause a release of a hazardous substance that constitutes an emergency situation or that may present an immediate threat to the public health or welfare or the environment, Respondents shall, subject to Paragraph 2 of this Section X, immediately take all appropriate action to prevent, abate, or minimize such release or threat of release or endangerment, and shall immediately notify the EPA Remedial Project Manager, or, if the EPA Remedial Project Manager is unavailable, the Chief of the Western Pennsylvania Remedial

Section of the Remedial Branch, Hazardous Site Cleanup Division, EPA Region III. If neither of these persons is available, Respondents shall notify the EPA Region III Hotline at (215) 814-9016. Respondents shall take such actions in consultation with the EPA Remedial Project Manager or other available authorized EPA officer and in accordance with all applicable provisions of the Health and Safety Plans, the Contingency Plans, or any other applicable plans or documents developed and approved pursuant to this Order.

2. Nothing in the preceding Paragraph or in this Order shall be deemed to limit any authority of the EPA to take, direct, or order all appropriate action or to seek an order from the Court to protect human health or welfare or the environment or to prevent, abate, or minimize an actual or threatened release of hazardous substances on, at, or from the Site.

XI. EPA PERIODIC REVIEW

1. Under Section 121(c) of CERCLA, 42 U.S.C. § 9621(c), and any applicable regulations, EPA must review the Remedial Action required by this Order 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 in accordance with Paragraph 3 of this Section XI or to modify work previously performed.

2. If required by Sections 113(k)(2) or 117 of CERCLA, 42 U.S.C. §§ 9613(k)(2) or 9617, or the NCP, Respondents and the public will be provided with an opportunity to submit written comments for the record during the public comment period on any additional response actions proposed by EPA as a result of the review conducted pursuant to Section 121(c) of CERCLA, 42 U.S.C. § 9621(c). After the period for submission of written comments is closed, the Director, Hazardous Site Cleanup Division, EPA Region III, or his/her delegate will determine in writing whether additional response actions are appropriate.

3. If the Director, Hazardous Site Cleanup Division, EPA Region III, or his/her delegate determines that information received, in whole or in part, during the review conducted pursuant to Section 121(c) of CERCLA, 42 U.S.C. § 9621(c), indicates that the Remedial Action required by this Order is not protective of human health and/or the environment, or that additional response activities are necessary to meet the applicable Performance Standards, Respondents shall undertake any additional response actions EPA has determined are appropriate in accordance with Section VI.G. of this Order.

XII. DESIGNATED PROJECT COORDINATORS

1. EPA's Project Coordinator shall be the EPA Remedial Project Manager ("RPM"). EPA's Remedial Project Manager is:

Frank Klanchar (3HS22)
U.S. Environmental Protection Agency
Region III
1650 Arch Street
Philadelphia, PA 19103
Telephone: (215) 814-3218
Fax: (215) 814-3002

2. EPA has the discretionary, non-reviewable 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.
3. The EPA Remedial Project Manager shall have the authority lawfully vested in a Remedial Project Manager by the National Oil and Hazardous Substances Pollution Contingency Plan, 40 C.F.R. Part 300, and any amendment thereto. In addition, the EPA Remedial Project Manager shall have authority, consistent with the NCP, to halt or redirect any Work required by this Order and to take any necessary response action when she/he determines that conditions at the Site may present an imminent and substantial endangerment to public health or welfare or the environment.
4. Within five (5) 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 have the technical expertise sufficient to adequately oversee all aspects of the Work and shall not be acting as an attorney for Respondents in this matter. If Respondents wish to change their Project Coordinator, Respondents shall provide written notice to EPA of the

name and qualifications of the new Project Coordinator at least five (5) days prior to changing the Project Coordinator.

5. Respondents' selection of a Project Coordinator or replacement Project Coordinator shall be subject to EPA acceptance. If EPA does not accept the selection of the Project Coordinator, Respondents shall submit to EPA a list of the names and qualifications of proposed Project Coordinators that would be acceptable to them within fourteen (14) days after receipt of EPA's notice not to accept the Project Coordinator previously selected. EPA will then provide Respondents with written notice identifying each proposed Project Coordinator on the list whose designation would be acceptable to EPA. Within ten (10) days of receipt of EPA's notice identifying acceptable replacement Project Coordinators, Respondents shall select any acceptable Project Coordinator from the list and notify EPA of such selection.

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

7. Unless otherwise directed by the EPA Remedial Project Manager, all communications, whether written or oral, from Respondents to EPA shall be directed to the EPA Remedial Project Manager.

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

XIII. PLANS AND REPORTS REQUIRING EPA APPROVAL

1. Unless otherwise specified in this Order or by the EPA Remedial Project Manager, five (5) copies of all documents, including plans, reports, and other items required to be submitted to EPA for approval pursuant to this Order, shall be submitted to the EPA Remedial Project Manager in accordance with the requirements of this Section. Two (2) copies of each such document shall simultaneously be submitted to the State with one copy being sent to each of the following addresses:

Thomas Mellott, Project Officer
Pennsylvania Department of Environmental Protection
Hazardous Sites Cleanup Program
Lee Park, Suite 6010
555 North Lane
Conshohocken, Pennsylvania 19428
Telephone: (610) 832- 5934; Fax: (610) 832-6259

and

Craig Olewiler, Solid Waste Program Specialist
Pennsylvania Department of Environmental Protection
Bureau of Land Recycling and Waste Management
Hazardous Sites Cleanup Program
RCSOB, 400 Market Street
P.O. Box 8471
Harrisburg, Pennsylvania 17105-8471
Telephone: (717) 783-9816; Fax: (717) 787-0884

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

2. Plans, design documents, proposals, reports or other documents shall be signed by a Duly Authorized Representative (as defined in Paragraph 4 of Section V of this Order) of Respondents. The Remedial Action Work Plan and any other work plan submitted to EPA for approval pursuant to this Order shall specify which documents shall contain the following certification:

"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 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: _____

3. After review of any plan, report or other item which is required to be submitted for approval by EPA pursuant to this Order, EPA shall, (1) approve, in whole or in part, the submission; (2) approve the submission upon specified conditions; (3) modify the submission to cure the deficiencies; (4) direct that the Respondents modify the submission; (5) disapprove, in whole or in part, the submission, notifying Respondents of deficiencies; or (6) any combination of the above.

4. If EPA disapproves a plan, report, or item because EPA determines that it is deficient, Respondents shall be deemed to be in violation of the provision of this Order requiring Respondents to submit such plan, report, or item, and EPA may assume responsibility for performing all or any portion of the Work. Such EPA performance shall not release Respondents from their obligation to comply with the requirements of this Order.
5. In the event of approval, approval upon conditions, or modification by EPA, Respondents shall proceed to take any action required by the plan, report, or other item, as approved or modified by EPA with respect to the modifications or conditions made by EPA.
6. Upon receipt of a notice of disapproval or a notice requiring modification of the submission, Respondents shall, within twenty-one (21) days or such other time as specified by EPA in such notice, correct the deficiencies and resubmit the plan, report, or other item for approval. Notwithstanding the notice of disapproval or a notice requiring modification of the submission, Respondents shall proceed, at the direction of EPA, to take any action required by any non-deficient portion of the submission.
7. In the event that a resubmitted plan, report or other item, or portion thereof, is again disapproved by EPA, EPA may require Respondents to correct the deficiencies, in accordance with Paragraph 6 of this Section, immediately above. EPA also retains the right to amend or develop the plan, report or other item. Respondents shall implement any such plan, report, or item as amended or developed by EPA.
8. All plans, reports, and other items required to be submitted to EPA under this Order shall, upon modification and/or approval by EPA, be deemed to be incorporated into and enforceable

as part of this Order. In the event that EPA approves a portion of a plan, report, or other item required to be submitted to EPA under this Order, the approved portion shall be deemed to be incorporated into and enforceable as part of this Order.

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

10. No failure by EPA to approve, disapprove, or otherwise respond to a document submitted to EPA for approval shall be construed as an approval of such document.

11. EPA shall have the final decision regarding the sufficiency or acceptability of all documents and of any activities performed pursuant to this Order.

XIV. ASSURANCE OF ABILITY TO COMPLETE WORK

1. Within thirty (30) days of the effective date of this Order, Respondents shall demonstrate their ability to complete the Work required by this Order and to pay all claims which may arise from performance of the Work required by this Order by obtaining, and presenting to EPA for approval, financial assurance in the amount of \$5,000,000 in one of the following forms:

- a. A surety bond or performance bond guaranteeing performance of the Work;

- b. One or more letters of credit;
- c. A trust fund;
- d. A guarantee to perform the Work by one or more parent corporations or subsidiaries, or by one or more unrelated corporations that have a substantial business relationship with the Respondents;
- e. A demonstration that the Respondents satisfy the requirements of 40 C.F.R. § 264.143(f); or
- f. Yearly internal financial information sufficient to demonstrate to EPA's satisfaction that Respondents have sufficient assets to complete the Work required by this Order.

2. If Respondents seek to demonstrate the ability to complete the Work through a guarantee by a third party pursuant to Paragraph 1.d. of this Section XIV, Respondents shall demonstrate that the guarantor satisfies the requirements of 40 C.F.R. § 264.143(f). If Respondents seek to demonstrate their ability to complete the Work by means of the financial test or the corporate guarantee, Respondents shall resubmit sworn statements conveying the information required by 40 C.F.R. § 264.143(f) annually, on the anniversary of the effective date of this Order. In the event that EPA determines at any time that the financial assurances provided pursuant to this Section are inadequate, Respondents shall, within thirty (30) days of receipt of notice of EPA's determination, obtain and present to EPA for approval one of the other forms of financial assurance identified in Paragraph 1 of this Section XIV. Respondents'

inability to demonstrate financial ability to complete the Work shall not excuse performance of any activities required under this Order.

3. Such financial assurance shall be maintained by the Respondents until EPA determines in accordance with Section XX of this Order (Certification of Completion) that all Work required pursuant to this Order has been fully performed and all applicable Performance Standards have been met. After Respondents' receipt of a Certification of Completion of the Remedial Action from EPA in accordance with Section XX.A. of this Order, Respondents may petition EPA for a decrease in the amount of financial assurance which must be maintained.

XV. INSURANCE

1. No later than fifteen (15) days before commencing any on-site Work, Respondents shall secure, and shall maintain until the first anniversary of EPA's Certification of Completion of the Remedial Action pursuant to Section XX.A. of this Order, comprehensive general liability insurance with limits of five million dollars, combined single limit, and automobile liability insurance with limits of \$500,000 dollars, combined single limit, naming the United States as an additional insured. In addition, for the duration of this Order, Respondents shall satisfy, or shall ensure that their contractors or subcontractors satisfy, all applicable laws and regulations regarding the provision of worker's compensation insurance for all persons performing the Work on behalf of Respondents in furtherance of this Order. Prior to commencement of the Work under this Order, Respondents shall provide to EPA certificates of such insurance and a copy of each insurance policy. Respondents shall resubmit such certificates and copies of policies each

year on the anniversary of the effective date of this Order. If Respondents demonstrate by evidence satisfactory to EPA that any contractor or subcontractor maintains insurance equivalent to that described above, or insurance covering the same risks but in a lesser amount, then, with respect to that contractor or subcontractor, Respondents need provide only that portion of the insurance described above which is not maintained by the contractor or subcontractor.

2. Respondents may satisfy the provisions of this Section XV if Respondents submit to EPA for approval one of the financial assurance mechanisms of Section XIV of this Order (Assurance of Ability to Complete Work) in at least the amounts stated in Paragraph 1 of this Section XV demonstrating that Respondents are able to pay any claims arising out of Respondents' performance of their obligations under this Order. Such financial assurance mechanism shall meet all of the requirements of Section XIV (Assurance of Ability to Complete Work) of this Order. If Respondents seek to utilize the mechanisms set forth in Section XIV (Assurance of Ability to Complete Work) to satisfy the provisions of this Section XV, Respondents must demonstrate an ability to pay the amounts required under Paragraph 1 of this Section XV, above and beyond that required by the obligations of Section XIV (Assurance of Ability to Complete Work).

XVI. NOTICE OF OBLIGATIONS AND TRANSFER OF INTERESTS

1. Any Respondent that owns or controls any property located within the Site ("Owner Respondents") shall submit to EPA for review and approval, within fifteen (15) days after the effective date of this Order, a notice ("Title Notice") to be filed with the Office of the Recorder

of Deeds for Chester and Lancaster Counties, Pennsylvania. This Title Notice(s) shall notify all successors-in-title that the property is part of the Site, that EPA selected a remedy for the Site on June 29, 1990, and that EPA has issued the Respondents this Order requiring the Respondents to implement certain requirements of the ROD. Such Title Notice(s) shall identify the administrative docket number and the effective date of this Order. The Owner Respondents shall record the Title Notice(s) within ten (10) days of EPA's approval of the Title Notice(s). The Owner Respondents shall provide EPA with a certified copy of the recorded Title Notice(s) within ten (10) days of recording such Title Notice(s).

2. Within fifteen (15) days after the effective date of this Order, Owner Respondents shall record a certified copy of this Order with the Recorder's Office, Registry of Deeds, or other office where land ownership and transfer records ("Land Records") are maintained for Chester and Lancaster Counties, Pennsylvania, in such manner as shall be effective to bring this Order to the attention of any person examining or researching the state and/or quality of the title to the real property (or portions thereof) constituting the Site or searching for any encumbrances, covenants, easements, liens, restrictions, or other limitations relating to said property. At a minimum, such recording shall be made in the Grantor/Grantee and Lot/Block indices of the Land Records for the Site. Thereafter, each deed, title, or other instrument of conveyance for property included in the Site executed by Respondents shall contain a notice stating that the property is subject to this Order and any lien held by EPA pursuant to Section 107(1) of CERCLA, 42 U.S.C. § 9607(1), and shall reference the recorded location of the Order and any restrictions applicable to the property under this Order.

3. Within fifteen (15) days of the effective date of this Order, Owner Respondents shall record at the Recorder's Office, Registry of Deeds, or other appropriate office where land ownership and transfer records are maintained for the property, a notice of obligation to provide access under Section VIII (Access to and Use of the Site) and related covenants. Each subsequent instrument executed by the Owner Respondents conveying an interest in any such property included in the Site shall reference the recorded location of such notice and covenants applicable to the property.

4. At least thirty (30) days prior to the conveyance of any interest in property located within the Site including, but not limited to, fee interests, leasehold interests, and mortgage interests, the Owner Respondents shall give the grantee or transferee-in-interest written notice of this Order and any Site access and use restriction requirements set forth in Section VIII (Access to and Use of the Site). At least thirty (30) days prior to such conveyance, the Owner Respondents shall also give written notice to EPA and the State of the proposed conveyance, including the name, address and telephone number of the grantee or transferee-in-interest and the date on which notice of the Order and Site access and use restriction requirements was given to the grantee.

5. In the event of any such conveyance, Owner Respondents' obligations under this Order, including, but not limited to, their obligation to provide access to and restrict use of the Site, pursuant to Section VIII (Access to and Use of the Site) of this Order, shall continue to be met by such Owner Respondents. In no event shall the conveyance release or otherwise affect the Owner Respondents' obligation to comply with all provisions of this Order, absent the prior written consent of EPA.

XVII. RECORD RETENTION

1. Respondents shall preserve and retain all records and documents now in their possession or control or which come into their possession or control that relate in any manner to the performance of the Work, implementation of this Order, or liability of any person, including Respondents, for the response actions conducted and to be conducted at the Site, regardless of any document retention policy to the contrary, for a minimum of ten (10) years after the Respondents' receipt of EPA's notification pursuant to Section XX.B. (Completion of the Work).
2. 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 its employees, agents, accountants, contractors, subcontractors, consultants or attorneys. Respondents shall ensure that any agreement between Respondents and any agent, contractor, subcontractor, consultant, or other person retained to perform or oversee Work pursuant to this Order shall explicitly require said agent, contractor, subcontractor, consultant, or other person to maintain and preserve, during the pendency of this Order and for a minimum of ten (10) years after Respondents' receipt of EPA's notification pursuant to Paragraph XX.B. (Completion of the Work), all data, records, and documents within their respective possession or control which relate in any way to this Order or to hazardous substance or waste material management and/or disposal at the Site.
3. Upon conclusion of this document retention period, Respondents shall notify EPA at least ninety (90) days prior to the destruction of any such records, documents or information, and, upon request of EPA and subject to Paragraphs B and C of Section XVIII (Access to

Information) of this Order, Respondents shall deliver all such records, documents and information to EPA. In no event shall Respondents destroy such records, documents or information until EPA responds in writing approving such destruction.

XVIII. ACCESS TO INFORMATION

1. Subject to the limitations contained in Paragraphs B and C of this Section XVIII, Respondents shall provide to EPA, within thirty (30) days of receipt of a request by EPA, copies of all documents and information within its possession or control or that of their contractors, subcontractors, or agents relating to activities at the Site or to the implementation of this Order, including, but not limited to, sampling data, analyses of samples, field notes, contractual documents, chain of custody records, manifests, trucking logs, receipts, reports, sample traffic routing, correspondence, or other documents or information related to the Work. Respondents shall also make available to EPA for purposes of investigation, information gathering, or testimony, their employees, agents, or representatives with knowledge of relevant facts concerning the performance of the Work. 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.

2. Respondents may assert business confidentiality claims covering all or part of the documents or information submitted to EPA under this Order to the extent permitted by and in accordance with Section 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7), and 40 C.F.R.

§ 2.203(b). Such assertion shall be made in the manner described in 40 C.F.R. § 2.203(b) and substantiated in accordance with 40 C.F.R. § 2.204(e)(4) at the time the assertion is made.

Documents or information determined to be confidential by EPA (hereinafter referred to as "CBI") will be afforded the protection specified in 40 C.F.R. Part 2, Subpart B. If no claim of confidentiality accompanies documents or information when they are submitted to EPA, or if EPA has notified Respondents that the documents or information are not confidential under the standards of Section 104(e)(7) of CERCLA or 40 C.F.R. Part 2, the public may be given access to such documents or information without further notice to Respondents. No claim of confidentiality shall be made with respect to any data, including, but not limited to, all sampling, analytical, monitoring, hydrogeologic, scientific, chemical, or engineering data, or any other documents or information evidencing conditions at or around the Site.

3. Respondents shall maintain for the period during which this Order is in effect, an index of documents, if any, that Respondents are claiming as CBI and have substantiated as such. The index shall contain, for each document, the date, author, addressee and subject of the document. Upon written request by EPA, Respondents shall submit a copy of the index to EPA.

4. Respondents' obligation to disclose information requested by EPA pursuant to 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. If the Respondents assert such a privilege, they shall provide EPA with the following: (1) the title of the document, record, or information; (2) the date of the document, record, or information; (3) the name and title of the author of the document, record, or information; (4) the name and title of each

addressee and recipient; (5) a description of the contents of the document, record, or information; and (6) the nature and basis of the privilege asserted by Respondents.

5. Respondents shall cooperate with EPA to ensure that all data generated as part of the Work to be performed under this Order are maintained in a computerized system that is compatible with EPA's system. The means of storing and manipulating data generated as part of the Work shall be described in a Data Management Plan, as a component of the SAP. Upon request by EPA, Respondents' computerized data bases shall be provided to EPA within sixty (60) days of said request.

XIX. COMMUNITY RELATIONS

Respondents shall cooperate with EPA and the State in providing information regarding the Work to the public. As requested by EPA, Respondents shall participate in the preparation of such information for dissemination to the public and in public meetings which may be held or sponsored by EPA to explain activities taking place at or concerning the Site.

XX. CERTIFICATION OF COMPLETION

A. Completion of the Remedial Action

1. Within thirty (30) days after Respondents conclude that the Remedial Action has been fully performed in accordance with this Order and any modifications or amendments made hereto, and the applicable Performance Standards have been attained, Respondents shall so certify to EPA in writing and shall schedule and conduct a pre-certification inspection to be

attended by the EPA Remedial Project Manager, a Registered Professional Engineer and Respondents' Project Coordinator. Respondents shall also provide written notice to the State at least ten (10) days prior to the scheduled date of the inspection, and invite the State to such pre-certification inspection. If, after the pre-certification inspection, Respondents still believe that the Remedial Action has been fully performed in accordance with this Order and the applicable Performance Standards have been attained, Respondents shall submit a written report to EPA for approval pursuant to Section XIII (Plans and Reports Requiring EPA Approval) within thirty (30) days of the inspection. In the report, the registered Professional Engineer ("RPE") and a Duly Authorized Representative of the Respondents shall certify pursuant to Paragraph 2 of Section XIII that the Remedial Action has been completed in full satisfaction of the requirements of this Order. The written report shall include as-built drawings signed and stamped by the RPE and certified as required by Paragraph 2 of Section XIII of this Order. If, after completion of the pre-certification inspection and receipt and review of the written report or any subsequent notification of completion by Respondents, EPA determines that the Remedial Action or any portion thereof has not been completed in accordance with this Order or that the applicable Performance Standards have not been achieved, EPA will notify Respondents in writing of the activities that must be undertaken to complete the Remedial Action and/or achieve the applicable Performance Standards. EPA will set forth in the notice a schedule for performance of such activities consistent with the Order or require the Respondents to submit a schedule to EPA for approval pursuant to Section XIII (Plans and Reports Requiring EPA Approval). Respondents

shall perform all activities described in the notice in accordance with the specifications and schedules established pursuant to this Paragraph.

2. If EPA concludes, based on the initial or any subsequent Certification of Completion by Respondents, that the Remedial Action has been fully performed in accordance with this Order and that the applicable Performance Standards have been achieved, EPA will so certify in writing to Respondents. This certification shall constitute the Certification of Completion of the Remedial Action for purposes of this Order. Certification of Completion of the Remedial Action shall not affect Respondents' obligations under this Order that continue beyond the Certification of Completion, including, but not limited to, access, Operation and Maintenance, record retention, indemnification, insurance, payment of fines, and any work to be conducted under Section VI.G. (Additional Response Activities), Section VI.D. (Reporting Requirements/Progress Reports), Section XI (EPA Periodic Review), Section XVII (Record Retention), Section XVIII (Access to Information), and Section XIX (Community Relations). This certification shall not limit EPA's right to perform periodic reviews pursuant to Section 121(c) of CERCLA, 42 U.S.C. § 9621(c).

B. Completion of the Work

1. Within thirty (30) days after Respondents conclude that all phases of the Work required by this Order (including O&M) have been fully performed, that all Performance Standards which are applicable to the Work required by this Order and/or revised by EPA in the Periodic Review discussed in Section XI of this Order and to be set forth in the Remedial Design, have been attained, Respondents shall so notify EPA's Remedial Project Manager by submitting a written

report by an RPE certifying that the Work has been completed in full satisfaction of the requirements of this Order. The report shall also contain a sworn certification from a Duly Authorized Representative of Respondents in the form required by Paragraph 2 of Section XIII of this Order. If, after review of the written report, EPA determines that any portion of the Work has not been completed in accordance with this Order and/or that the applicable Performance Standards have not been achieved, EPA will notify Respondents in writing of the activities that must be undertaken to complete the Work. EPA will set forth in the notice a schedule for performance of such activities consistent with the Order or require the Respondents to submit a schedule to EPA for approval pursuant to Section XIII (Plans and Reports Requiring EPA Approval). Respondents shall perform all activities described in the notice in accordance with the specifications and schedules established therein.

2. If EPA concludes, based on the initial or any subsequent Certification of Completion by Respondents, that the Work has been fully performed in accordance with this Order and that the applicable Performance Standards have been achieved, EPA will so notify the Respondents in writing.

XXI. NON-LIABILITY OF EPA

By issuance of this Order, EPA assumes no liability for any injuries or damages to persons or property resulting from acts or omissions of Respondents or their directors, officers, employees, agents, representatives, successors, assigns, contractors, subcontractors, 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, subcontractors, or consultants in carrying out any action or activity pursuant to this Order.

XXII. ENFORCEMENT AND EPA'S RESERVATION OF RIGHTS

1. EPA reserves all rights, claims, interests, and defenses it has under CERCLA or any other law or in equity.
2. 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, and/or to seek the imposition of statutory penalties or punitive damages.
3. 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.
4. 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.
5. 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 \$27,500 per day pursuant to 40 C.F.R. § 19.4 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. §§ 9604 and/or 9606.

6. 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.

7. 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).

8. Without limitation of any other provision in this Order, EPA reserves the right to bring actions against, and/or issue orders to, Respondents pursuant to applicable authorities for any purpose including, but not limited to, performance of response actions other than those performed by Respondents pursuant to this Order. EPA also reserves the right to amend this Order and require any and all additional work EPA deems necessary to implement the ROD for the Site.

XXIII. EFFECT OF ORDER/INVALIDATION OF A PROVISION

1. Nothing herein shall constitute or be construed as a satisfaction or release from liability of Respondents or any other person.
2. 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 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, waste materials, hazardous wastes, pollutants, or contaminants found at, taken to, or taken from the Site.
3. 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).
4. Invalidation of any provision or requirement of this Order shall not affect the validity of any other provision or requirement of this Order.

XXIV. EFFECTIVE DATE AND OPPORTUNITY TO CONFER

1. This Order is deemed issued on the date it is signed by the Regional Administrator of EPA Region III. This Order shall become effective thirty (30) days following the date on which it is issued.
2. Not later than twenty (20) 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:

Cynthia Nadolski (3RC43)
Senior Assistant Regional Counsel
U.S. Environmental Protection Agency
Region III
1650 Arch Street
Philadelphia, PA 19103
Telephone: (215) 814-2673
Fax: (215) 814-2603

XXV. NOTICE OF INTENT TO COMPLY

1. No later than two (2) days after the effective date of this Order, Respondents shall provide notice in writing to EPA's Remedial Project Manager stating whether Respondents will comply with the terms of this Order. If Respondents do not unequivocally and unqualifiedly commit to perform all the Work required by this Order in such notice, EPA will assume that Respondents have decided not to comply with the terms of the Order and Respondents will be deemed to be in violation of 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 within the meaning of 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 nor as a position taken by the Agency with regard to those assertions.

2. Failure of Respondents to provide such notice shall be a violation of this Order and deemed to be a decision by Respondents 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.

XXVI. ADMINISTRATIVE RECORD

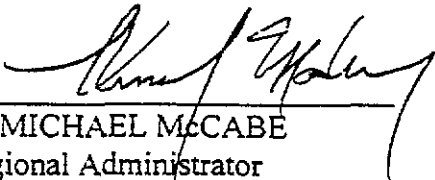
The Administrative Record compiled in support of this Order may be reviewed at the EPA Region III offices by contacting the EPA Remedial Project Manager.

XXVII. MODIFICATIONS

1. Modification to any document submitted to and approved or accepted by EPA pursuant to this Order may be made in writing by EPA. The effective date of such modification shall be the date on which the Respondents receive notice of such modification.

2. Except as otherwise provided in Paragraph A of this Section XXVII, the provisions of this Order may be modified at any time, in writing, solely by the EPA Region III Regional Administrator.

IT IS SO ORDERED.


for W. MICHAEL McCABE
Regional Administrator
U.S. Environmental Protection Agency
Region III

3-19-99
DATE