REMEDIAL INVESTIGATION/FEASIBILITY STUDY
FINAL WORK PLAN
EXTERIOR INDUSTRIAL WASTE DITCH
NAVAL REACTORS FACILITY
IDAHO FALLS, IDAHO

APPENDIX B
PART C

DATA MANAGEMENT PLAN

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Prepared for the
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Pittsburgh Naval Reactors Office
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APPENDIX B

PART C

DATA MANAGEMENT PLAN

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1.0 INTRODUCTION

1.1 General

The purpose of the Data Management Plan (DMP) is to describe the procedures that will be used to record and maintain the information generated during the Remedial Investigation and Feasibility Study (RI/FS) for the Exterior Industrial Waste Ditch (IWD). The DMP will address field activities, sample management and tracking, document control, and inventory of the information and data.

The DMP identifies the records that will be kept to document field sampling activities and methods that will be employed to manage and track the data. The DMP will also discuss how the documents will be controlled to prevent inadvertent loss or damage to the information and data records.

1.2 Field Activities

Field activities for the IWD will include sampling of the ditch water, sediments, and the soils around the ditch. A subcontractor will collect the samples using Standard Operating Procedures (SOP) contained in the Quality Assurance Project Plan (QAPjP). Data entered into the Field Log Books (FLB) will be reviewed weekly for accuracy by the Manager Environmental Remediation or his designated alternate. Any errors identified will be corrected so that the sample collection activities can be reconstructed without consulting the sample collector. Sample collection procedures and the associated documentation will be audited quarterly to ensure that all necessary information is included in the project files. Required documentation and procedures for field activities are discussed in more detail in Section 2.

1.3 Sample Management And Tracking

A record of sample shipments, receipt of analytical results, and validation of results will be maintained at NRF in the project files to ensure that only validated data are used in the Record of Decision (ROD). Preliminary data may be used to prepare review documents and initiate data evaluation. Preliminary data are considered unofficial and will be updated upon receipt of official QA/QC comments and changes. Sample management and tracking at the subcontractor laboratory will be in accordance with internal laboratory procedures and quality assurance plans. Additional sample management and tracking information is discussed in section 3.0.

1.4 Document Control and Inventory

NRF has an established filing system for all information generated for the IWD RI/FS. Access to the files will be controlled and all items removed from the files will be accounted for quarterly to prevent the inadvertent loss or destruction of data. All sample analysis results will be stored in a computer database. Hard copies of all data will be retained and filed for reference and forwarding to the regulatory agencies upon request. In general, data validation will be performed in accordance with Environmental Protection Agency (EPA) protocol by a subcontractor and verified by NRF personnel. Additional Document Control and Inventory information is provided in section 4.0.

2.0 FIELD ACTIVITIES

Field sampling activities will be documented using the NRF FLBs, the NRF Sample Data Sheets, Chain-of-Custody forms, and sample labels and seals. At the time of sample collection the NRF Sample Data Sheet, sample labels, seals, and Chain-of-Custody forms will be completed and documented in the FLB. Below is a brief discussion of these documents.

2.1 Field Log Book Requirements

The main purpose of maintaining an FLB is to record sufficient information so that sampling can be reconstructed without consulting the sample collector. Quality Control samples collected in the field such as duplicates, triplicates, trip blanks, and field blanks will be recorded in the FLB. Any decontamination of equipment performed in the field will be recorded in the log book. The names of the NRF field contacts, the NRF address, and the types of processes that have produced waste discharged to the IWD will be entered in the beginning of each log book. The following are the minimum requirements for each log book entry:

1. Sampling point location
2. Type of sample (i.e., soil, sludge, water, etc.) or field measurement (pH, temperature, etc.)
3. Sample containers and preservatives
4. Number and volumes of samples collected
5. Purpose of sampling (i.e., surveillance, contract, spills, etc.)
6. Description of sampling point including depth
7. Date and time of collection
8. Unique NRF sample number
9. Personal Protective Equipment worn
10. Names of all personnel present
11. Field observations (i.e., sunny, windy, raining, temperature, etc.)
12. Analyses to be performed

13. List of references such as maps or photographs of the sampling site, if applicable

14. Field equipment utilized including decontamination performed

15. Signature of person making the entry

The FLB will be maintained for each distinguishable portion of the job. Entries will be made by both NRF and subcontractor personnel. The FLBs will be reviewed by the Manager of Environmental Remediation or his designated alternate for completeness of entries on a weekly basis throughout the RI/FS project.

2.2 Sample Data Sheet

The NRF Sample Data Sheet is completed as the sample is collected (see Figure C-1 for an example of a sample data sheet). The sheet is divided into four sections. The first section is "Sample Identification" which contains the unique NRF sample number, sample location indicator, and NRF FLB Number. The sample number is a unique seven digit number which will be assigned consecutively and taken from the sample log book. This number consists of the year the sample was taken (92), the responsible organization (R) and a four digit sequential number (92R-xxxx). The location is a five digit indicator which will be based on survey reference stakes located every 100 feet from the ditch outfall. The NRF IWD Sampling and Analysis Plan contains maps showing the sample locations. The specific sample number and locations correlations will be recorded on the appropriate map during the sampling evolutions. The survey stakes will be used to accurately measure the location of all samples in and around the ditch. All bore holes will be surveyed and assigned X, Y, coordinates based on the State Plane Coordinate System. The specific borehole and the correlating coordinates will be recorded on the appropriate map during the survey.

The second section, "Sample Collection", identifies the collector, date, time, specific location, sample description, and any field observations (e.g., general weather conditions such as temperature, wind speed and direction). The third section is the "Sample Procedure" for a particular type of analysis and matrix. Technique specific data sheets are included in Appendix E of the Work Plan as NRF SOPs. An example is given in Figure C-1. The sample procedure has boxes to be checked as the sample is collected. The fourth section, "Sample Shipment", records the analytical laboratory which will analyze the samples and the sample shipment information. The original Sample Data Sheet will be filed in the NRF Sample Data Sheet Book. Even though the Sample Data Sheets and the FLBs contain duplicate information, both are maintained to aid in information retrieval. The Sample Data Sheets are filed by the unique sequential sample number while the FLBs are maintained in the project files.

2.3 Chain-of-Custody Form

The Chain-of-Custody Form is a required document used to track the samples from collection to final analysis. The form is completed as the sample is collected and shipped, and will be kept with the samples at all times. It must be signed by each person taking custody of the samples. Normally this form will be signed by the sample collector, the NRF sample custodian or NRF personnel receiving the samples from the collector, NRF Traffic shipping personnel, and the technician at the subcontracted laboratory receiving the samples. Any movement of the samples at the analytical laboratory will be tracked with the laboratories internal custody procedures. The Chain-of-Custody form, the NRF Data Sheet and the FLB will all be reviewed for accuracy prior to sample shipment to the analytical laboratory. The original copy of the Chain-of-Custody Form will be filed with the sample analytical results. Figure C-2 is the Chain-of-Custody Form utilized by NRF. Additional details of how the Chain-of-Custody is to be completed and used are contained in section 5.0 of the QAPjP and SOP SC-19.

2.4 Sample Labels and Seals

All samples collected at NRF must have an NRF label and seal on each sample container. The designated NRF sample number and the signature of the sample collector are written on each label and seal. Information including the date and time of sample collection, sample location and description along with identification of the preservative used, if any, will also be completed on the label. Figure C-3 contains a copy of a blank sample label and seal.

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3.0 SAMPLE MANAGEMENT AND TRACKING

All samples will be recorded in the NRF sample log book and tracked through the processes of shipping, receiving, validation, filing, and distribution of results. When the analysis data is returned to NRF, the data will be entered into the data management system. Data validation will be performed by either NRF or subcontractor personnel on 100% of all data collected in accordance with EPA Data Validation Protocol. The final validation will determine the quality level of the data. Items evaluated during validation include, for example, checks on holding times, checks of log books, instrument calibrations, the procedures used for the analysis, the blanks and control samples analyzed by the laboratory, method detection limits, and required quantitation and detection limits. Any discrepancies with the data set will be noted during the validation process. All validation notes and resolutions will be filed in the NRF IWD hard copy file with the data set. NRF will perform an additional independent audit validation on a minimum of 10% of the validated data as a quality check of the original validation.

3.1 Laboratory Quality Assurance/Quality Control Data

The analytical laboratory will follow the general QA/QC procedures in their Quality Assurance Plan which is included in Part B of Work Plan Appendix B (QAPjP). These include several QA/QC reviews of the data prior to submittal to NRF. Procedures for verifying the accuracy of laboratory instruments, sample measurement quality assurance procedures, and sample handling procedures are also included. Laboratory QA/QC records will be kept on file at the laboratory facility and audited by NRF as discussed in the QAPjP.

3.2 Project Quality Assurance/Quality Control Data

The Data Quality Objectives and the QAPjP for this project are found in Part B of Appendix B of the Work Plan. The QAPjP defines the number and types of quality assurance samples that will be used. QA samples include matrix spikes, matrix spike duplicates, trip blanks, field blanks, and performance samples. Once samples are analyzed and results reported to NRF, the data will be reviewed, validated and then reported to the EPA and the Idaho Department of Health and Welfare (IDHW). The records associated with the shipments of samples to and from the laboratory, and all QA/QC information received from the laboratory, will be kept in the project files at NRF and will be readily accessible for review and forwarding to IDHW and the EPA at their request. Figure C-4 shows the flow of analytical data from sample collection to delivery to IDHW, the EPA, and the project files.

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4.0 DOCUMENT CONTROL AND INVENTORY

4.1 Filing System

All information regarding the IWD will be filed in the project files. The information files will be kept in lockable multiple drawer safes and storage lockers that will be in the NRF Environmental Remediation office area. All reports prepared for IDHW, and the EPA will also be kept in the project files. All communications with the regulatory agencies will be filed to keep a record of resolutions of their comments and a chronological record of decisions regarding the IWD. These file safes will contain the documents generated by the RI/FS including the FLBs, the analytical laboratory results, chain-of-custody forms, correspondence and other records and information pertinent to the IWD RI/FS. All data and documents that are used in the final decision process will be placed in the Administrative Record as defined in the Community Relations Plan. The original copy of all information placed in the Administrative Record will be stored at NRF in the master Administrative Record file. The information files will be maintained after the project is complete for future reference as specified in the INEL Federal Facility Agreement and Consent Order (FFA/CO).

4.2 Electronic Data Management

All analyses results will be entered into a computer database management system, reviewed, validated, and evaluated. Following validation, the hard copy results will be kept in lockable multiple drawer safes and storage lockers. Analysis results will be entered into the database management system electronically or by manual keyboard entry. Double entry verification of the data in the database will be accomplished by entering the data a second time by keyboard and resolving any differences in the two entries by comparing the entries with the hard copy data. This ensures that the data in the database is accurate. Data will be protected by computer security provisions to prevent unauthorized access to the system and database. Hard copies of the data will also be kept on file as a backup to the database. The database management system will be compatible with the electronic media supplied by the subcontractor laboratory and the data validation system maintained by the subcontractor and NRF. As a minimum, the data to be entered in the database for inclusion in the data record will include:

1. Location, time, date, and type of the sample
2. Analyses performed and the results
3. Depth of sample, if applicable
4. Individual collecting the sample
5. Laboratory performing the analyses
6. NRF shipping date

7. Laboratory receipt date

8. Date of analyses

9. Unique Sample number and laboratory analysis identification number

10. Date analyses results were received by NRF

NRF will establish and maintain databases for compilation of validated and quality assured technical decision-level data that will be considered or relied upon in selection of response actions.

4.3 Reports

Reports will present data in the form of tables, graphs, and maps as needed to show sample parameters by concentration, location, depth, spacial variation, and statistical evaluations performed. Any abnormal or unexpected results will be noted and discussed. Problems will be discussed during biweekly Remedial Project Manager teleconferences and Waste Area Group Manager teleconferences. The INEL FFA/CO requires a monthly status report. In this report the project status and significant problems will be addressed. In accordance with the FFA/CO NRF will provide a hard copy of validated data to IDHW and the EPA within 75 days after sample collection. The data will be provided in summary format as the validated data becomes available but no later than 120 days after collection. The complete data package will be available at NRF for detailed review upon request.

NRF ENVIRONMENTAL REMEDIATION SAMPLE DATA SHEET

SAMPLE IDENTIFICATION

TECHNIQUE No. 1

Sample # _ _ _ - _ _ _ _ Location _ _ - _ _ - _ Log Book # _____

SAMPLE COLLECTION

Collector: _____ Date: _____ Time _____

Specific Location: _____

Sample Description: _____

_____

_____

Field Observations: _____

_____

SAMPLE PROCEDURE FOR: 1. TOTAL METALS FOR SOLID MATRICES - GRAB

Analysis Method: 200.7 CLP-M, or 6010

- ☐ 1. Obtain a new 100 mL plastic bottle and a clean polypropylene scoop.
- ☐ 2. Complete preliminary label information and place the label on the bottle.
- ☐ 3. Remove the cap from the bottle being CAREFUL not to touch the inside of the cap and then lay the cap down with the liner up.
- ☐ 4. Use the scoop to collect the solid material and then place in the bottle.
- ☐ 5. Completely fill the bottle with the material.
- ☐ 6. Put the cap back on the bottle.
- ☐ 7. Complete the information on the label and seal and place the seal over the lid on the bottle.
- ☐ 8. Place the bottle in a cooler that contains ice packs or store in a refrigerator.

SAMPLE SHIPMENT

Date Shipped: _____

Laboratory: _____ Return Data to: _____

Collector's Signature and Date: _____ ☐ Copy placed in ER Log Sheet Book

CHAIN-OF-CUSTODY FORM

DATE _____ PAGE ___ OF ___

NAVAL REACTORS FACILITY
WESTINGHOUSE ELECTRIC CORP
P.O. BOX 2068
IDAHO FALLS, IDAHO 83401
ATTENTION:_____
PROJECT NAME:_____

LAB NO.	SAMPLE #	DATE	TIME	LOCATION	TESTING PARAMETERS											OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS

RELINQUISHED BY: _____ SIGNATURE	DATE	TIME	RECEIVED BY: _____ SIGNATURE	RELINQUISHED BY: _____ SIGNATURE	DATE	TIME	RECEIVED BY: _____ SIGNATURE
RELINQUISHED BY: _____ SIGNATURE	DATE	TIME	RECEIVED BY: _____ SIGNATURE	RELINQUISHED BY: _____ SIGNATURE	DATE	TIME	RECEIVED BY: _____ SIGNATURE
RELINQUISHED BY: _____ SIGNATURE	DATE	TIME	RECEIVED BY: _____ SIGNATURE	CONTACT:_____ TELEPHONE #:_____ JOB/PO #:_____ BLANKET ORDER RELEASE #:_____			REMARKS:
RELINQUISHED BY: _____ SIGNATURE	DATE	TIME	RECEIVED BY: _____ SIGNATURE	SAMPLER (SIGNATURE)	(PRINTED NAME)		
RECEIVED FOR LABORATORY BY: _____ SIGNATURE	DATE	TIME					SHIPPED VIA:

Figure C-3 - Sample Label and Seal

WESTINGHOUSE ELECTRIC CORPORATION
NAVAL REACTORS FACILITY
P.O. BOX 2068
IDAHO FALLS, IDAHO 83401

ENVIRONMENTAL REMEDIATION

SAMPLE # ☐☐☐-☐☐☐☐ LOCATION ☐☐-☐☐-☐

COLLECTOR:_____ SAMPLE DESCRIPTION: _____

DATE: _____ TIME: _____

SPECIFIC LOCATION: _____

PRESERVATIVE:_____

LABORATORY #: _____

ADSAFE #04-0531

WESTINGHOUSE ELECTRIC CORPORATION - ENVIRONMENTAL REMEDIATION

SAMPLE # ☐☐☐-☐☐☐☐ COLLECTOR _____

ADSAFE #04-0532

Figure C-4 - Analytical Data Flow Diagram