LOCKHEED MARTIN

Y/ER-275

ENVIRONMENTAL RESTORATION PROGRAM

Environmental Compliance Plan for the Lower East Fork Poplar Creek Remedial Action Project at Oak Ridge, Tennessee

This document has been approved by the Y-12 Plant Technical Information Office for release to the public. Date: 7/3/96

ENERGY SYSTEMS ER

MANAGED BY
LOCKHEED MARTIN ENERGY SYSTEMS, INC.
FOR THE UNITED STATES
DEPARTMENT OF ENERGY

UCN-17560 (6 8-95)

Y/ER-275

Energy Systems Environmental Restoration Program

Environmental Compliance Plan for the Lower East Fork Poplar Creek Remedial Action Project, Oak Ridge, Tennessee

Date Issued—July 1996

Prepared for the
U.S. Department of Energy
Office of Environmental Management
under budget and reporting code EW 20

Environmental Management Activities at the
OAK RIDGE Y-12 PLANT
Oak Ridge, Tennessee 37831-8169
managed by
LOCKHEED MARTIN ENERGY SYSTEMS, INC.
for the
U.S. DEPARTMENT OF ENERGY
under contract DE-AC05-84OR21400

DISCLAIMER

APPROVALS

Environmental Compliance Plan
for the Lower East Fork Poplar Creek
Remedial Action Project,
Oak Ridge, Tennessee
(Y/ER-275)

Concurred with:

L. Wayne McMahon — 6/27/96

Wayne McMahon, Environmental Manager — Date

Concurred with:

J. E. Myrick — 6/27/96

Tim Myrick, Technical Manager — Date

Concurred with:

Robert M Meccia — 6/27/96

Bob Meccia, Design Manager — Date

Concurred with:

John M McCollum — 6-27-96

John McCollum, Construction Manager — Date

Approved by:

P M McLaughlin — 6-27-96

Tom McLaughlin, Project Manager — Date

PREFACE

This *Environmental Compliance Plan for the Lower East Fork Poplar Creek Remedial Action Project at Oak Ridge, Tennessee* (Y/ER-275) was prepared in accordance with the *Lower East Fork Poplar Creek Project Plan* (ITO FY96 019/R2) dated Febrary 20, 1996. This work will be performed under Work Breakdown Structure 1.4.12.3.1.04.41.20 (Activity Data Sheet 93LE). The plan summarizes the elements of the environmental compliance plan for the Lower East Fork Poplar Creek Remedial Action Project.

CONTENTS

ABBREVIATIONS

ARAP	Aquatic Resources Alterations Permit
ARAR	applicable or relevant and appropriate requirements
BMP	best management practices
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CM	construction manager
COE	Corps of Engineers
DOE	U.S. Department of Energy
EFPC	East Fork Poplar Creek
EM	environmental manager
ESWMO	Energy Systems Waste Management Organization
EPA	U.S. Environmental Protection Agency
ER	Environmental Restoration
Energy Systems	Lockheed Martin Energy Systems, Inc.
FFA	Federal Facility Agreement
FPSC	fixed price subcontractor
NEPA	National Environmental Policy Act
NOAA	National Oceanic Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
ORR	Oak Ridge Reservation
OU	operable unit
POTW	Publicly Owned Treatment Works
ppm	parts per million
RA	remedial action
RCRA	Resource Conservation and Recovery Act
RD	remedial design
ROD	Record of Decision
SAIC	Science Applications International Corporation
SAP	sampling and analysis plan
SPR	spill prevention response
SWC	storm water control
TDEC	Tennessee Department of Environment and Conservation
WCO	Waste Certification Officer
WMP	waste management plan

1. INTRODUCTION

The remedial action (RA) for Lower East Fork Poplar Creek (EFPC), as defined by the Record of Decision (ROD), requires that soil contaminated with >400 parts per million (ppm) mercury be excavated and disposed. Based on the remediation goal, soil will be excavated from areas located at the National Oceanic Atmospheric Administration (NOAA) site and the Bruner site and disposed at the Industrial Landfill V at the Y-12 Plant.

1.1 PROJECT HISTORY AND SCOPE

The Lower EFPC operable unit (OU) site includes the soil and sediment in the 100-yr floodplain along Lower EFPC and the Sewer Line Beltway contaminated with mercury from historical operations at the Y-12 Plant. The Lower EFPC OU begins at the outfall of Lake Reality at the east end of the Y-12 Plant and ends at its confluence with Poplar Creek 23.3 km (14.5 miles) downstream. In addition, floodplain soils from Lower EFPC served as backfill material for construction of the Sewer Line Beltway through the city of Oak Ridge. The RA for Lower EFPC, as defined by the ROD, requires soil contaminated with >400 ppm mercury to be excavated and disposed.

The soil will be dewatered, if necessary, and disposed, by means of a Special Waste Permit granted by the Tennessee Department of Environment and Conservation (TDEC) in 1995, into the Industrial Landfill V. Water generated by dewatering or decontamination activities will be treated by the portable water treatment system and then discharged at the Oak Ridge Publicly Owned Treatment Works (POTW). After confirmation sampling is complete to ensure >400 ppm mercury soil has been removed, the excavation areas will be backfilled with soil from the West End Borrow Area.

The Phase I RA is scheduled to be completed in 1996 to accommodate commercial development at the NOAA site. Activities will be conducted by MK-Ferguson using a fixed price subcontractor (FPSC) and the oversight of the United States (U.S.) Department of Energy's (DOE's) prime contractor, Lockheed Martin Energy Systems (Energy Systems). The Phase II RA, scheduled for completion in 1997, will involve completion of remedial activities at the NOAA site and excavation and restoration of the Bruner Site. As currently planned, the Phase II activities will be conducted by an FPSC to MK-Ferguson under their supervision and Energy Systems oversight.

1.2 OBJECTIVE

The objective of this RA is to minimize the risk to human health and the environment from contaminated soil in the Lower EFPC floodplain pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Federal Facility Agreement (FFA) (DOE 1992) by requiring excavation of soils with >400 ppm mercury contamination.

The objective of this Project Environmental Compliance Plan is to summarize the compliance requirements outlined by the project plan; define roles, responsibilities, and relationships needed to effectively implement requirements; define environmental compliance oversight activities; and establish environmental compliance record keeping and reporting requirements.

The Project Environmental Compliance Plan promotes compliance with all the applicable or relevant and appropriate requirements (ARARs) as identified in the Lower EFPC ROD (DOE 1995) and shall not be modified without the written approval of the Project Manager. Changes to the project scope and activities require reevaluation of environmental requirements and modifications to this plan as appropriate.

Energy Systems will maintain environmental oversight responsibility for the Lower EFPC RA. The project Environmental Manager (EM) will be responsible for overseeing the project environmental compliance, including routine inspections of project activities throughout Phase I and Phase II RA. Any findings will be reported to the Construction Manager (CM), MK-Ferguson or their subcontractor, immediately for remedy.

2. IMPLEMENTATION OF REGULATORY REQUIREMENTS

The Project team, as required by CERCLA, has identified all ARARs within federal and state laws and regulations and DOE orders. Although the Lower EFPC OU is exempt from most of the permitting and other administrative standards under CERCLA Section 121(e), the substantive requirements (design and operating standards) of these regulations are applicable to RAs conducted within the area of contamination. Each primary regulatory requirement is briefly discussed in the following sections. Each section summarizes the primary regulatory requirements under the programs and establishes responsibilities for implementation, inspections, monitoring, record keeping, reporting, and personnel training as appropriate. Table 2.1 summarizes regulatory requirements, responsibilities, records management, and monitoring for both Phase I and Phase II RA of the Lower EFPC project. Appendix A contains the checklists that will be utilized by the Project EM during field inspections for regulatory compliance.

2.1 NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)

As of June 1994, DOE has taken the position of incorporating NEPA values into the CERCLA documentation. The Feasibility Study/Proposed Plan-Environmental Impact Statement for Lower EFPC (DOE 1994b) incorporated NEPA values into the report based on the nature and extent of contamination and human health and ecological risk assessment results presented in the Lower EFPC Remedial Investigation Report (DOE 1994a).

2.2 CERCLA/FFA

In 1989, the Oak Ridge Reservation (ORR) was placed on the National Priorities List and designated as a CERCLA site requiring investigation. In accordance with CERCLA and as agreed in the FFA by DOE, the U.S. Environmental Protection Agency (EPA), and the TDEC, the FFA establishes the CERCLA process and required documentation for the ORR.

2.2.1 Applicability of CERCLA Off-Site Rule (Title 40, Code of Federal Regulations [CFR], Part 300.440)

The EPA Region IV has provided guidance on the applicability of the Off-Site Rule Acceptability criteria and stated that the city of Oak Ridge POTW must be approved by EPA to accept the treated wastewater prior to the city issuing a permit for the project to discharge to the sanitary sewer. The EPA provided written approval to DOE and the city Oak Ridge via certified mail dated June 5, 1996, affirming the acceptability of nonhazardous waste at the city of Oak Ridge POTW.

Requirements	Responsibility	Inspection	Records	Monitoring
NEPA				
	Project Manager	N/A	NEPA values in CERCLA Documents	N/A
CERCLA				
App. E Milestones	Project Manager	N/A	FFA App E & Mod's	N/A
Permit Notification	Environmental Manager	N/A	LTR to TDEC Commissioner & EPA Regional Administrator	N/A
FFA Progress	Project Manager	N/A	FFA Quarterly Report	N/A
RCRA (Subtitle C)				
90 Day Accum. Area	Construction Manager → ESWMO	Weekly & after storm events	Checklist	None.
Phase I Storage (K-25) Notification	Construction Manager → ESWMO	N/A	Notification to TDEC	None
Storage	Construction Manager → ESWMO	N/A	Receipt Record	None
Phase II Disposal	Construction Manager → ESWMO	N/A	Receipt Record	None
RCRA (Subtitle D)				
Special Waste Permit	Project Manager	N/A	Permit Granted by TDEC, 1995	None
Modification	Project Manager	N/A	LTR from TDEC	None
Waste Staging Area	WCO	Weekly	Checklist	None
Disposal	Construction Manager → ESWMO	N/A	Receipt Record	None

Table 2.1 Environmental Compliance Requirements

Requirements	Responsibility	Inspection	Records	Monitoring
Clean Water Act				
POTW Permit	Construction Manager	Weekly	Sampling Report	SAP (Inf & Eff)
ARAP	Construction Manager	N/A	Request to TDEC	N/A
NPDES (BMP)				
SPR	Construction Manager	Weekly	Checklist	None
SWC	Construction Manager	Weekly & after rainfall	Checklist	None
Surface Water	Construction Manager	SAP	Sampling Reports	SAP (Up & Downstream)
Wetlands				
Delineation	Design Manager	N/A	COE Delineation Report	N/A
Restoration	Construction Manager	N/A	RA Report	None

*Requirements Listed in order as they appear in ECP.

Table 2.1 Environmental Compliance Requirements

2.2.2 Project Reporting/Schedule

In accordance with the FFA, a remedial investigation (DOE 1994a) and a feasibility study (DOE 1994b) were conducted, and an ROD (DOE 1995) and Remedial Design Work Plans (DOE 1996a, 1996b) were developed for the Lower EFPC OU. Appendix E of the FFA identifies deliverables, or reporting requirements, throughout the CERCLA process to EPA and TDEC and is revised as appropriate with the agreement of the three FFA Project Managers within DOE, EPA, and TDEC.

As specified in the FFA, DOE is required to notify the Commissioner of the TDEC and the Regional Administrator of EPA in writing of any permits required for off-site activities as soon as it becomes aware of such requirements. Upon request, the DOE shall provide the Commissioner of the TDEC and the Regional Administrator of EPA copies of all permit applications and other documents related to the permit process.

The FFA requires that DOE provide EPA and TDEC with quarterly written progress reports which describe the actions which the DOE has taken during the previous quarter to implement the requirements of the Agreement. The quarterly reports will also describe the schedule of activities to be taken during the upcoming quarter and provide a statement regarding the status of activities as required in Appendix E of the FFA. In addition, the progress reports will identify any anticipated delays in meeting time schedules, the reason(s) for the delay, and actions taken to prevent or mitigate the delay.

2.2.3 Responsibilities

The Lower EFPC Energy Systems Project Manager has the overall responsibility for ensuring compliance with the FFA and all CERCLA requirements. The Project Technical Manager and Project EM will provide guidance and support as necessary to ensure compliance with the CERCLA requirements outlined in the FFA.

2.3 RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) SUBTITLE C

Based on samples obtained prior to initiation of remedial activities, no hazardous waste is expected to be generated during the Lower EFPC RA. However, some small quantities of hazardous wastes, as determined by 40 CFR, Part 262.11, may be discovered. Satellite or 90-day accumulation areas will be established within the staging area pursuant to 40 CFR, Part 262.34, and managed by the Energy Systems Waste Certification Officer (WCO). The WCO will assure that the waste is properly segregated, containerized, labeled, and characterized, and that proper documentation is completed. If hazardous waste is encountered during the project, the waste will be shipped directly to a permitted off-site disposal facility. Any hazardous waste encountered during the Lower EFPC RA will be characterized using the most accurate and cost efficient method(s) including but not limited to documented process knowledge and/or sampling and analysis.

The Project Waste Management Plan (WMP) (LMES 1996e) identifies all of the waste streams expected to be generated, project participants roles and responsibilities, applicable waste management procedures for the K-25 site and Y-12 Plant, and waste acceptance criteria applicable for all wastes going to the landfill throughout the Phase I and Phase II RA. All wastes will be stored, transported, and disposed of in accordance with applicable waste and U.S. Department of Transportation regulations.

The FPSC will be responsible for handling, containerizing, labeling, and transporting wastes with oversight from the CM, Energy Systems Waste Management Organization (ESWMO), and

Environmental Management. The WCO will complete the required information and any necessary revisions needed to receive authorization to certify waste for proper disposition.

Hazardous waste accumulation areas will be inspected on a weekly basis. Regulatory inspections, as per the checklists in Appendix A, will be responsibility of the ESWMO; and records shall be maintained in the project files. Any violations or findings will be reported to the CM and Project Manager for remedy. The Project EM will provide oversight, conducting periodic review of the site and inspection checklists.

2.4 RCRA SUBTITLE D

A special waste disposal request was granted by TDEC in 1995 in order to dispose of the excavated waste from Lower EFPC in the Industrial Landfill V, a TDEC-permitted Class II facility at the Y-12 Plant. The special waste permit allows 25,000 yd^3 of mercury-contaminated soil to be placed in Cell 1 and Cell 2 of the permitted Industrial Landfill V. Due to confirmatory sampling being conducted prior to initiation of Phase I and Phase II RA, the estimated total volume of soil to be excavated has increased. The special waste permit will be modified prior to initiation of the work in order to clarify the disposal schedule and expected increase in the waste volume.

Most of the solid wastes will be considered to be sanitary or construction/demolition wastes and will be disposed of at existing Y-12 Plant facilities for those types of waste. The Project WMP (LMES 1996e) provides information to the remediation contractor regarding the types and quantities of wastes and environmental media that can be expected to be encountered during remediation activities and provides the required disposition of wastes and media. The Project WMP identifies all the waste streams to be generated, project participants and their roles and responsibilities, applicable waste management procedures for the Y-12 Plant and K-25 site, and waste acceptance criteria to all wastes going to the landfills throughout Phase I and Phase II RA. All wastes will be stored, transported, and disposed of in accordance with applicable waste and U.S. Department of Transportation regulations.

The FPSC will be responsible for handling, containerizing, labeling, and transporting wastes as necessary, with oversight from the CM, ESWMO, and Environmental Management. The WCO will complete the required information and any necessary revisions needed to receive authorization to certify waste for proper disposition.

Interim storage, located within the staging area at the NOAA site, will be provided for nonhazardous wastes for which the appropriate disposition has not been identified until the appropriate disposition can be determined. The WCO will utilize the checklist in Appendix A for inspections of the interim storage area.

2.5 CLEAN WATER ACT

2.5.1 Local POTW Permit

The Phase I and Phase II RA will generate contaminated water as a secondary waste. The wastewater will be generated from excavated soil dewatering, truck decontamination, and rainwater/groundwater pumped from the excavated areas. An application for a wastewater discharge permit has been prepared and submitted to the city of Oak Ridge for approval to discharge treated water from the Water Treatment Facility to the Oak Ridge POTW. Conservative influent estimates have been generated for the permit application. The total influent is estimated as an average 10,800-17,500 gal per day over the course of both the Phase I and Phase II RAs. These waters will be treated to meet waste acceptance criteria established in the POTW permit prior to discharge to the Oak Ridge POTW.

2.5.1.1 Water Treatment Design Overview. The water treatment design is based on a preliminary bench-scale treatability study by Barnett and Turner (1995). The design of the waste Water Treatment System has been the responsibility of the Design Manager, and operation of the unit will be the responsibility of the CM with oversight provided by the Project EM.

2.5.1.2 Sampling Requirements. As stated in the Sampling and Analysis Plan (SAP) for Treatment Water and Creek Water for the Lower EFPC (LMES 1996c), following treatment, water will be staged in holding tanks (effluent) prior to discharge. Two samples will be collected initially by Science Applications International Corporation (SAIC) during each phase from the influent water and corresponding effluent water and analyzed for a full suite of analytes. This initial sampling will help determine the effectiveness of the treatment system. Following the first two samples, samples will be collected weekly from the influent and effluent waters and analyzed for total metals and mercury. Sampling and analysis to meet the POTW permit requirements will be conducted as necessary.

Prior to mobilization, SAIC will prepare a manual that will include all procedures to be implemented in the field. Modifications to any procedures will be indicated on cover sheets attached to each procedure. The procedures manual, including the procedures modifications, will be submitted to the Energy Systems Project Manager and Quality Assurance Specialists for approval. The procedure manual will be a controlled document and will be distributed to all appropriate project personnel.

2.5.1.3 Personnel Training. Training required for this remediation includes that related to health and safety, site access, and project-specific procedures. Training will be completed prior to the commencement of field activities. Documentation of required training will be maintained in the SAIC Central Records Facility, the Environmental Restoration (ER) Document Center, the ER Project Manager's file, and in the field during remediation.

2.5.1.4 Record Keeping and Reporting. As stated in the SAP, field documentation is an integral part of the Quality Assurance/Quality Control plan for the field activities. Field logbooks will be of hard-cover construction with consecutively numbered pages. To maintain dual storage of records, field logbooks will be photocopied once a week, and the copies will be maintained at the SAIC office. When field work is complete, copies will be made of the completed logbooks, the copies entered into the SAIC Central Records Facility and the project file, and the original forwarded to the Y-12 Plant ER Records Center. MK-Ferguson, as the CM, will also receive copies of the completed logbooks.

Field data and on-site laboratory data will be recorded in field logbooks, collated into data tables, and reported both in interim progress reports and in the final Lower EFPC RA Report.

2.5.2 Aquatic Resources Alterations Permit (ARAP)

Based on excavation adjacent to the EFPC channel in accordance with TDEC 1200-4-3, the substantive requirements under an ARAP are applicable. An application for an ARAP was submitted to the state of Tennessee's DOE Oversight Division to keep the regulatory community informed of the planned actions. Excavation adjacent to the creek channel will be accomplished by excavating perpendicular to the creek channel and away from the channel. No dredging or permanent alteration of the creek channel will be necessary during this project.

2.5.3 National Pollutant Discharge Elimination System (NPDES)

The Lower EFPC RA is covered under the General NPDES Permit for Storm Water Discharges Associated with Construction Activity issued by the state of Tennessee's Division of Water Pollution Control. The permit addresses discharges of storm water runoff from the land disturbed by construction activity, including clearing, grading, and excavation, for operations that result in the disturbance of at least 5 acres of land area as required by TDEC 1200-4-10-.05. A Notice of Intent to construct has been submitted to TDEC-DOE/Oversight to keep the regulatory community informed of planned actions.

2.5.3.1 Best Management Practices (BMP) Plan. The Division 1 and Division 2 specifications incorporate BMP requirements. The Lower EFPC BMP Plan (LMES 1996a) includes the site-specific spill prevention and control, water quality monitoring, and environmental compliance practices to be employed throughout the RA.

Recurring formal site inspections will be made on a weekly basis and after storm events. Weekly site inspections of the Project site during construction activities will be made by the CM to confirm compliance with policies set forth in the Project BMP. A written record, including the date and findings of the inspection and notification of the appropriate parties, will be kept in the office of the CM.

2.5.3.1.1 Spill Prevention and Response (SPR) Plan. The Lower EFPC SPR Plan has been prepared covering both the Phase I and Phase II RA and is included in Appendix B of the Project BMP. The Project SPR Plan is a vital portion of the BMP and defines minimum technical requirements for spill prevention and containment during the Phase I and Phase II RA. Response actions to be taken for spill response and remediation are also addressed by the Project SPR Plan.

Appendix A of this Project Environmental Compliance Plan contains the Inspection Checklists to be used and also identifies the required frequency of inspections.

2.5.3.1.1.1 Roles and Responsibilities. The CM shall submit to the Project EM information concerning the type, typical quantities, and locations for storage and handling of all substances, as identified in the Project SPR Plan, at the Lower EFPC OU. This information will be updated as appropriate. The CM will implement and maintain an active surveillance program to ensure prompt discovery and proper notification in the event of any releases. The CM will ensure that personnel are properly trained concerning spill notification and initial response actions.

The Project EM will conduct inspections to ensure that spill prevention and containment measures are being properly implemented, and that appropriate spill control and response equipment is being maintained in ready condition. The Project EM will immediately report any findings to the CM.

More detailed roles and responsibilities are included in the Project SPR Plan for all parties involved in the remediation activities to ensure compliance with the Project SPR Plan as well as during the event of a spill response.

2.5.3.1.1.2 Reporting Requirements. The Project SPR Plan describes the reporting requirements (reportable quantities per CERCLA and oil sheens per the Clean Water Act) that must be met for releases of oil, hazardous substances, hazardous wastes, or wastewater that may occur in the Lower EFPC OU. Necessary notification to federal, state, and local agencies will be made by the Y-12 Plant Shift Superintendent and documented in accordance with established procedures.

2.5.3.2 Storm Water Control (SWC) Plan. The essential elements of the SWC Plan have been incorporated into Division 1 and Division 2 specifications. A primary concern of the Project SWC Plan is to ensure erosion and sediment control measures. All vegetative and structural practices will be implemented and maintained in accordance with the certified-for-construction plans and specifications approved in the Remedial Design (RD) Report and the RA Work Plans for Phase I and Phase II activities. Storm water will be managed by maintaining natural drainage flows within the floodplain to the creek by installing such other temporary drain ways as deemed necessary and using silt fencing and straw bale barriers as necessary. Additional practices may be implemented as necessary by the CM. The SWC Plan for the Lower EFPC provides additional information (LMES 1996d).

Storm water controls (e.g., erosion and sediment measures) will be checked weekly by the CM or his subcontractor, as necessary, during dry periods and within 24 hr after any rainfall. During prolonged periods of rainfall, checks and repairs will be made daily on all erosion control devices. The CM will maintain records of inspections and repairs. (See Appendix A for Construction Stabilization Checklist).

2.5.3.3 Surface Water Sampling. As discussed in the SAP for Treatment Water and Creek Water for the Lower EFPC (LMES 1996c), Lower EFPC will be sampled to ensure remediation activities are not adversely affecting EFPC.

Stream water samples will be collected upstream and downstream of remediation activities as specified in the SAP when remediation is active. Exact sampling locations will be determined in the field; described in the field logbook; and, once set, will remain the same throughout each phase of remediation. An effort will be made to collect samples as close to the same time each day as possible. The SAP (LMES 1996c) contains the surface water sampling analytes and frequency. The same training, record keeping, and reporting as stated in Sections 2.5.1.3 and 2.5.1.4 also apply to the surface water sampling that will also be performed by SAIC.

2.6 WETLANDS MITIGATION

Several acres of wetlands have been identified near or within the areas to be remediated during the Lower EFPC RA. Wetlands mitigation for Phase I is the responsibility of the land owner because the wetlands will be impacted by the land owner's development. The Wetlands Mitigation Plan for the Phase II Lower EFPC RA is addressed on both an excavation drawing and in the Division 2 Earthwork and Seeding and Seedlings specifications included in the RD Report.

The excavation drawing illustrates the area of wetlands affected by the excavation. The Earthwork specification details the backfill and compaction requirements for the areas within a wetland, and the Seeding and Seedling specification details the revegetation requirements. Wetlands mitigation and restoration are the responsibility of the CM with surveillance from the Project EM to ensure compliance with ARARs.

2.7 RADIOLOGICAL MATERIALS

The inapplicability of radiological material licensing requirements to the Lower EFPC Project has been reviewed with TDEC-DOE/Oversight personnel. TDEC has determined that no radiological materials license is necessary for this project.

2.8 GRADING PERMIT

The city of Oak Ridge has requested that a grading permit application be submitted prior to beginning work. The permit application, supporting documentation on erosion controls, and the permit fee have been submitted and approved.

2.9 DOE ORDERS

DOE orders have been reviewed for environmental compliance issues and are listed in Appendix B of the Project Plan (LMES 1996b) for Lower EFPC. Each order is indicated as to whether it is managed at the site or project level or has no applicability. Compliance with the DOE orders will be ensured by the Project team.

3. REGULATORY AGENCY INTERFACE

The Lower EFPC RA will be completed in accordance with documents developed to meet the requirements of the ROD and subsequent RA and RD documents. All primary documents will be approved by the three FFA project managers within DOE, EPA, and TDEC prior to initiation of the RA. Due to the location of the excavation at the NOAA and Bruner Sites, off the ORR, the city of Oak Ridge also will be kept informed of progress of the RA.

The Energy Systems Project Manager will have overall responsibility for the completion of the Lower EFPC RA. Energy Systems will maintain environmental oversight responsibility for this project. The Project EM will be responsible for overseeing the project environmental compliance, including inspections of project activities and keeping the Project Manager and DOE Program Manager informed of environmental issues as necessary. In the event that the Project EM, during the course of an inspection, discovers an environmental insult or violation of Lower EFPC RA plans and procedures, the EM will notify the Project Manager and CM immediately. The CM will be responsible for any activity within the construction site.

The Project Manager, Project EM, and DOE Program Manager will be responsible for updating the FFA project managers of the RA progress and notifying them as necessary. Also, any coordination regarding RCRA or Clean Water Act with TDEC will be the joint responsibility of the Project Manager, Project EM, and the DOE Program Manager.

4. REFERENCES

Barnett, M. O., and Turner, R. R. 1995. *Treatment of Water from East Fork Poplar Creek Soils,* Lockheed Martin Energy Systems, Inc., Environmental Sciences Division, Oak Ridge Natl. Lab., Oak Ridge, Tenn.

DOE 1992. *Federal Facility Agreement for the Oak Ridge Reservation,* DOE/OR-1014, U.S. Environmental Protection Agency Region IV, Atlanta, Ga., Department of Energy, Oak Ridge Operations, Oak Ridge, Tenn., and Tennessee Department of Environment and Conservation, Nashville, Tenn., January 1.

DOE 1994a. *East Fork Poplar Creek--Sewer Line Beltway Remedial Investigation Report,* DOE/OR/02-1119&D2, Department of Energy, Oak Ridge, Tenn.

DOE 1994b. *Feasibility Study for the Lower East Fork Poplar Creek--Sewer Line Beltway,* DOE/OR/02-1185&D2, vol.1 and 2, Department of Energy, Oak Ridge, Tenn.

DOE 1995. *Record of Decision for Lower East Fork Poplar Creek, Oak Ridge, Tennessee,* DOE/OR/02-1370&D2, Department of Energy, Oak Ridge Natl. Lab., Oak Ridge, Tenn.

DOE 1996a. *Phase I Remedial Design Report and Remedial Action Work Plan for the Lower East Fork Poplar Creek Operable Unit, Oak Ridge, Tennessee,* DOE/OR/01-1448&D2, Department of Energy, Oak Ridge, Tenn.

DOE 1996b. *Phase II Remedial Design Report on the Lower East Fork Poplar Creek Operable Unit, Oak Ridge, Tennessee,* DOE/OR/01-1449&D1, Department of Energy, Oak Ridge, Tenn.

LMES 1996a. *Best Management Practices Plan for the Lower East Fork Poplar Creek Operable Unit, Oak Ridge, Tennessee,* Y/ER-260, Lockheed Martin Energy Systems, Oak Ridge, Tenn.

LMES 1996b. *Lower East Fork Poplar Creek Project Plan, Revision 2,* ITO-FY96-019/R2, Lockheed Martin Energy Systems, Oak Ridge, Tenn.

LMES 1996c. *Sampling and Analysis Plan for Treatment Water and Creek Water for the Lower East Fork Poplar Creek Operable Unit, Oak Ridge, Tennessee,* Y/ER-261, Lockheed Martin Energy Systems, Oak Ridge, Tenn.

LMES 1996d. *Stormwater Control Plan for the Lower East Fork Poplar Creek Operable Unit, Oak Ridge, Tennessee,* Y/ER-259, Lockheed Martin Energy Systems, Oak Ridge, Tenn.

LMES 1996e. *Waste Management Plan for the Lower East Fork Poplar Creek Operable Unit, Oak Ridge, Tennessee,* Y/ER-264, Lockheed Martin Energy Systems, Oak Ridge, Tenn.

Appendix A

INSPECTION CHECKLISTS

CONSTRUCTION SITE STABILIZATION CHECKLIST

Project Description_____

Date Inspected_____

Are the following stabilization measures in place?	Yes	No	N/A	Remarks/Actions
1. Mulching				
2. Fabric Mats				
3. Berms				
4. Diversion Ditch/Channels				
5. Trees/Shrubs				
6. Gabions/Riprap				
7. Check Dams				
8. Temporary Controls				
9. Other				
Are the following acceptable?	**Yes**	**No**	**N/A**	**Remarks/Actions**
1. Grading				
2. Top Soil Utilization				
3. Sediment Traps/Basins				
4. Buffer Zone				
5. Sediment Disposal				
6. Storm Pipes (inlet/outlet)				
7. Access Roads				
8. Appropriate Vegetation (with density greater than 70%)				
9. Other				

If no is checked for any item, an explanation should be provided in the remarks section.

Comments Section and/or conditions otherwise noted:_____

Erosion Control Inspection Checksheet

Y = Yes, N = No, U = Uncertain, NA = Not Applicable

1. Are contaminated/hazardous areas within the area to be inspected? ____

2. Is the area to be inspected part of an existing project? ____
   Name _____

3. Are there signs of sediment leaving the construction (disturbed) area? ____

4. Are access roads properly drained,surfaced,and maintained?____

5. Are there streams, ponds, or marchy area affected by the area to be inspected? ____

6. Are gullies present? ____ Depth _____

7. Are diversion ditches adequate? ____

8. Are erosion control measures properly installed and functional? (i.e., hay bales staked,silt fence properly secured, etc.)____

9. Are there any protective buffer zones as a part of this project (or area to be inspected)? ____

10. Are buffer zones properly marked and/or protected? ____

11. Is topsoil segregated, marked with a sign, and properly protected from erosion? ____

12. Are check dams and/or sediment traps in need of maintenance?_

13. Has trapped sediment removed from sediment control structures been properly disposed of (i.e., buried, vegetated, etc.) to avoid washing away? ____

14. Has final grading been performed? ____

15. Has seed, mulch, and fertilizer been properly applied and in a timely manner? ____

16. Is revegetation and/or other actions taken to ensure permanent stabilization adequate? ____

17. Are there temporary sediment controls in place that are no longer needed and ready to be removed? ____

Comments: _____
_____
_____

Inspection No. _____

Date: _____

Time: _____

Water Compliance Inspection Program

1. Inspection Type: Erosion Control Inspection

2. Inspector(s): _____

3. Area(s)/Zone(s) Inspected: _____

_____

4. Observed Condition: _____

_____

_____

5. Required Action: _____

_____

_____

6. Follow-up: _____

_____

_____

7. Reference(s): _____

_____

_____

8. Notes/Comments: _____

_____

_____

_____

_____

Table A-1. Inspection log sheet for Container Storage and Transfer Operations

Item	Types of problems	Frequency	Observations and Status	Date and nature of corrective action
Container placement	Adequate aisle space, stable placement, containers not stacked, volume limits met for fire cabinets	Weekly		
Labeling of containers	Improper identification, labels missing	Weekly		
Containers	Corrosion, leakage, structural defects, bulged heads, dents, container closed, proper type container, segregated from ignition sources; protected from direct sunlight and heat	Weekly		
Segregation of incompatible materials	Storage of incompatible materials in same area, improper container type	Weekly		
Base	Uneven settlement, erosion, wet spots, discoloration	Weekly		
Secondary Containment	Cracks, holes, tears, deterioration, wet spots; adequate containment volume; compatible liner material	Weekly		
Storage/Dispensing Area	Marked to exclude ignition sources and with NFPA sign; Segregation distance (>50ft) from EFPC, ignition sources maintained,	Each setup or Weekly		
Product Transfer Operations	Fittings checked; Capacity determined before transfer; containers inspected and secured for transfer; mobile facility in stand-by and secured for transfer; proper type equipment used	Each setup or Weekly		

Table A-2. Inspection Log Sheet for Tank Storage and Dispensing Operations

Item	Types of problems	Frequency	Observations and Status	Date and nature of repairs/remedial action
Tank shell	Compatible material; Corrosion, cracking, deflection blistering, rust or discoloration; leakage; vent blockage, marked to exclude ignition sources and with hazard sign	Weekly/Each Use		
Secondary containment	Cracks, holes, tears; deterioration, leakage, uneven settlement, wet spots, accumulated precipitation; adequate capacity; compatible FML material,	Weekly/Each Use		
Base	Uneven settlement, erosion, wet spots, cracking, signs of structural failure; sloped away from EFPC	Weekly/Each Use		
Pipes and hoses	Hose/coupling separation; cuts, blisters, cracks, leaking joints, or other leaks, corrosion, structural instability, deterioration; properly supported	Weekly/Each Use		
Valves	Seal or packing leaks; leakage at joints, corrosion, deterioration, proper and free operation; proper position; check and isolation valve present as necessary	Weekly/Each Use		
Nozzles, fittings, and connections	Cracks, corrosion, deterioration loose connections	Weekly/Each Use		
Pumps	Seal leakage; excess vibration; leaking connections; necessary control switches present and operational; adequate containment capacity present;	Weekly/Each Use		
Flow/Pressure and Level I&C	Necessary controls present and properly operating; calibration frequency; proper output; vent capacity correct and properly operating	Weekly/Each Use (calibrate quarterly)		
Storage and Transfer Area	Proper segregation from ignition sources and EFPC; Properly marked to exclude ignition sources; protected from sunlight and heat	Weekly Each Use		
Transfer Operations	Lines, fittings checked for transfer; capacity determined for transfer; Equipment, connections drains, lines checked before departure; Mobile unit secured for operation; Two person policy for transfer	Weekly Each Use		

Table A-3. Inspection Log Sheet for Wastewater Collection and Treatment

Item	Types of problems	Frequency	Observations and Status	Date and nature of repairs/remedial action
Wastewater Collection tanks	Leakage, structural defects dents, proper transfer and movement; stable and proper placement; aisle space maintained	Weekly		
Wastewater Storage Tank	Compatible material; Corrosion, cracking, deflection blistering, rust or discoloration; leakage,	Weekly/Each Use		
Secondary containment	Cracks, holes, tears; deterioration, leakage, uneven settlement, wet spots, accumulated precipitation; adequate capacity; compatible FML material,	Weekly/Each Use		
Base	Uneven settlement, erosion, wet spots	Weekly/Each Use		
Pipes and hoses	Hose/coupling separation; cuts, blisters, cracks, leaking joints, or other leaks, corrosion, structural instability, deterioration; properly supported	Weekly/Each Use		
Valves	Seal or packing leaks; leakage at joints, corrosion, deterioration, proper and free operation; proper position; check and isolation valve present as necessary	Weekly/Each Use		
Nozzles, fittings, and connections	Cracks, corrosion, deterioration loose connections	Weekly/Each Use		
Pumps	Seal leakage; excess vibration; leaking connections; necessary control switches present and operational; adequate containment capacity present;	Weekly/Each Use		
Flow/Pressure and Level I&C	Necessary controls present and properly operating; calibration frequency; proper output	Weekly/Each Use (calibrate quarterly)		
Storage and Transfer Area	Proper segregation from EFPC	Weekly Each Use		
Transfer Operations	Lines, fittings checked for transfer, capacity determined for transfer; minimum freeboard maintained written operating procedure followed for treatment system	Weekly Each Use		

Table A-4. Inspection log sheet for Hazardous Waste Accumulation

Item	Types of problems	Frequency	Observations and Status	Date and nature of corrective action
Container placement	Adequate aisle space, stable placement, Protected from heat, sunlight, ignition sources; incompatible waste segregated	Weekly		
Labeling of containers	Improper identification, marked "Hazardous Waste;" labels not completed or missing	Weekly		
Containers	Corrosion, leakage, structural defects, external spillage bulged heads, dents, container closed, proper type container, segregated from ignition sources container evaluated	Weekly		
Segregation of incompatible materials	Storage of incompatible materials in same area, improper container type	Weekly		
Base	Uneven settlement, erosion, wet spots, discoloration	Weekly		
Secondary Containment	Cracks, holes, tears, deterioration, blisters wet spots; adequate containment volume; compatible liner material	Weekly		
Storage/Dispensing Area	Marked to exclude ignition sources and identify activity; Segregation distance (>100ft) from EFPC, ignition sources, site boundary maintained; Incompatible wastes segregated fire and spill response equipment present and maintained	Each setup or Weekly		
Transfer Operations	Fittings checked; outage maintained; Capacity determined before transfer; containers inspected and secured for transfer; proper type equipment used	Each setup or Weekly		

DISTRIBUTION

1. L. V. Asplund
2. W. H. Bessom
3. B. W. Henderson
4. B. D. Kurtz
5–6. A. K. Lee/DOE-OSTI
7. D. M. Matteo
8. D. McCune
9–13. T. J. McLaughlin
14. L. W. McMahon
15. H. C. Newsom
16. P. T. Owen
17. J. K. Siberell
18. R. W. Weigel
19. D. Zimmerman
20. Central Research Library
21. ER Document Management Center—RC