UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VII
726 MINNESOTA AVENUE
KANSAS CITY, KANSAS 66101

REGIONAL HEARING CLERK
DEC 30 1988
Environmental Protection Agency
REGION VII

IN THE MATTER OF: UNION ELECTIC CITIZEN'S ELECTRIC COOPERATIVE, et al. Respondents Proceedings under Sections 104 and 122 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), 42 U.S.C. § 9604 and 9622.	Docket No. 7-89F-0002

ADMINISTRATIVE ORDER ON CONSENT

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CFD-117575

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VII
726 MINNESOTA AVENUE
KANSAS CITY, KANSAS 66101

IN THE MATTER OF: UNION ELECTIC CITIZEN'S ELECTRIC COOPERATIVE, et al. Respondents Proceedings under Sections 104 and 122 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), 42 U.S.C. §§ 9604 and 9622.	)	Docket No. _____

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ADMINISTRATIVE ORDER ON CONSENT

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ARTICLE I. INTRODUCTION

A. Jurisdiction

1. This Administrative Order on Consent ("Consent Order") is issued by the Director, Waste Management Division of Region VII of the United States Environmental Protection Agency ("EPA") or ("Agency") to Respondents listed on Attachment A attached hereto and made a part hereof, pursuant to the authority vested in the President of the United States by §§ 104 and 122 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA) (Public Law 99-499), 42 U.S.C. §§ 9604 and 9622 and delegated to the Administrator of EPA by Executive Order 12580, 52 Fed. Reg. 2923 et seq., and further delegated to the Regional Administrator by EPA Delegations Nos. 14-14-A and 14-14-C, dated April 16, 1984, and February 26, 1987, respectively, and further delegated to the Director, Waste Management Division, Region VII by Delegation R7-14-14C dated May 16, 1988. The State of Missouri has previously been notified of this Consent Order and shall receive a copy of the executed Consent Order. Respondents agree that EPA has jurisdiction to issue this Consent Order pursuant to CERCLA, 42 U.S.C. § 9601 et seq.

2. The Respondents neither admit nor deny the Findings of Fact or Conclusions of Law or Determinations made herein. However, the Respondents agree not to challenge said findings, conclusions or determinations for purposes of this Consent Order

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only and agree not to contest EPA's subject matter jurisdiction with respect to this Consent Order.

B. Statement of Purpose

By entering into this Consent Order, the mutual objectives of EPA and the Respondents are, inter alia:

1. To determine fully the nature and extent of any release or threat of release of polychlorinated biphenyls (PCBs) from the Missouri Electric Works site described in Article II, paragraphs 2 and 3 below and located at 824 South Kingshighway in Cape Girardeau, Missouri (hereinafter the "Facility");

2. To determine fully the nature and extent of the threat to human health or welfare or the environment caused by any release or threatened release of PCBs from the Facility by conducting such site surveys, sampling and analyses, inventories, and data evaluations as necessary and,

3. To use the results of such surveys, sampling and analyses, inventories, and data evaluations along with the results of site investigation documentation to evaluate remedial alternatives as necessary to conform with the National Contingency Plan (NCP) and Section 121 of CERCLA, 42 U.S.C. § 9621.

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C. Parties

1. This CONSENT ORDER shall be binding upon EPA and upon each of the Respondents, their successors, assigns, and subsidiaries, and shall control the work of all persons, agents, contractors and technical consultants acting under or for EPA or

any of the Respondents in carrying out the actions required by this CONSENT ORDER.

2. The Respondents shall provide a copy of this CONSENT ORDER to each contractor, subcontractor, laboratory, and technical consultant retained to conduct any portion of the work performed pursuant to this CONSENT ORDER prior to said contractor's, subcontractor's, laboratory's or consultant's initiation of work conducted under this CONSENT ORDER.

3. Each Respondent named herein shall notify EPA in writing within fifteen (15) working days of any change of its ownership or corporate status.

4. Any contract entered into by any or all of the Respondents for the purpose of carrying out any actions required by this CONSENT ORDER shall incorporate the requirements of this CONSENT ORDER pertaining to the work to be performed or services or materials to be supplied.

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ARTICLE II - FINDINGS OF FACT

Based on available information regarding the Facility, including investigations conducted at the Facility and information provided in response to EPA information requests, the Director, Division of Waste Management, makes the following Findings of Fact which are neither an admission by, binding upon, nor conclusive with respect to the individual Respondents except as provided in Article I, Paragraph A(2) above:

1. Missouri Electric Works, Inc. (MEW) is a Missouri corporation which has been operating a motor and transformer

repair and sale business at 824 South Kingshighway, Cape Girardeau, Missouri since 1953. MEW operated elsewhere from 1946-1953. MEW is located approximately 1/2 mile north of the intersection of State Route 74 and U.S. Route 61 in Cape Girardeau.

2. The site (hereinafter "Site") is a 6.4 acre site located in a light industrial/commercial area south of Cape Girardeau, Missouri on Missouri Highway 61. The plant and general office of MEW occupy a building at the west end of the Site and overlook Highway 61. The remainder of the Site is an open field, portions of which are covered with various materials ranging from old transformers, empty drums, and pallets, to trash.

3. The legal description of the Site is the Southwest 1/4 of the Northwest 1/4 of Section 12, Township 30 North, Range 13 East in Cape Girardeau County, Missouri.

4. MEW employs approximately ten people at the Site.

5. MEW engages in the business of rewinding, rebuilding, equipping, and servicing all kinds of electric motors and transformers and conducts and/or carries on a general business of buying, selling, dealing in, manufacturing, equipping, rebuilding, and servicing all kinds of electric motors, transformers, generating equipment, controls and all other kinds of electrical equipment and devices.

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6. As a part of its services, MEW drains and retrofills oil-filled electrical equipment. This process includes draining and disposing of old oil from the equipment and then replacing it.

7. According to the records obtained from MEW, MEW accepted transformers equalling 599,433 Kilo-volt Amperes (hereinafter "KVA") for servicing and purchased 9,000 individual transformers for disposal, rebuilding and/or resale. KVA is the unit of electric measurement equal to the product of a volt and ampere that for direct current constitutes a measure of power equivalent to 1000 watts.

8. Between the 1920's and 1978, polychlorinated biphenyls (PCBs) were used as a fire retardant in electrical equipment. PCBs were commonly added to the dielectric fluid of electric transformers, capacitors and other electric equipment at the time of manufacture as well as during servicing. Because of the prevalence of this practice, the PCB regulation promulgated at 40 C.F.R. § 761.3 pursuant to the Toxic Substances Control Act, 15 U.S.C. § 2601 et seq. (TSCA) directs that oil-filled electrical equipment is presumed to contain between 50 and 500 parts per-million (ppm) PCBs unless testing and analysis of the oil establishes otherwise.

9. In 1976, Congress enacted the Toxic Substances Control Act, 15 U.S.C. § 2601 et seq. (TSCA). Section 6(e) of TSCA, 15 U.S.C. § 2605, directs the Administrator of the EPA to promulgate regulations governing the processing, use, distribution in commerce, marking and disposal of PCBs. Such regulations were promulgated at 40 C.F.R. Part 761 and became effective May 31, 1979. In addition, PCBs have been designated hazardous substances pursuant to Section 310(b)(2)(A) of the Federal Water

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Pollution Control Act, 33 U.S.C. § 1321(b)(2)(A), and have been listed as toxic pollutants pursuant to Section 307(a) of the Federal Water Pollution Control Act, 33 U.S.C. § 1317(a).

10. In October of 1984, the Missouri Department of Natural Resources (hereinafter "MDNR") inspected MEW. The inspection disclosed that there were 102 oil-filled drums on the site and that some of the drums were leaking. MDNR did not sample these drums. MDNR also observed areas on the site that were stained with oil, including areas in the drum storage and transformer storage area. MDNR obtained one sample of surface water that was oil stained. Analytical results for this sample indicated 110 micrograms per liter (hereinafter "ug/1") or parts per billion (hereinafter "ppb") of PCBs in the surface water sample.

11. During December of 1984, MEW had analysis performed on of the contents of 78 of the 102 drums described in paragraph 10 above. The 78 drums were divided into thirteen sets of six drums and individual samples from each set of six drums were composited to obtain one sample for analysis. The thirteen samples thus obtained were analyzed and analysis disclosed polychlorinated biphenyl contamination ranging from 18 ppm to 3,766 ppm.

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12. A November 1984 inspection by EPA personnel pursuant to TSCA disclosed that the MEW handling and storage procedures for oils containing or contaminated with PCBs were improper under TSCA. Three samples, two of soil and one of stored oil, were obtained by EPA TSCA personnel. Analytical results of these samples disclosed that the soil at the sample locations was

contaminated with PCBs at concentrations ranging from 310 to 21,000 ppm. The oil sampled contained 1,200 ppm PCB (Aroclor 1242). During this inspection, EPA personnel observed oil-stained soils, and noted poor record keeping and toxic substance handling practices, including improper handling and storage procedures, under TSCA, for oils containing or contaminated with PCBs. As a result of this inspection, a TSCA complaint was issued to MEW in 1985.

13. The EPA CERCLA Field Investigation Team (hereinafter "FIT") performed a site investigation at the MEW facility during October 1985. The field investigation consisted of collecting 104 soil samples at depths ranging from 0 to 6 inches from the ground surface of the site. Two soil samples were collected off-site for background data. Analytical results from this investigation indicated the presence of PCBs (Aroclor 1260) in 96 of the 104 on-site samples. Concentrations of the PCBs in the soil were as high as 58,000 ppm. PCBs were not detected in the two background samples.

14. A second investigation was performed by EPA FIT during July 1986 to further characterize the extent of the PCB contamination in soils at the Site both vertically and horizontally. Analytical results from this investigation indicated that PCB contamination had migrated both off-site and vertically. Analytical results from boreholes #3 and #4 located near the center of the Site and east of the MEW office and operations structure indicated PCB contamination of 950 ppm and

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1,800 ppm, respectively, at a sample depth of 36 to 48 inches; analytical results of samples from the Morrill Construction Company property (located south of the southeast quarter of the Site) indicated PCB contamination of up to 470 ppm; analytical results of samples from the Cape Carpet property (located north of the northwest quarter of the Site) indicated PCB contamination of up to 240 ppm; and analytical results of samples obtained along the eastern perimeter of the Site indicate PCB contamination of up to 310 ppm.

15. The EPA Remedial Contractor (hereinafter "REM II") performed an investigation at the Site during January 1987 to determine if PCBs were migrating off-site via the air pathway. Approximately 50 wipe samples were obtained of exposed surfaces including onsite at the MEW plant and general office, and offsite at commercial structures north, south, and northeast of the Site, and road signs near and remote to the Site. Background samples were also obtained. The analytical data from this investigation indicated that air-borne PCB contamination was migrating off-site. Analytical results of wipe samples obtained from non-porous surfaces, such as metal flashing and exterior light fixtures, on the Rust & Martin Enterprises' and Hall Street Associates' structures (located northeast of the site) indicated PCB concentrations of 4.2 and 3.8 micrograms per wipe sample (hereinafter "ug/100 cm^2).

16. The EPA Technical Assistance Team (hereinafter "TAT") performed an Expanded Site Investigation (hereinafter "ESI")

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during May and June of 1987. During this investigation, the TAT installed ground water monitoring wells at the site, obtained Hi-Vol air samples at the site perimeters (all four site corners were monitored), obtained confirmatory wipe samples and attempted to determine the extent of off-site PCB migration in the surface water drainage paths.

17. The ESI Hi-Vol samples disclosed that air-borne PCB contamination was detected migrating off-site at the facility boundaries in all directions. The most significant contamination was detected northwest and southeast of the site. Analytical results of the confirmatory wipe samples indicated the presence of PCB contamination on the exterior non-porous surfaces of the Cape Carpet and Rust & Martin Enterprises' structures. Receptors of the air-borne contamination included businesses located adjacent to the Site, including a carpet store, construction company office and equipment yard, and warehouse type businesses.

18. Analytical results from the analyses of the ground water samples taken during the ESI indicated PCB contamination of the ground water at the locations of wells #3 and #5, located in the southeast corner of the site. PCB concentrations in these ground water samples were 3.9 and 3.5 ppb.

19. The soil samples obtained from the surface water drainage path originating in the central portion of the site, indicated PCB contamination of 37 ppm at a distance of approximately 600 feet from the south MEW property line. Surface flow

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in this drainage path at this sampling location is diverted under Wilson Road into a marshy area which has not been sampled for PCB contamination.

20. The above EPA investigations indicate that the highest PCB contamination concentration is found on-site in the soils beneath the electrical transformer storage areas. However, the full extent of contaminant migration was not determined as a result of these investigation.

21. During the time MEW has been in operation at its present location, each of the Respondents arranged for repair, transport, reworking or resale of oil-filled electrical equipment containing or presumed by law to contain PCBs at the MEW Facility.

ARTICLE III. CONCLUSIONS OF LAW

Based upon the foregoing Findings of Fact, the Director, Division of Waste Management, makes the following Conclusions of Law which are neither admissions by, binding upon nor conclusive as to the individual Respondents except as provided in Article I, Paragraph A(2) above.

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1. Respondents are each a "person" as defined in Section 101(21) of CERCLA, as amended by SARA, 42 U.S.C. § 9601(21).

2. The Missouri Electric Work Site, as described herein, is a "facility" within the meaning of Section 101(9) of CERCLA, as amended by SARA, 42 U.S.C. § 9601(9).

3. PCBs are "hazardous substances" as defined in Section 101(14) of CERCLA, as amended by SARA, 42 U.S.C. § 9601(14).

4. Respondents each arranged for MEW to transport, rework, retrofill, resell, rebuild and/or service oil-filled electrical equipment containing or presumed by law to contain PCBs and are responsible parties pursuant to Section 107 of CERCLA, 42 U.S.C. § 9607.

5. The spilling, leaking, pouring, emitting, emptying, discharging, escaping, leaching and/or dumping of hazardous substances that led to their presence in the environment at the facility constitutes a release or substantial threat of a release as defined in Section 101(22) of CERCLA, 42 U.S.C. § 6901(22).

ARTICLE IV. DETERMINATIONS

Based on the foregoing FINDINGS OF FACT and CONCLUSIONS OF LAW, the Director, Waste Management Division has determined that:

1. A hazardous substance has been released or there is a substantial threat of such a release at the Missouri Electric Works facility.

2. It is therefore necessary that a remedial investigation of the PCB contamination of the soils and groundwater at the facility be conducted, and that a feasibility study be undertaken to ascertain any appropriate remedial measures for such contamination.

3. Respondents are qualified to conduct the remedial investigation and study contemplated within the scope of the Work Plan incorporated herein, and will properly and promptly perform such investigation and study.

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4. The actions agreed upon under the terms of this Consent Order are in the public interest, are consistent with the National Contingency Plan, 40 C.F.R. Part 300, and are necessary to protect public health and welfare and the environment.

ARTICLE V. ORDER

The Respondents agree to undertake all actions required by the provisions of this CONSENT ORDER and the Respondents acknowledge that each is individually liable for compliance with the requirements of this CONSENT ORDER.

IT IS THEREFORE AGREED and ORDERED AS FOLLOWS:

1. The Respondents shall submit a "Work Plan" prepared in accordance with the provisions set forth in this Consent Order including the "Scope of the Work Plan" attached hereto and incorporated herein. The Respondents shall notify EPA as to the identity of contractors and subcontractors to be used in carrying out the activities described in the Work Plan.

2. Upon EPA approval, the Work Plan shall be incorporated into this Consent Order as if fully set forth herein, and Respondents shall carry out such Work Plan in conformance with this Consent Order.

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A. Work Plan

1. Based on the requirements of CERCLA, as amended by SARA and upon the NCP, and in compliance with the schedule set forth below, Respondents shall conduct an investigation and prepare a study which constitutes the functional equivalent of a full remedial investigation and feasibility study as outlined within

the scope of the Work Plan incorporated herein. The investigation shall include, the design, construction, and implementation of a monitoring program to define the extent and nature of soil contamination and groundwater contamination at the facility and the extent and nature of releases of hazardous substances from the facility as contemplated by the Scope of the Work Plan. This investigation and feasibility study shall be conducted as follows:

a. No later than thirty (30) calendar days from the effective date of this Order a final remedial investigation work plan shall be submitted to EPA for review and approval;

b. No later than fifty (50) calendar days from the effective date of this Order a feasibility study planning document shall be submitted to EPA for review and approval;

c. No later than sixty (60) calendar days from the effective date of this Order a risk assessment planning document shall be submitted to EPA for review and approval;

d. No later than thirty (30) calendar days after Respondents' receipt of EPA's comments and/or approval of Respondents' feasibility study planning document submitted pursuant to paragraph 6 above, Respondents shall submit a final Feasibility Study Work Plan to EPA for review and approval;

e. Respondents shall begin implementing the Remedial Investigation Work Plan no later than thirty (30) calendar days after receiving EPA's written approval of said Plan, in accordance with the schedule set forth therein; and

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f. Respondents shall begin implementing the Feasibility Study Work Plan within 30 calendar days after receiving EPA's written approval of said Plan in accordance with the schedule set forth therein.

2. Each document outlined in subsections VII.A.1.a through e above shall contain a schedule for implementation of the activities described therein.

3. Throughout the course of investigation field activities, Respondent shall submit to EPA weekly progress reports. These reports shall include the following:

a. A description of the actions completed during that week towards compliance with this Order;

b. A description of all actions scheduled for completion during that week which were not completed along with a statement indicating why such actions were not completed and an anticipated completion date;

c. Copies of all data and sampling and test results and all other laboratory deliverables received by Respondent during the week; and

d. A description of the actions which are scheduled for the following week.

These weekly reports shall be due on or before Thursday of the week following the week for which the report is submitted.

4. All work performed under this Order shall be performed under the supervision and direction of qualified personnel. At this time, Respondents designate Thomas Siedhoff or his

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designated alternate to supervise such work. The Respondents may if they so desire, designate a different project manager. Such designation shall take effect five days after mailing to EPA a written notification of any such change.

5. Throughout the course of the preparation of the feasibility study and the risk assessment documents, Respondent shall submit to EPA monthly progress reports. These reports shall include, at a minimum, the following:

a. A description of the actions completed during the month towards compliance with this Order;

b. A description of all actions scheduled for completion during the month which were not completed along with a statement indicating why such actions were not completed and an anticipated completion date;

c. A description of the actions which are scheduled for the following month.

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B. Authorized Representatives

1. The Respondents shall designate a representative and alternate who shall be authorized to represent each and every Respondent in all matters pertaining to this Consent Order. Said representatives (hereinafter the "Respondents' Executive") shall have authority both to receive all reports, comments, notifications, and other correspondence from EPA pursuant to this Consent Order and convey decisions on behalf of the Respondents. The Respondents have the right to change said Respondents'

Executive or alternate by notifying EPA in writing at least five (5) calendar days prior to such change.

2. EPA hereby designates as its Project Coordinator, Pauletta France-Isetts, P.E. of the Superfund Program. The Respondents designate Dr. T.R. West as its Project Coordinator. Respondent's Project Coordinator shall be responsible for overseeing the implementation of the provisions of this Consent Order. To the maximum extent possible, communications between the Respondents and EPA that concern technical issues and/or matters shall be directed through the Project Coordinators. The Respondents and EPA each have the right to change their respective Project Coordinator(s). Such change shall be accomplished by notifying the other party in writing at least five (5) calendar days prior to the effective date of change.

3. All correspondence, reports, work plans and other writing required under the terms of this Consent Order to EPA shall be sent to the following:

Pauletta France-Isetts
Project Coordinator
U.S. Environmental Protection Agency
Region VII
726 Minnesota Avenue
Kansas City, Kansas 66101

cc: Anne W. Rowland
Assistant Regional Counsel
U.S. Environmental Protection Agency
Region VII
726 Minnesota Avenue
Kansas City, Kansas 66101

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All correspondence, reports, work plans and other writing required under the terms of this Consent Order to Respondents

shall be sent to the following:

Thomas Siedhoff, Manager
Environmental Services
Union Electric
Post Office Box 149
St. Louis, Missouri 63166

cc: Warren D. Krebs, Attorney
Parr, Richey, Obremskey & Morton
121 Monument Circle, Suite 500
Indianapolis, Indiana 46204

C. Records

1. Upon written request from EPA, Respondents shall make available to EPA all scientific or technical data in their possession or control generated by the Respondents, or on behalf of the Respondents, pursuant to this Consent Order. Upon written request, EPA shall make available to Respondents all sampling and analytical data and hydrological and geological information and all other documents and other records in its possession that relate to the facility and MEW that are not covered by a business confidentiality claim or otherwise protected under the Freedom of Information Act, 5 U.S.C. § 552 (FOIA).

2. The Respondents may assert a business confidentiality claim covering part or all of the information submitted pursuant to the terms of this Consent Order in the manner set out in 40 C.F.R. § 2.203(b). The information covered by such a claim will be disclosed by EPA only to the extent, and by the means of the procedures, set forth in 40 C.F.R. Part 2, Subpart B (1986). If no such claim accompanies the information when it is received by EPA, it may be made available to the public by EPA.

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3. EPA shall make available to Respondents all business records of MEW in its possession, a complete listing of PRPs to whom CERCLA § 104 notice letters were directed, all responses to said § 104 letters, and a listing of all PRPs to whom EPA will not issue an administrative order relating to removal or RI/FS at the Facility at the present time. These records and data bases will be made available to Respondents upon the execution of this Consent Order at no cost and without the necessity of Respondents filing a Freedom of Information request. Information that is covered by a business confidentiality claim will be disclosed by EPA only to the extent, and by the means of the procedures, set forth in 40 C.F.R. Part 2, Subpart B (1986).

4. The terms and provisions of this CONSENT ORDER shall not be interpreted or construed as preventing EPA from requesting information pursuant to any applicable law.

D. Monitoring and Quality Assurance

1. All samples analyzed pursuant to this Order shall be analyzed by a laboratory which participates in a quality assurance/quality control program equivalent to that specified in the documents entitled "USEPA Contract Laboratory Program Statement of Work for Organic Analysis" (October 1986) and "USEPA Contract Laboratory Program Statement of Work for Inorganic Analysis" (July 1985) (hereinafter "Contract Lab Statements of Work").

2. All sample collection and analysis shall be performed in compliance with EPA-approved methods, including timing of

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analysis, documentation of sample collection, handling and analysis, as described in the following documents:

a. "NEIC Manual for Groundwater/Subsurface Investigations at Hazardous Waste Sites," Document No. EPA/330/9-81-002; and

b. Contract Lab Statements of Work.

3. Laboratory deliverables for all analytical work performed pursuant to this Order, as specified in the Contract Lab Statement of Work, shall be submitted to EPA in accordance with the schedules set forth herein. Any deviations from the procedures and methods set forth in these documents must be approved in writing by EPA prior to use.

4. Respondent shall use the quality assurance, quality control, and chain of custody procedures specified in the Quality Assurance Project Plan as provided in Respondent's Work Plan and as approved by EPA for all sample collection and analysis performed pursuant to this Order.

5. All laboratories analyzing samples pursuant to this Order shall perform, at Respondent's expense, analyses of samples provided by EPA to demonstrate the quality of each such laboratory's analytical data.

6. Respondent shall ensure that EPA representatives are allowed access, for auditing purposes, to all laboratories and personnel utilized by Respondent for sample colleciton and analysis and other field work.

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E. Access to the Facility

1. Respondents shall use their best efforts to arrange with the Facility owners for access to the Facility as is necessary for the Respondents to implement the terms of this CONSENT ORDER. Respondents shall also use all reasonable efforts to arrange for EPA and/or its authorized representatives to enter and freely move about the Facility at all reasonable times for the purposes of, inter alia: inspecting records; reviewing the progress of the Respondents in carrying out the provisions of this CONSENT ORDER; conducting such tests and taking such samples as EPA deems necessary; using a camera, sound recording, or other documentary type equipment; and verifying the data submitted to EPA by the Respondents. The Respondents shall permit EPA to inspect and copy all records, files, photographs, documents and other writings, including all sampling and monitoring data, in any way pertaining to work undertaken pursuant to this Consent Order unless shown to be privileged due to the client-attorney relationship.

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2. In the event that necessary access agreements cannot be obtained within fourteen (14) days after the effective date of this Consent Order; or if obtained, are revoked by Facility owners or entities controlling access to the Facility or to the nearby properties, Respondents shall notify EPA within five (5) business work days of such refusal.

3. Nothing herein shall be construed as restricting the inspection or access authority of EPA under applicable federal

law.

F. EPA Oversight

EPA may appoint an On-Scene Coordinator (OSC) who shall have the authority set forth in the National Contingency Plan, 40 C.F.R. Part 300, et seq. The OSC shall have the right to move freely about the Facility at all times when work is carried out pursuant to this CONSENT ORDER. In the event that an OSC is not appointed, the Project Coordinator shall be vested with authority provided in the National Contingency Plan.

G. Liability

1. Neither the United States nor any agency or agents or employees thereof shall be liable for any injuries or damages to persons or property resulting from acts or omissions of Respondents, their officers, directors, employees, agents, servants, receivers, trustees, successors, or assignees, or of any persons, including but not limited to firms, corporations, subsidiaries, contractors or consultants, in carrying out activities pursuant to this CONSENT ORDER; nor shall the United States or any agency or agents or employees thereof be held out as a party to any contract entered into by the Respondents in carrying out activities pursuant to this CONSENT ORDER. This paragraph does not apply to any agency of the United States that has been or may be identified as a potentially responsible party at the Facility.

2. Nothing in this CONSENT ORDER shall be an admission of fact or law nor an estoppel or waiver of defenses for any

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purpose, including but not limited to defenses raised by insurance carriers on behalf of Respondents. Nothing herein is intended to be, nor shall it be, a release or settlement of any private claims or injuries known or unknown to persons or property.

3. The costs incurred by Respondents in complying with the provisions of the Consent Order are not intended to be and shall not be construed as fines or penalties.

H. Applicable Law

All actions required to be taken pursuant to this Consent Order shall be undertaken in accordance with the requirements of all applicable local, state and federal laws and regulations.

I. Record Preservation

The Respondents or their designated agent shall preserve, during the pendency of this Consent Order and for a minimum of seven (7) years after its termination, all records and documents in their possession or in the possession of their divisions, employees, agents, accountants, or contractors which relate in any way to the facility or work performed pursuant to this Consent Order, notwithstanding any document retention policy to the contrary.

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J. Resolution of Disputes; Modification of Disapproved Submittals

1. As to any submittal, plan, report, schedule or any part or refinement or revision thereof, for which EPA has provided the Respondents a notice of disapproval, Respondents shall, within thirty (30) calendar days of receipt of such notice either:

(A) Modify and resubmit to EPA such submittal, plan, report or schedule or portion thereof, revised to eliminate the deficiencies or unacceptable provisions therein as specified by EPA, in which case such revised submittal shall become final for purposes of this CONSENT ORDER upon written notification of EPA's approval; or

(B) Confer with EPA in an attempt to achieve agreement on the disputed submittal, plan, report or schedule or any part or refinement or revision thereof. If agreement can be achieved by such conference, it shall be memorialized in a joint memorandum between the parties and the revised submittal, plan, report, or schedule, or any part, refinement, or revision thereof, shall become final for purposes of this CONSENT ORDER upon the effective date of such memorandum which shall be incorporated into and become part of this Consent Order.

2. If agreement concerning the disputed submittal, plan, report or schedule or any part, refinement or revision thereof cannot be achieved by means of the procedures set out above within 30 days of receipt of written notice of disapproval by Respondents' Executive or Project Coordinator, Respondents may either request a conference before, or present a written presentation to, the Regional Administrator or in his or her absence, the Deputy Regional Administrator or the Acting Regional Administrator in an attempt to resolve such disputed matter(s). Respondents' request for a conference or submission of a written presentation (if a conference is not requested) must be received

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by EPA within ten (10) working days of the end of the 30 day period provided above in this paragraph. EPA will provide the Respondents with a written decision regarding said disputed matter(s) which shall be incorporated into and become a part of this Consent Order.

3. None of the foregoing provisions shall prohibit any party from pursuing appropriate judicial or other remedies as provided by law on the disputed portions of any submittal, plan, report or schedule; or from seeking such further and additional relief; or from undertaking such response actions as may be necessary to protect human health or welfare or the environment.

K. Additional Work

1. EPA may determine that additional tasks, including remedial investigatory work and/or engineering evaluation, are necessary as part of the work contemplated hereunder in addition to the EPA approved Work Plan tasks including reports, which have been completed pursuant to this Order and may request Respondent to implement any such additional tasks as part of the work hereunder.

2. The Respondent shall implement any additional tasks in addition to the tasks detailed in the EPA approved Work Plan as are mutually agreed upon by EPA and Respondents. The additional work shall be completed in accordance with the standards, specifications and scheduled determined or approved by EPA.

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L. Subsequent Modification or Amendment

1. This Consent Order may be amended or modified by mutual agreement of EPA and the Respondents. Such amendments or modifications shall be in writing and shall have as their effective date, the date on which such amendments or modifications are signed by EPA and Respondents.

2. This Consent Order may be amended to include additional Respondents agreeing to each and every term of this Consent Order. Such amendment shall be accomplished by the addition of the authorized signature of such Respondent to this Consent Order and the delivery thereof to EPA after approval by the MEW steering committee.

M. Reservation of Rights

1. EPA reserves the right to take any enforcement action pursuant to CERCLA and/or any available legal authority, including the right to seek injunctive relief and applicable monetary penalties, and any applicable punitive damages for any violations of law or this Consent Order.

2. EPA expressly reserves all rights and defenses that it may have, including the right to request that the Respondents perform tasks in addition to those detailed herein. In addition, EPA reserves the right to undertake any response action at any time.

3. Respondents each reserve all rights each may have to object to, contest, or defend against any allegation of violating this Order on Consent and to contest any cost recovery action by

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EPA, except any action for oversight costs agreed to in this Consent Order.

4. Nothing in this CONSENT ORDER shall constitute or be construed as a release by EPA or Respondents of any claim, cause of action, or demand in law or equity against any party not a signatory to this document for any liability relating to this site arising out of the generation, storage, treatment, handling, transportation, release, or disposal of any hazardous substances, pollutants, or contaminants.

N. Delay in Performance

1. If any event occurs which causes delay in the achievement of the requirements of this CONSENT ORDER, Respondents shall have the burden of proving that the delay was caused by circumstances beyond their control that could not have been overcome by due diligence. Respondents shall promptly notify EPA orally and shall, within fifteen (15) calendar days of oral notification to EPA, notify EPA in writing of the anticipated length and cause of the delay, the measures taken and/or to be taken to prevent or minimize the delay, and the timetable by which Respondents intend to implement these measures. Respondents shall notify EPA of any deviations from time schedules in advance, whenever possible. If parties can agree that the delay or anticipated delay has been or will be caused by circumstances beyond the reasonable control of Respondents, the time for performance hereunder shall be extended for a period equal to the actual delay resulting from such

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circumstances. A refusal or revocation of site access permission from the owner or operator, which is not caused by unreasonable and improper actions of Respondent may constitute a justifiable delay. Respondents shall adopt all reasonable measures to avoid or minimize delay. Failure of Respondents to comply with the notice requirements of this paragraph shall constitute a waiver of Respondents' right to request or obtain such an extension of time.

2. In the event that EPA and Respondents cannot agree that any delay in the achievement of the requirements of this CONSENT ORDER, including the failure to submit any report or document, has been or will be caused by circumstances beyond the control of Respondents, which could not be overcome by due diligence, the dispute shall be resolved in accordance with the provisions of the "Dispute Resolution" Section Article VI.J.2 of this CONSENT ORDER.

O. Reimbursement of Costs

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1. EPA shall submit to the Respondent a summary of all oversight costs incurred after the effective date of this Order and which are directly related to overseeing or reviewing the work undertaken by this Order. Within sixty (60) calendar days of receipt of each such summary, Respondents shall reimburse EPA for such costs of overseeing activities conducted pursuant to this Order. Under this Order Respondents shall not be required to reimburse EPA for oversight costs in excess of $25,000.

2. EPA reserves the right to seek to recover oversight

costs in excess of $25,000 if such oversight costs are directly related to work undertaken by this Order. If there is a dispute concerning such oversight costs, Respondents shall pay the undisputed amount within sixty (60) days and the parties shall make good faith attempts to informally resolve such disputes. If such dispute is not resolved informally and EPA initiates a cost recovery action, Respondents reserve the right to raise any defense of law or fact relevant to such dispute. This provision shall not effect or determine the burden of proof of any party in such dispute.

3. Payments to EPA shall be made to the order of the Hazardous Substance Response Fund, and shall be forwarded to the U.S. Environmental Protection Agency, Region VII, Superfund Accounting, P.O. Box 360748M, Pittsburgh, Pennsylvania 15251. A copy of the check and transmittal letter should be sent to the EPA contact specified herein.

4. EPA reserves the right to seek reimbursement from the Respondent for any future response costs. However, if EPA seeks to recover oversight costs incurred prior to the effective date of this Order, response costs prior to or after the effective date of this order, EPA agrees it will use its best efforts to seek recovery of such costs from viable potentially responsible parties who are not parties to this Order on Consent. EPA expressly agrees to cooperate with and assist the Respondents in identifying other potentially responsible parties and agrees to provide records, documents, test results and all other data not

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covered by a business confidentiality claim or otherwise protected under FOIA to Respondents in the event Respondents seek contribution or cooperation from any potential responsible party that is not a Respondent and signatory to this Consent Order.

5. If EPA determines that the results of the investigation and feasibility study indicate that remedial action is required at the Facility pursuant to the requirements of CERCLA, then EPA agrees to review and determine the merits of mixed funding with respect to this site in accordance with CERCLA § 9622(b)(1), 42 U.S.C. § 122(b)(1) and to provide Respondents with a written notice of its determination. Such determination shall not constitute final agency action and judicial review shall not be applicable.

6. In entering into this Agreement, Respondents waive any right they may have to seek reimbursement directly from the United States under CERCLA or the Superfund, 42 U.S.C. § 9601 et seq., for any costs incurred in complying with this Order.

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P. Termination and Satisfaction

The requirements of this CONSENT ORDER shall be deemed satisfied upon written notice from EPA that the Respondents have demonstrated, to the satisfaction of EPA, that all of the terms of this CONSENT ORDER have been completed. EPA will notify the Respondents in writing if the report submitted at the completion of activities described in the Work Plan does not demonstrate that all the terms of this CONSENT ORDER have been completed. In its written notification, EPA will describe all deficiencies that

must be addressed to fully comply with the terms of this CONSENT ORDER.

Q. Contribution Protection

1. The parties acknowledge that Section 113(f)(2) of CERCLA, as amended by SARA, provides contribution protection to Respondents and other participating potentially responsible parties for claims for contribution regarding matters addressed under this CONSENT ORDER.

2. The parties represent that this CONSENT ORDER was negotiated in good faith. The Respondents, solely for the purpose of complying with this CONSENT ORDER, as it may be amended by mutual agreement may assume responsibility or work exceeding the Respondents' equitable share, either individually or collectively. To the extent that that occurs, the Respondents intend to seek contribution from those potentially responsible parties not entering into this Order on Consent. The parties agree that federal law should govern questions of contribution. The parties agree that, in determining the appropriate federal rule of decision to establish the effect of this CONSENT ORDER on possible rights of contribution, a court should adopt the principles set forth in Section 113(f) of CERCLA, as amended by SARA.

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3. Each Respondent agrees that with respect to any suit or claim for contribution brought against it for matters covered by this CONSENT ORDER, it will notify the EPA of the institution of such suit or claim.

R. Covenant Not to Sue

Except as otherwise reserved herein, upon termination of this CONSENT ORDER pursuant to Section P of said Order, the EPA covenants not to sue the Respondents for work conducted satisfactorily pursuant to this CONSENT ORDER. This covenant not to sue shall not apply to conditions unknown on the date of execution of this CONSENT ORDER.

S. Effective Date

This Consent Order shall become effective upon Respondent's receipt of a fully executed copy thereof.

IT IS SO AGREED AND ORDERED.

Date	Anne Rowland Assistant Regional Counsel U.S. EPA, Region VII
Date	David Wagoner, Director Waste Management Division U.S. EPA, Region VII

MEW Site File
CFD-117608

PARR, RICHEY, OBREMSKEY & MORTON
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225 W. MAIN STREET • P.O. BOX 666
LEBANON, INDIANA 46052
(317) 482-0110

COPY

RECEIVED BY
ENVIRONMENTAL SECTION

March 8, 1989

Ms. Anne Rowland
Assistant Regional Counsel
United States Environmental
Protection Agency
Region VII
726 Minnesota Avenue
Kansas City, Kansas 66101

Re: Missouri Electric Works Administrative
Order on Consent

Dear Anne:

Enclosed are additional executed signature pages from U. S. Gypsum Company, Kaiser Aluminum & Chemical Corporation, St. Mary's Institute, the City of Thayer, and Union County Hospital. On behalf of the MEW Steering Committee, I request these five PRPs be added as Respondents to the Consent Order which was certified by the Regional Hearing Clerk on December 30, 1988. Also enclosed is a new Attachment A-2 which should include all PRPs who have executed the Administrative Order on Consent.

On January 3, we submitted to you the signature pages for Phillips & Company and Ozark Border Electric Cooperative, but incorrectly listed Ozark Border (of Poplar Bluff, Missouri) as Ozark Electric Cooperative (of Mount Vernon, Missouri) on Attachment A. The new Attachment A-2 I am submitting to you today correctly lists Ozark Border Electric Cooperative. We have not received a signature page from Ozark Electric Cooperative.

Please contact me if you have any questions.

Very truly yours,

PARR, RICHEY, OBREMSKEY & MORTON

By Warren D. Krebs

MEW Site File
CFD-117609

WDK/lh
Enclosures
cc w/enc: Thomas E. Siedhoff
Alphonse McMahon

SIGNATURE PAGE TO THE

ADMINISTRATIVE ORDER ON CONSENT

February 20, 1989
Date

City of Thayer
Potentially Responsible Party

By: R D Pierce

Title: Mayor

MEW Site File
CFD-117610

SIGNATURE PAGE TO THE

ADMINISTRATIVE ORDER ON CONSENT

February 7, 1989
Date

KAISER ALUMINUM & CHEMICAL CORPORATION
Potentially Responsible Party

By: _____
J. A. Bonn

Title: Vice President

MEW Site File
CFD-117611

SIGNATURE PAGE TO THE

ADMINISTRATIVE ORDER ON CONSENT

January 9, 1989
Date

St. Mary's Institute #2230
Potentially Responsible Party

By: Sister Joan Klear, C.PP.S.

Title: Superior General

MEW Site File
CFD-117612

SIGNATURE PAGE TO THE

ADMINISTRATIVE ORDER ON CONSENT

2/27/89
Date

Union County Hospital
Potentially Responsible Party

By: E. A. "Gene" Kelpick

Title: Administrator

MEW Site File
CFD-117613

SIGNATURE PAGE TO THE

ADMINISTRATIVE ORDER ON CONSENT

1-17-89
Date

U. S. Gypsum Company
Potentially Responsible Party

By: Robert C. Osmundsen
Robert C. Osmundsen

Title: Attorney for U. S. Gypsum Co.
& USG Corporation

MEW Site File
CFD-117614

SIGNATURE PAGE TO THE
MEW ADMINISTRATIVE ORDER ON CONSENT

PRP	Date
Bartholomew County REMC Columbus, Indiana	12/13/88
Cape Electrical Supply, Inc. Cape Girardeau, Missouri	11/25/88
Citizens Electric Corporation Ste. Genevieve, Missouri	12/12/88
City Light & Water Commission Paragould Light and Power Paragould City Light & Power Paragould, Arkansas	12/14/88
City of Casey Casey, Illinois	11/25/88
City of Farmington City Light & Water	12/12/88
City of Fredericktown Fredericktown, Missouri	12/13/88
City of Perryville, Missouri Perryville, Missouri	11/29/88
City of Salem, Missouri Salem, Missouri	11/30/88
City of Steelville, Missouri a/k/a Steelville Municipal Utilities Steelville, Missouri	12/05/88
City of Thayer, Missouri Thayer, Missouri	02/20/89
Clinton County Electric Cooperative Breeze, Illinois	11/28/88
Darke Rural Electric Cooperative Greenville, Ohio	12/14/88
Daviess-Martin County REMC Washington, Indiana	11/21/88

MEW Site File
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Elfrink Truck Lines Cape Girardeau, Missouri	12/06/88
Essex Group, Inc. (United Technologies) Hartford, Connecticut	11/29/88
Farmers Electric Cooperative Chillicothe, Missouri	12/22/88
Florida Power & Light West Palm Beach, Florida	01/04/89
Fulton County REMC Rochester, Indiana	12/13/88
Georgia-Pacific Corporation Atlanta, Georgia	12/07/88
Hancock County REMC Greenfield, Indiana	12/06/88
Hancock-Wood Electric Cooperative North Baltimore, Ohio	12/08/88
Howell-Oregon Electric Cooperative West Plains, Missouri	12/09/88
Illinois Gas & Electric Company Springfield, Illinois	12/13/88
Ingram Barge Company Nashville, Tennessee	12/21/88
International Hat Company St. Louis, Missouri	11/30/88
Kaiser Aluminum & Chemical Corporation Baton Rouge, Louisiana	02/07/89
KFVS-TV Cape Girardeau, Missouri	12/02/88
Klein Armature Works Centralia, Illinois	12/12/88
MFA Incorporated Kansas City, Missouri	12/19/88
Menard Electric Cooperative Petersburg, Illinois	12/13/88
Mississippi Lime Company St. Genevieve, Missouri	12/20/88

MEW Site File
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M.J.M. Electric Cooperative, Inc. Carlinville, Illinois	12/12/88
Morgan County REMC Martinsville, Indiana	12/13/88
Mt. Carmel Public Utility Company Mt. Carmel, Illinois	12/13/88
National Electric Service Company, Inc. St. Louis, Missouri	12/09/88
New-Mac Electric Cooperative, Inc. Neosho, Missouri	11/29/88
North Central Missouri Electric Cooperative, Inc. Milan, Missouri	12/12/88
Ozark Border Electric Cooperative Poplar Bluff, Missouri	12/12/88
Phillips & Company Sedalin, Missouri	12/12/88
Public Service Company of Indiana, Inc. Plainfield, Indiana	12/06/88
Pulaski Electric System Pulaski, Tennessee	12/15/88
Rural Electric Convenience Cooperative Auburn, Illinois	11/28/88
Sac Osage Electric Cooperative El Dorado Springs, Missouri	12/13/88
Sikeston Board of Municipal Utilities Sikeston, Missouri	12/06/88
Southern Illinois Electric Cooperative Dongola, Illinois	12/09/88
Southeast Missouri Mental Health Center a/k/a State Hospital-Farmington St. Louis, Missouri	12/22/88
St. James Municipal Utilities St. James, Missouri	11/28/88

MEW Site File
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St. Mary's Institute O'Fallon, Missouri	01/09/89
Steuben County REMC Angola, Indiana	12/06/88
Tipmont REMC Linden, Indiana	12/17/88
U.S. Gypsum Company St. Louis, Missouri	01/17/89
Union County Hospital Anna, Illinois	02/27/89
Union Electric Company St. Louis, Missouri	12/08/88
United Rural Electric Cooperative Kenton, Ohio	11/28/88
Upper Cumberland Electric Membership Cooperative Carthage, Tennessee	12/02/88
Wagner Castings Company Decatur, Illinois	12/14/88
Washington University St. Louis, Missouri	12/19/88
Wayne-White Counties Electric Cooperative Fairfield, Illinois	12/02/88
Weakley County Municipal Electric System Martin, Tennessee	12/13/88
White County REMC Monticello, Indiana	12/15/88

MEW Site File
CFD-117618

ATTACHMENT B

MISSOURI ELECTRIC WORKS

SCOPE OF WORK PLAN

PRP Technical Committee

September, 1988

MEW Site File
CFD-117619

Missouri Electric Works Scope of Work

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3.4	Depth Profiles	5
3.5	Soil Properties	5
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6.0	Site Safety Plan	8
7.0	Risk Assessment	8
8.0	Feasibility Study	9
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MEW Site File
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1.0 Introduction

In late June, 1987, USEPA notified 40 parties of the existence of PCB contamination at the Missouri Electric Works Site in Cape Girardeau, MO, and their potential responsibility for the cost of appropriate removal or remedial action. Subsequently, EPA has made three additional notifications, the most recent in April, 1988, and has now named approximately 450 PRPs to date.

After the initial notification, the originally named PRPs met to consider a joint response to common issues at the Site. Several meetings were held since September, 1987, to obtain additional information and to inform EPA that:

1) The group of participating PRPs was interested in working with EPA to resolve problems at the site, and

2) were willing to undertake a more extensive site characterization to better delineate the extent of contamination and confirm that groundwater at the site was not, in fact, contaminated, and

3) were willing to undertake a remedial investigation and feasibility study that would be consistent with NCP requirements and would be a functional equivalent of a formal RI/FS.

This scope of work addresses the specific proposals and procedures to be followed in accomplishing Items 2 & 3 above. It includes sample collection, the appropriate QA/QC procedures, a Site Safety and Health plan, analytical procedures, risk assessment and a feasibility study. Its principal goal is to supplement existing data, refine current estimates of PCB contamination and propose and evaluate remedial alternatives.

2.0 Background Information

The Missouri Electric Works site is a 6.4 acre site located adjacent to Missouri Highway 61 southwest of the City of Cape Girardeau. This site has been used for the rebuilding and sale of scrap electrical equipment since 1953. Previous contamination studies by Region VII EPA and its representatives have identified PCBs as the significant chemical of concern. A detailed summary of the site investigations conducted at the MEW location is presented in the final report: Expanded Site Investigation; Missouri Electric Works; December 16, 1987.

MEW Site File
CFD-117621

3.0 Field Sampling Plan

A historical study of the site conditions during the time period between 1950 and 1988 will be conducted. Aerial photographs will be used during this investigation to identify spill areas, burn areas, site conditions and site improvements. A report of the investigation findings will be supplied to EPA within 90 days of the effective date of the Consent Order.

3.1 Sampling Objectives

The primary objective of this proposed sampling effort is to accurately define the spatial edges of PCB contaminated soils that may require remedial action. This effort will supplement and refine previous studies conducted by the EPA and its representatives. To accomplish this, we propose using the 50 foot grid squares established by the EPA as points of reference in locating additional samples. The proposed sampling program is divided into two separate phases addressing surface and subsurface sampling.

3.2 Surface Soils

The first phase involves the collection of surface to six inch deep soil samples. Clean 16 ounce glass jars with foil lined lids will be filled with soil using a separate and clean metal hand shovel for each sample. The sample locations will be determined using transect lines oriented north to south on the EPA grid system shown in Figure 2. The EPA sampling grid will be recreated using the intersection of Hwy. 61 and the north property line as the starting point. Fifty by fifty foot grid squares will be marked using paint or stakes and a measuring tape and compass before any transect samples are collected. A metal spike or wooden stake will be used to identify the initial sampling point on each transect line. This point will be located inside the edge of the EPA contaminated zone based on the 10 ppm contour map shown in Figure 1. This contour map is based on five point composite samples.

A spacing of 25 feet between adjacent parallel lines and 12.5 feet between adjacent transect sample points on the same line is proposed. Transect lines will be extended off of MEW property based on evidence of contamination shown in previous studies.

Sampling of ditches and swales will follow the drainage systems as shown in Figure 2. The initial sampling point will be located inside contaminated areas shown by previous studies and proceed down slope at 25 foot intervals. Sample points on transect lines will end based on the judgement of the field crews regarding the likelihood of finding significant PCBs. Drainage sampling points will be located in the bottom of the ditch or swale which is expected to be representative of maximum contamination levels based on erosional deposition of PCBs off of the MEW site. Any

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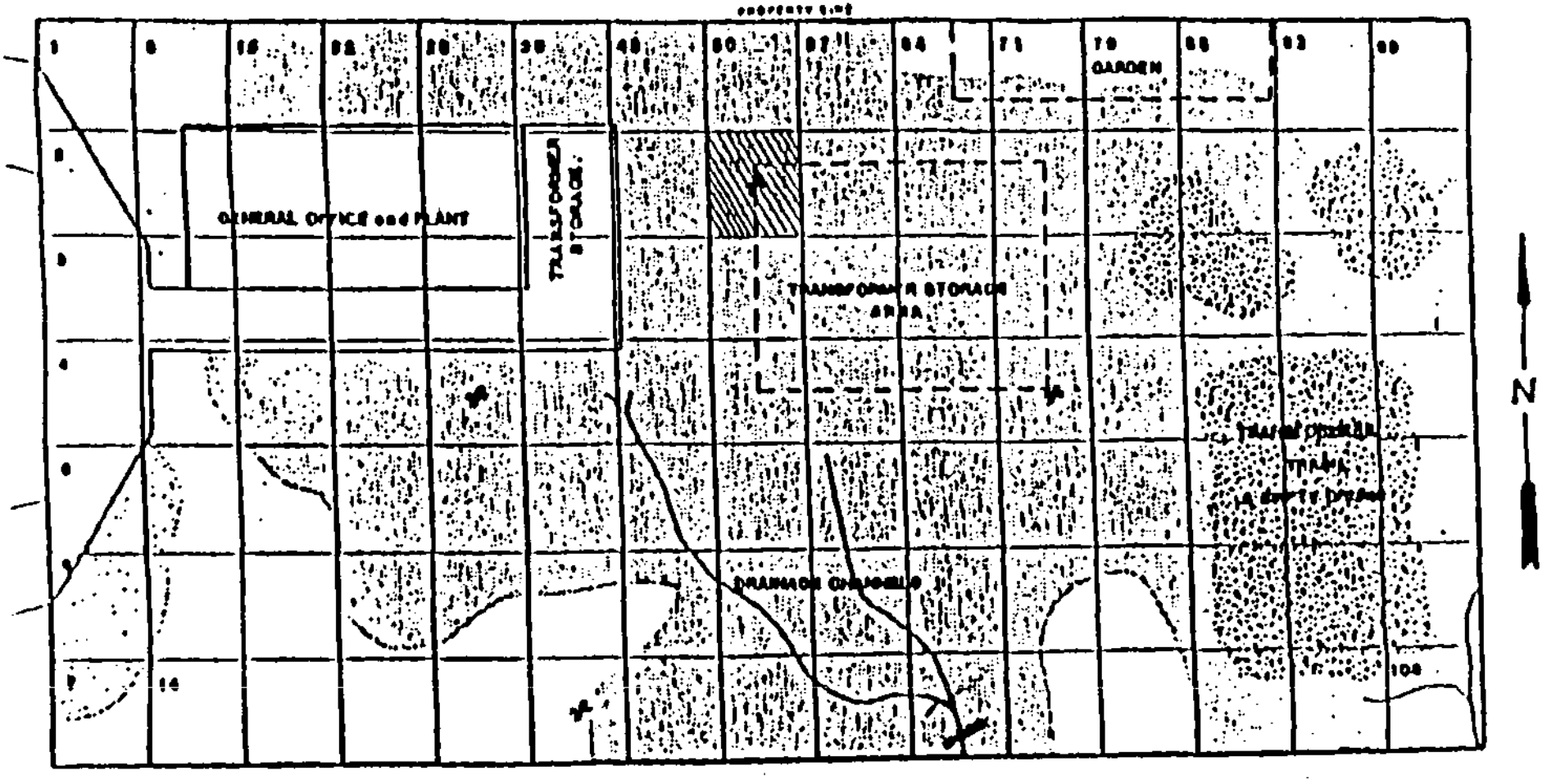
AROCLOR 1260 Concentrations

Greater Than 10 PPM

MEW Site File
CFD-117623



not to scale

duplicate sample locations

10 ppm or greater

area covered by crushed stone

runoff control

MISSOURI ELECTRIC WORKS

Cape Girardeau, Missouri

Figure 1

MEW Site File
CFD-117624

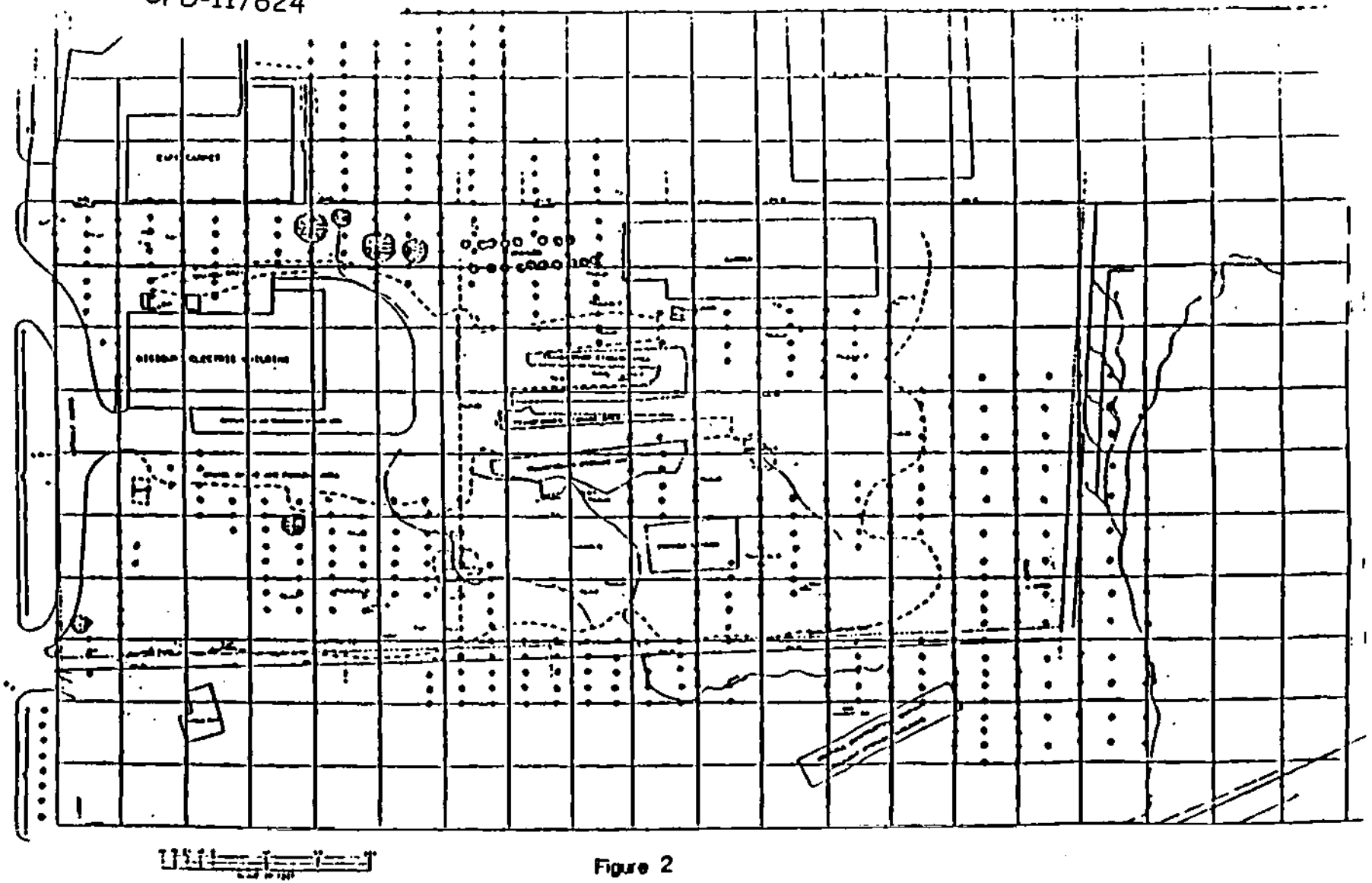


Figure 2

Surface Soil Sample Locations
(each dot represents an individual grap sample)

MEW Site File
CFD-117625

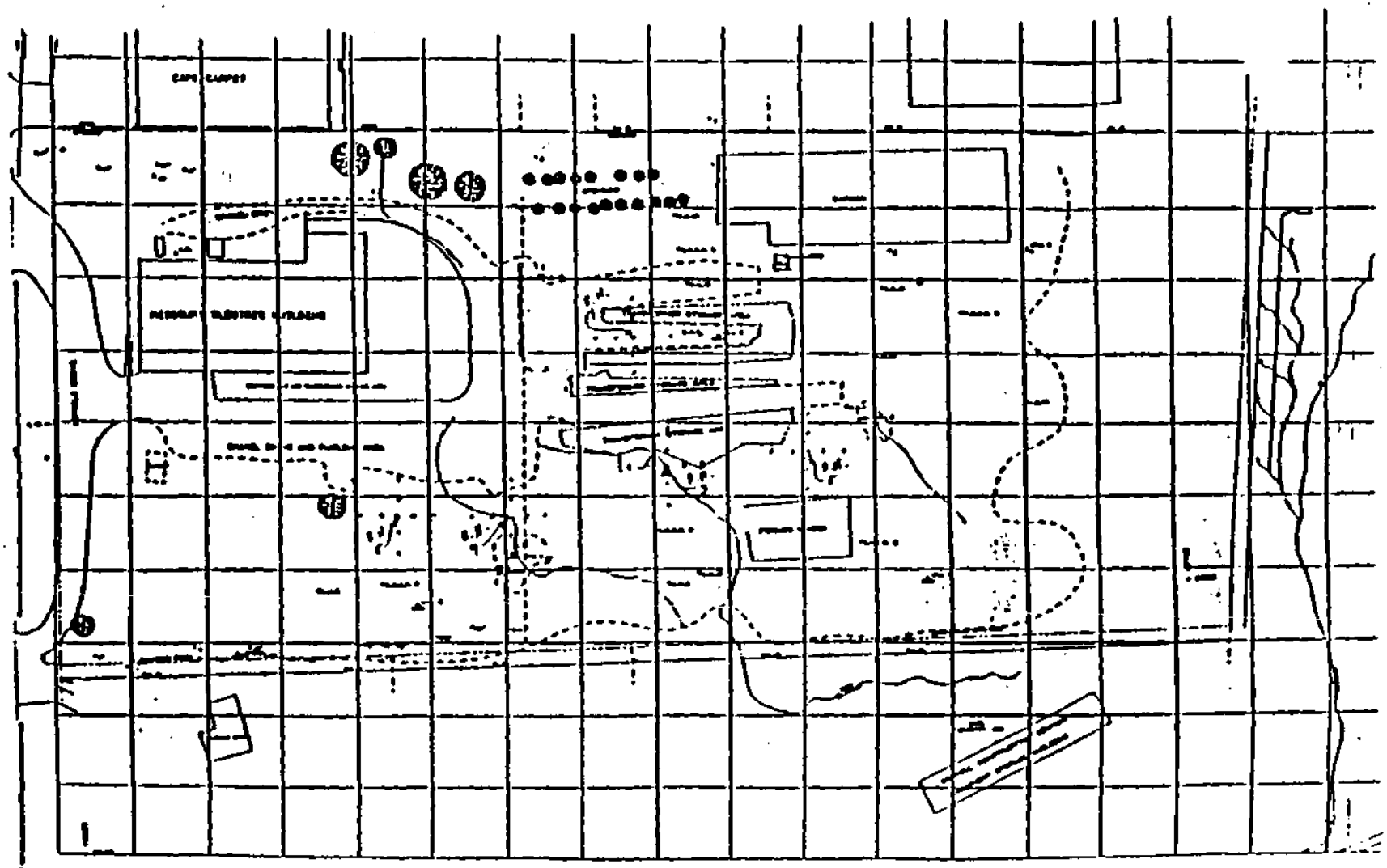


Figure 1
Borehole Sample Locations

Eight boreholes surrounding each EPA Goods
EPA No. Depth (ft) No. Samples

MEW Site File
CFD-117626

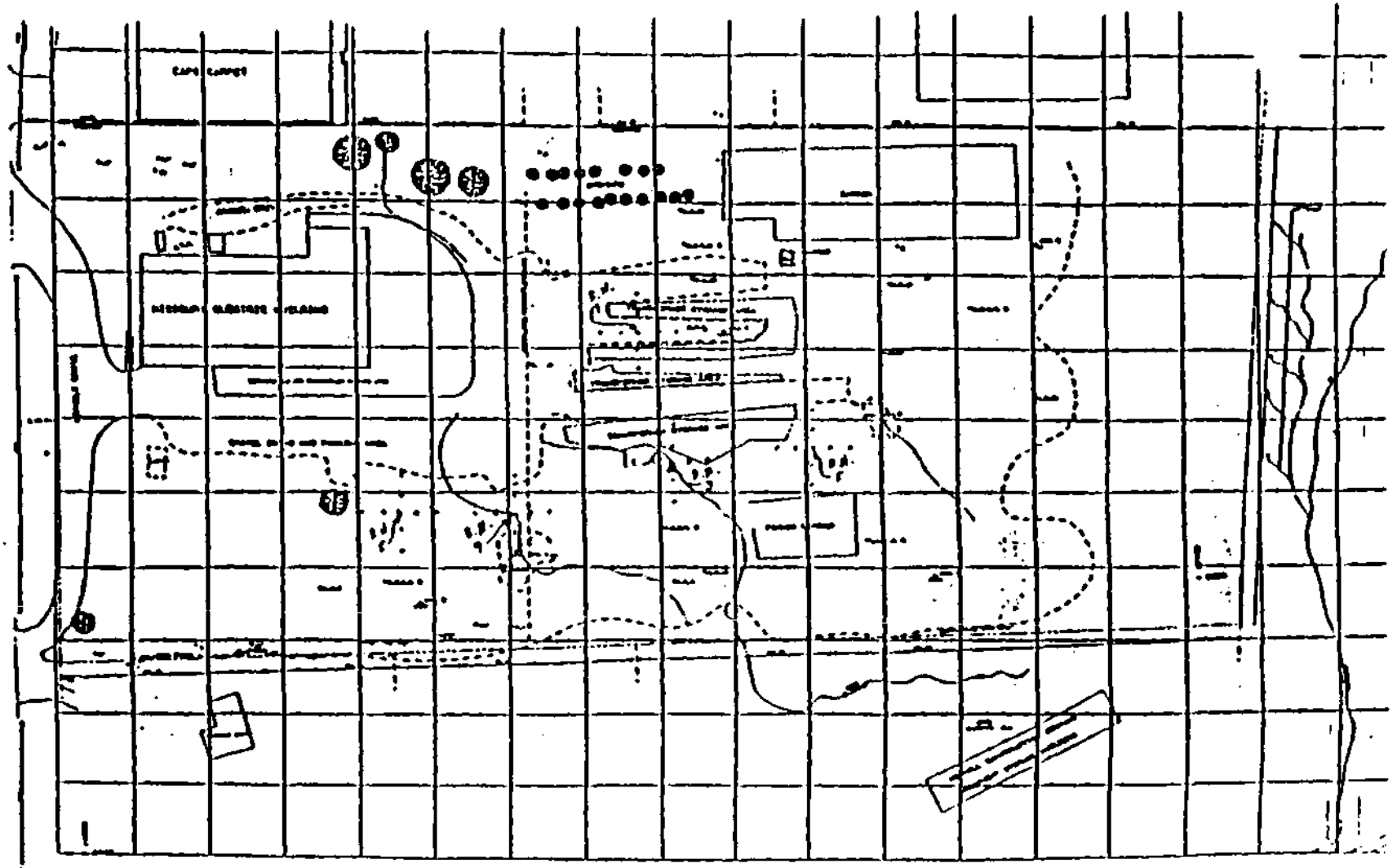


Figure 1
Borehole Sample Locations

Eight boreholes surrounding each EPA flood
EPA No. Depth (ft) Dec. Sample
1-9 1 1

MEW Site File
CFD-117627

settling basin drainage areas that are encountered will be sampled using parallel transect lines with 25 feet between adjacent lines and sampling points on the same line.

3.3 Groundwater

Groundwater samples will be collected from MEW wells No. 3 and 5. Each well will be bailed out 24 hours before collecting a sample and any sediment that is present in the bottom of the wells will be removed before sampling. Samples will be collected using teflon bailers and stored in foil-lined glass jars. The concentrations of PCBs and selected, EPA approved, electrical equipment cleaning solvents (i.e. trichloroethylene and 1.1.1 trichlorethane) will be determined on filtered aliquots by a contractor laboratory following analytical methods outlined in Section 4.0. Any wells that do not yield at least one quart of water within 24 hours of being bailed out will not be analyzed and this fact will be recorded in field sampling notes.

3.4 Depth Profiles

A second field survey is proposed to collect vertical PCB and selected, EPA approved, electrical equipment cleaning solvents (i.e. trichloroethylene and 1.1.1 trichlorethane) in the areas surrounding hot spots previously identified by EPA studies. This trip is proposed to be timed after the laboratory results of the soil surface sampling are complete. The PCB profile data will be collected from soil borings located 12.5 and 25 feet north, south, east and west from EPA borehole numbers 1, 3, 4, 5 and 9 (Figure 3). The volatile organic compounds will be analyzed from two PCB profile sample locations surrounding EPA borehole numbers 1, 3, 4, 5 and 9. These two locations will coincide with the PCB sampling effort and will be located 12.5 and 25 feet from the EPA boreholes.

The depth of the eight borings surrounding each hot spot will be based on previously reported vertical PCB concentrations and extend to the estimated 25 ppm level or the maximum depth of the borehole. Vertical samples will be collected in one foot segments for the top two feet and six inch increments thereafter to the maximum depth. Each sample segment will be collected using a split spoon sampler. The depths and locations of the boreholes are shown in Figure 3.

3.5 Soil Properties

A total of twelve samples will be collected from six locations at the MEW site to characterize three general expected surface soil conditions that could impact remedial alternatives. The locations of these samples will be specified by the selected contractor subject to EPA and MEW PRP Group Approval. These samples will be collected as

part of the surface PCB field sampling effort (i.e. Phase I - Section 3.2).

The twelve soil samples taken at six sampling locations will be collected in two six inch segments to a depth of one foot.

For the six locations, two each should be in the three different material types on the site. These materials are:

1. Oil saturated hot spots (typically bare soil areas)

2. Deep gully areas; these are located
   a) on the south side of the property
   b) on the north side of the property just behind the MEW building

3. Typical areas in the MEW yard that are grass covered with clay soils

For three sampling locations, one in each of the material types and at both the six inch and one foot depth (therefore, six samples) the following tests should be performed:

1. BTU Testing

2. Soil density testing (both wet and dry density required). This will require a pushed Shelby tube sample. Shelby tube samples can be obtained without the use of a drilling rig.

3. Cation exchange capacity (CEC)

4. Particle size determination (sieve analysis plus hydrometer analysis).

5. Thermal conductivity measurements

For all 12 of the samples obtained, the following tests are to be run:

1. Natural moisture content (do not repeat this on the six samples above as this test is part of the soil density test).

2. Soil pH.

3. Chloride concentration.

4. Total metals concentration.

5. Atterberg Limits (Liquid limit and plastic limit).

MEW Site File
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3.6 Data Management

Each transect or ditch line will be assigned a unique number that will be shown on a figure in a report based on this work. Each sample point on a line will be assigned a sequential number starting with the origin point inside the contaminated zone (i.e. 1-1 is transect No. 1, the first sample). Borehole samples will also have unique location and depth identifiers. The analysis of samples collected from each sample transect line or borehole will proceed from the maximum expected contaminated sample (i.e. the first sample collected) and proceed sequentially until the first sample on the transect line is below 10 ppm or the first borehole sample is below 25 ppm. When this occurs the edge of the area of interest is defined and the extra samples will be kept but not analyzed.

All soil and water samples will be delivered to the respondent's contractor laboratory for PCB and volatile organic analysis within EPA ERCS holding times. All samples will be retained for one year following collection and then will be disposed of as PCB waste. Chain of custody forms based on Region VII EPA Forms will be used to assure the integrity of the samples. Each sample will be identified by unique numbers as described, as well as date, time, type of sample and the person taking the sample. Samples will be delivered to the laboratory by contractor field personnel.

3.7 Decontamination of Equipment & Personnel

Non-expendable sampling equipment will be thoroughly decontaminated between samples to prevent cross-contamination of samples and contamination of personnel. During the set up of the on-site sampling and packaging station, an area will be designated as the decontamination zone. This area will consist of three galvanized wash tubs. The first tub will contain industrial grade soap and water solution. To facilitate the removal of encrusted soil from sampling tools, stiff brushes or wire brushes will be available. The next stage of the decontamination will utilize the second galvanized tub for a water rinse. The last galvanized tub will be utilized to collect spent alcohol or approved solvent used in the final stage of the decontamination process. The last stage will involve rinsing the object with ethyl alcohol or an approved solvent to strip off residual water. The wash and rinse water will be disposed of on a contaminated area of the site. The spent solvent which hasn't evaporated will be collected and containerized for proper disposal.

Personnel decontamination will be done in accordance with the site safety plan.

MEW Site File
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4.0 Analytical Methods

The analytical methods for PCBs and selected electrical equipment cleaning solvents (i.e. trichloroethylene and 1.1.1 trichlorethane) will follow methods and standards approved by the EPA. These methods and standards as well as the detection limits will be specified for soil and water samples that are discussed in this Scope of Work Plan. The EPA will approve all analytical methods prior to the analysis of the soil and water samples from the MEW site.

5.0 Quality Assurance and Quality Control

The field survey contractor shall provide a detailed Quality Assurance Project Plan (QAPP). This plan shall assure that the field and laboratory methods and procedures used and followed during the site characterization investigation are equivalent to the EPA Contract Lab Procedure Standards for Superfund site investigations. This plan will be reviewed and approved by the EPA prior to the initiation of field work or other related activities identified in the plan.

6.0 Health and Safety Plan

The contractor will prepare a site-specific, health and safety plan developed for work at Missouri Electric Works. This plan will include health hazards, protective equipment, zone designations, decontamination and respiratory protection, as well as other topics and guidelines to ensure the safest possible work environment for field operations personnel at this site.

7.0 Risk Assessment

A site risk assessment that evaluates the threat to human health and the environment posed by PCBs at the MEW site will be performed after the site characterization work plan is complete.

A risk assessment planning report that describes the content and approach of the risk assessment report will be sent to the EPA for review and approval according to the Consent Order requirements.

MEW Site File
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8.0 Feasibility Study

A functional equivalent to a formal feasibility study will be performed by a contractor selected by the MEW PRP group. A copy of the selected contractor's feasibility study proposal will be sent to the EPA for review and approval. The content and approach of this study will be based on the Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA (OSWER 9355.3-01). The schedule for completion of this work plan shall follow the Consent Order time table.

9.0 Sampling Access and Project Schedule

The MEW Legal Committee will develop agreements with Mr. Giles and adjacent property owners for soil sampling access by PRP group members and their agents. The work schedule for the completion of the site characterization work plan, risk assessment and feasibility study will follow the time table in the MEW Consent Agreement.

MEW Site File
CFD-117631