



Many Voices Working for the Community

# Oak Ridge Site Specific Advisory Board

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February 16, 2001

Mr. Rod Nelson  
Assistant Manager for Environmental Management  
DOE/ORO  
P.O. Box 2001 EM-90  
Oak Ridge, TN 37831

**RE: Proposed Plan for Interim Source Control Actions for Contaminated Soils, Sediments, and Groundwater (Outfall 51) which Contribute Mercury and PCB-Contamination to Surface Water in the Upper East Fork Poplar Creek Characterization Area, Oak Ridge, Tennessee (DOE/OR/01-1839&D2) Comments**

Dear Mr. Nelson,

At our February 14, 2001 Board meeting, the Oak Ridge Site Specific Advisory Board approved the attached comments on *the Proposed Plan for Interim Source Control Actions for Contaminated Soils, Sediments, and Groundwater (Outfall 51) which Contribute Mercury and PCB-Contamination to Surface Water in the Upper East Fork Poplar Creek Characterization Area, Oak Ridge, Tennessee (DOE/OR/01-1839&D2)*.

We look forward to receiving your written response.

Sincerely,

A handwritten signature in cursive script that reads "Luther V. Gibson, Jr.".

Luther V. Gibson, Jr.

Enclosure

cc: Mildred Ferre, DOE/ORO  
Pat Halsey, DOE/ORO  
John Michael Japp, DOE/ORO  
Connie Jones, EPA Region 4  
Norman Mulvenon, LOC  
John Owsley, TDEC



## Comments on UEFPC Proposed Plan (DOE/OR/01-1839&D2)

Attached are comments and supporting material regarding the subject document. They are arranged as follows:

- Global comments
- General comments
- Specific comments
- Stewardship and Land-Use Controls comments, including a “Stewardship Activities Table” for UEFPC
- Various documents, charts and tables on CERCLA-NEPA integration and incorporating NEPA values into CERCLA actions.

**COMMENTS ON THE PROPOSED PLAN FOR INTERIM SOURCE CONTROL  
ACTIONS FOR CONTAMINATED SOILS, SEDIMENTS, AND GROUNDWATER  
(OUTFALL 51) WHICH CONTRIBUTE MERCURY AND PCB-CONTAMINATION TO  
SURFACE WATER IN THE UPPER EAST FORK POPLAR CREEK  
CHARACTERIZATION AREA, OAK RIDGE, TENNESSEE, JANUARY 2001  
(DOE/OR/01-1839&D2)**

**Global Comments**

The Oak Ridge Site Specific Advisory Board (SSAB) is on record as supporting the watershed approach to remediation (Final Report of the Oak Ridge Reservation End Use Working Group, July 1998, Stakeholder Reports on Stewardship July 1998 and December 1999). We believe that a comprehensive watershed approach to remediation planning is more effective than the usual unit-by-unit approach.

The watershed approach:

- permits consistent cleanup goals and standards for the entire watershed,
- focuses on major problem areas and relative risk,
- optimizes remediation efforts,
- allocates limited cleanup resources efficiently,
- enhances prioritization of cleanup activities and,
- facilitates a coordinated technical approach and fields implementation.

In addition, the watershed approach provides the public with a road map and schedule of proposed remediation activities, facilitates understanding and oversight of DOE's progress, and allows for comprehensive stewardship planning for the Reservation.

The watershed approach to remediation has been applied successfully to Bear Creek Valley, Melton Valley, and soon to Bethel Valley, but it appears to have met a roadblock with regard to Upper East Fork Poplar Creek (UEFPC) and East Tennessee Technology Park.

Our review of the UEFPC Proposed Plan highlights what we believe are issues related to the breakdown of the watershed approach. These include the following issues:

- lack of an overall approach to cleanup levels and development of a range of cleanup criteria,
- lack of an implementation strategy for remedial actions,
- fragmentation of analysis (i.e., the UEFPC Proposed Plan describes only the effects of mercury and PCB contamination on surface water),
- lack of an overall approach to stewardship, and
- lack of a satisfactory approach to and discussion of cumulative impacts.

Previous UEFPC documents (e.g., the Remedial Investigation Report and the Feasibility Study) presented a holistic approach to UEFPC remediation. However, regular review and approval of the

UEFPC Feasibility Study is incomplete. Nevertheless, the public has been presented with an addendum to the unapproved document. Thus, it appears that with publication of the D3 UEFPC Proposed Plan, DOE, EPA Region 4, and the Tennessee Department of Environment and Conservation (TDEC) are renegeing on their commitment to a watershed strategy for the Oak Ridge Reservation.

The SSAB is requesting from each of the three parties an explanation of this decision. Specifically:

- Is this change from the watershed approach a conscious decision?
- If so, why wasn't the public notified and involved?
- If the decision just evolved (i.e., without formal documentation), we question if this is an appropriate way to run a CERCLA regulated remediation program.

We ask that DOE, EPA Region 4, and TDEC provide their specific reasons for not taking the watershed approach to UEFPC.

In addition, we are requesting a public meeting with DOE, EPA Region 4, and TDEC to discuss and resolve these issues with regard to the watershed approach for UEFPC and the East Tennessee Technology Park. Furthermore, we expect the transcript of the meeting and a summary of the meeting to be included in the CERCLA Administrative Record.

### **General Comments**

More justification is needed for development and selection of a mercury treatment technology that involves capturing mercury from a vent stream, either in the case of proposed water treatment or treatment of sediments to meet EMWMF WAC.

The proposed plan lacks sufficient information on how the proposed water treatment scheme was developed and the extent to which it has been demonstrated.

Some modeling is claimed to have been performed that demonstrates that mercury levels in air emissions from the air stripper will be below a risk-based hazard index of 1 for the remediation workers. Air emissions from CERCLA projects fail to receive sufficiently rigorous evaluation to address all concerns that may be raised by personnel in proximity to remediation efforts. A case could be made that air emissions from CERCLA waste treatment could have more potential impact to these individuals than a hypothetical "no action" alternative. Additional effort is needed to communicate current information about the status of remediation projects, particularly the schedule for execution of field work and types of operations underway. Based on concerns raised, the regulators involved in the CERCLA decisions may need to give additional consideration to performance standards similar to maximum achievable control technology for permanent facilities and to emissions sampling or monitoring beyond which meets minimum regulatory requirements but is reasonable and feasible.

## Specific Comments

**Page 2, Figure 1:** Please show West End Mercury Area (WEMA), Outfalls 51 and 200, and Station 17 on Figure 1.

**Page 3:** Please add a brief discussion of future land use (probably in the “Scope of the Proposed Remedial Action”) to clarify up front that although the baseline risk assessment was based on residential, industrial, and recreational use, anticipated future use of the Y-12 Plant and the Upper East Fork Poplar Creek CA is industrial (see page 14). Please reference and add the End Use Working Group recommendation to the document as an appendix.

**Page 4, 14:** Please give references to the “Consent Order” and “the interim goals established by the FFA parties for surface water quality.”

**Page 9, Table 1:** Please add applicable standards to Table 1 for all listed contaminants.

**Page 14:** “The RAO for this interim action is as follows:

- Restore surface water to human health recreational risk-based values at Station 17.”

**Page 14,** 8 and 12 lines from the bottom of column 2: Please change “would” to “will”.

**Page 17,** top of column 2: “All alternatives would meet CERCLA ... to protect ... except during storm events...”

**Pages 18 and 27:** “All alternatives are consistent with the LEFPC remedial action. Mercury releases are not anticipated to be sufficient to recontaminate flood plain soils and cause exceedance of the 400 parts per million (ppm) soil remediation level established in the LEFPC ROD.”

- Please add a few words to explain why mercury releases during storm events would not recontaminate LEFPC flood plain soils.
- Will there be monitoring/sampling of LEFPC water and sediments following storm events or periodically to assure the public that there are no exceedances of the 400 ppm soil remediation level? Please address this issue briefly.

**Page 18,** 8 lines down in column 1, and page 19, bottom of second column: Please add a few words about “off-site treatment”. Where are you sending the sediments? Where will the treated material be disposed?

**Pages 19 and 20,** 13 lines up in column 1, and in Sediment Removal, column 2, and in Table 3: Please make it clear why the Y-12 Plant is not likely to have “recreational human surface water users.”

**Page 19**, column 2, 10 lines down and 11 lines up: Please locate where the sediments will be dewatered.

**Page 20, Table 3**: Please add a stewardship column to the table.

**Page 22**, Land Use Controls Section: Please see comments for this section in the attached Comments and Recommendations for Stewardship and Land Use Controls.

**Page 22**, Monitoring, line 1: Change “would” to “will.” Please provide the frequency of monitoring and where the data will be located.

**Page 25**, 6 lines down in column 1: Please include an indication of when you expect to initiate the remedial action (e.g., fall 2001, spring 2002).

**Page 25**, Excavation of Building 81-10 Area: All of a sudden, on page 25, we hear about the Building 81-10 Area. We suggest you introduce it as a mercury source in the mercury-contaminated areas section on page 8.

**Page 25**, Contaminated Soil/Sediment Treatment Alternatives section: Please briefly describe on-site treatment. Does this mean a new treatment facility or the use of an existing facility or modification of an existing facility?

**Page 27**, Long-term Effectiveness and Permanence: Please see comments for this section in the attached Comments and Recommendations for Stewardship and Land Use Controls.

**Pages 28 and 30**, NEPA Values: This section should make it clear that DOE relies on the CERCLA process for review of remedial actions and that NEPA values (i.e., cumulative effects, off-site, ecological and socioeconomic impacts) are to be considered in CERCLA actions to the extent practicable. Furthermore, in all cases, NEPA and NEPA/CERCLA guidance and regulations stress that the efforts and analyses are to focus on significant environmental issues and alternatives and that discussion of impacts must be in proportion to their significance. Thus, we recommend that you delete Table 5 on page 30 from the proposed plan because all of the items in the impacts column are “minor, none, limited, or negligible.” Inclusion of Table 5 contributes to the confusion and lack of understanding of the DOE NEPA/CERCLA Integration Policy and DOE Order 451.1A. Please see attached overview of NEPA/CERCLA integration prepared for the ORSSAB.

**Page 30**, Commitment to Stewardship: The proposed plan does not meet requirements in the ORR LUCAP, and it ignores the SSAB recommendations on Stewardship Requirements in CERCLA Documents submitted to DOE on July 6, 2000, and also found in the Stakeholder Reports on Stewardship. While the ORR EM Program has made great strides with regard to public involvement in EM activities, we believe it must increase its commitment to stewardship for those areas on the ORR that will remain contaminated.

## **Comments and Recommendations for Stewardship and Land Use Controls (LUCs) on the Upper East Fork Poplar Creek Characterization Area (UEFPC CA) Proposed Plan**

### **INTRODUCTION**

Since 1997, Oak Ridge area stakeholders have taken a keen interest in stewardship requirements for remedial actions on the Oak Ridge Reservation. This interest stems from the belief that stewardship is the most important element in any remedial decision, as it is potentially its weakest link. Failure of stewardship will, in many cases, result in failure of the remedy to maintain overall protection of human health and the environment. Oak Ridge stakeholders cannot accept any decision that leaves waste material or residual contamination in place, unless we can be assured that reliable measures are available to ensure that the remedy will remain protective of human health and the environment for as long as the waste material or residual contamination remains a threat. As such, the evaluation of alternatives must adequately consider all needed stewardship actions and costs, and the final decision must clearly demonstrate an understanding of those stewardship actions necessary for protection of human health and the environment.

The Oak Ridge Site Specific Advisory Board (SSAB) does not believe that the remedy selection process currently being conducted on the Oak Ridge Reservation is giving adequate consideration to stewardship issues. The Records of Decision (RODs) currently being signed do not provide full understanding of the stewardship requirements for selected remedies. While we recognize that the RODs that have been signed to date address only parts of the total remediation within a given watershed, the remedies selected generally represent the final action for the source areas being addressed. As such, a thorough evaluation and description of stewardship requirements is warranted.

### **COMMENTS AND RECOMMENDATIONS**

References to land use controls (LUCs) are scattered throughout the draft UEFPC CA Proposed Plan. This review of the document is an effort to assemble the pieces in order to decide if stewardship is adequately described and, if not, to provide input to revision of the document. The basis for these comments is found in the two Oak Ridge Reservation Stakeholder Reports on Stewardship (July 1998 and December 1999) and the Oak Ridge Reservation Land Use Control Assurance Plan (ORR LUCAP, November 1999).

By way of introduction, we note that the proposed plan, only addresses LUCs and does not mention stewardship. As described in the Stakeholder Reports, stewardship is much broader than LUCs (i.e., physical and institutional controls). Stewardship includes clear authority and responsibility to ensure the long-term implementation of programs to protect human health and the environment. Those responsible for stewardship and their roles must be determined (e.g., federal, state, and local governments and stakeholders). Activities needed to ensure the integrity of remediation must be described (e.g., monitoring, maintenance, surveillance, enforcement, inspection and reevaluation, and public participation). Accurate and durable information records regarding contamination risks and stewardship requirements must be readily available and accessible. And, reliable long-term funding must be available

because competent sustainable stewardship is impossible without financial support. **To that end, stewardship costs must be factored into the analysis and selection of remedial actions.**

On page 14 of the proposed plan, it is stated that LUCs “. . . are an integral part of each of the three response action alternatives under consideration, and will be included in any remedy selected based on one of these alternatives.” On page 17, it is stated that “All alternatives rely on LUCs for protection of potential human receptors within the UEFPC CA.” The ORR LUCAP states that “. . . an adequate description of the LUCs along with conditions for their use should be included in the appropriate decision documents [i.e., proposed plan, record of decision (ROD). . .]” **Thus, we expect to see a section devoted to discussion of stewardship accompanied by a table that outlines stewardship requirements for each of the three alternatives.** (See attached Stewardship Activities Table.)

On Page 22, in the Land Use Controls section, it is stated that if LUCs are part of the UEFPC ROD, they will be implemented in a Land Use Control Implementation Plan (LUCIP) that follows the ROD and regularly checked for effectiveness in accordance with the LUCAP. The EPA Region 4 LUCs policy and the ORR LUCAP list requirements for LUCAPs/LUCIPs. They include the following:

- Access controls
- Federal facility program and point-of-contact
- Commitment to funding
- LUCIPs
  - < identify the area that is under restriction
  - < identify each LUC objective for the waste unit
  - < specific controls and mechanisms required to achieve each identified objective
- Monitoring and field inspections
- Records maintenance
- Notifications
  - < of “major changes in land use”
  - < any action that may disrupt the effectiveness of a remedial action
  - < any action that might alter or negate the need for the LUC
  - < of property transfer
- Certification by the Manager, DOE-ORO, in the Remediation Effectiveness Report

The ORR LUCAP provides some examples of sample language for proposed plans and RODs. If used in the proposed plans and agreed to in the RODs, we believe the desired elements of stewardship would be adequately described and furthermore, post-ROD LUCIPs would be unnecessary. Any very specific requirements could be included in Remedial Design Work Plans.

Listed below by page number are some of the stewardship/LUC items found throughout the document. We believe that better organization of the stewardship/LUC issues would result in a more acceptable document especially since it is stated in several places (pages 14 and 17) that all alternatives rely on LUCs for protection of potential human receptors within the UEFPC CA.



- Pages 3 & 19: Under Scope of the Proposed Remedial Action (page 3) and Description of the Preferred Alternative (page 19), (6) controls to prevent consumption of fish from UEFPC and (7) monitoring of surface water are two of seven principal actions. Thus, we expect a more organized and comprehensive approach to stewardship.
- Page 6: The Union Valley Interim Action ROD “. . .selects institutional controls (license agreements with property owners requiring them to notify DOE or any changes in groundwater and/or surface water use). . .”  
- page 13: Current institutional controls as instituted under the Union Valley Interim ROD to protect current potential users.
- Page 13: Under Contaminated Soil. Contaminated areas are properly isolated, and institutional controls are in place to protect the current workers. In the absence of these controls, current or future workers would be at risk for unacceptable exposure.  
- Please describe the institutional controls.  
  
Under Surface Water Contamination. Both PCBs and Mercury have been identified as COCs that pose an unacceptable risk for ingestion of fish by recreational receptors.  
- Please make it clear that recreational receptors are not expected within the UEFPC CA.
- Page 14: Under Common Elements. Controls consisting of postings and periodic patrols are common elements of all three alternatives. Monitoring to ensure the effectiveness of the remedy would (note: change would to will) be conducted in surface water.  
  
The early action extraction and treatment of groundwater at the Y-12 Plant boundary to contain the East End VOC Plume would (note: change would to will) be continued although in some alternatives groundwater would be consolidated with surface water treatment.  
- A table of stewardship requirements might include a “common elements” category.
- Page 20: Table 3. Please add a stewardship column to the table.
- Page 22: Land Use Controls. This section lists only posting and periodic patrols and defers discussion of other LUCs to a LUCIP. In addition, it states that LUCs, once implemented “. . . will be regularly checked for effectiveness in accordance with the ORR Land Use Control Assurance Plan . . .”

This section is inadequate and not in accordance with the content and language for LUCs found in Appendix C of the LUCAP. Neither does it meet the LUCAP

requirement for an adequate description of the LUCs in decision documents.

- What does “regularly checked” mean?
- Who is responsible for checking?
- Where will the data/report be filed?
- Will there be a 5-year review to assess effectiveness?
- Will the remedial action be tracked in the Remediation Effectiveness Report?
- Who is the point-of-contact?

- Page 22: Monitoring, lines 2 and 4. Please change “would” to “will.” While this section is more complete than the Land Use Controls section, please include who will do the monitoring and how often, and where the results will be reported/published.
- Pages 27, 28: Long-Term Effectiveness and Permanence, lines 7-9. “Hydraulic isolation would require long-term maintenance and controls to ensure continued effectiveness.” Please change “would” to “will.”

On page 28 in the sidebar, the proposed plan states “Removal and hydraulic isolation actions would be highly effective as long as LUCs remain in effect and O&M are performed as planned.”

Please describe (in the Long-Term Effectiveness and Permanence section on page 27) the LUCs and O&M that are required.

It is impossible to know if the Remedial Action Objective (page 14) for this partial action will be met without an understanding of the LUCs and stewardship for the site.

- Page 31: Commitment to Stewardship. It is difficult to believe that DOE can so completely ignore the elements of stewardship developed in partnership with representatives of the community. This paragraph addresses fish only. Yet the previous paragraph starts with “Hazardous substances above health-based levels will remain if this remedy is implemented.” Furthermore, it is written in several places throughout the document that all alternatives rely on LUCs for protection of human receptors within the UEFPC CA (pages 13, 14, 17).

This section states that the LUCs identified and selected in a ROD will be included in a post-ROD LUCIP and that the DOE has agreed in the LUCAP to implement facility-wide certain periodic site inspection, certification, and notification procedures. This is inadequate. We expect to see the LUCs and stewardship elements included in the discussion and tables for the three alternatives in sufficient detail to support a reasoned evaluation of the LUCs and stewardship in the remedy proposal and selection process. A more complete discussion must be provided for the preferred alternative.

**The discussion of the preferred alternative must, at a minimum, include the strategies set out in the ORR LUCAP (i.e., access controls, federal facility program and point-of-contact, funding, monitoring and field inspection, notification, property transfer, certifications, change in status).**

**In addition, there must be mention of the 5-year review, the annual Remediation Effectiveness Report, the availability and location of data/reports/CERCLA and post-ROD documents.**

**There must be a commitment to public participation in post-ROD activities and review of post ROD documents. This is currently missing in the EPA policy “Assuring Land Use Controls at Federal Facilities” and the ORR LUCAP.**

**We recommend that the “Commitment to Stewardship” section of this document and all other proposed plans and RODs include the following statement:**

Radioactive and hazardous contaminants will remain in the UEFPC CA following the remedial actions described in the proposed plan and subsequent ROD. These residuals will require monitoring, maintenance of containment structures and other land use controls, and restriction of access for \_\_\_\_\_ years, in order to protect the public’s health and the environment. The implementation and funding of these activities is acknowledged to be the responsibility of the federal government, through its designated contractors or agents, until the hazards and risk are negligible. The federal government will provide for public involvement in the oversight of stewardship and land use control activities by supporting a citizens group and by ensuring public input to all CERCLA documents and subsequent reviews of contaminated areas until the site is suitable for unrestricted use.

## OAK RIDGE RESERVATION STEWARDSHIP ACTIVITIES TABLE

### UPPER EAST FORK POPLAR CREEK SOURCE CONTROL ACTIONS

Remedial Project (corrective action unit)	Remedial Actions to be taken	Remedial Action Start Date	Stew. Start Date/ Duration	Stewardship/Land Use Control Objectives	Stewardship/Land Use Control Actions Required to Meet Objectives	Monitoring and Review Frequency	Projected Stewardship Costs
Hydraulic isolation of West End Mercury area and water treatment for mercury	<ul style="list-style-type: none"> <li>• Asphalt caps over mercury runoff areas</li> <li>• Flush/reline/replace storm sewers</li> <li>• Dispose 100 yards soil and 350 yards sediment</li> <li>• Carbon treat mercury from Outfall 51</li> </ul>	~2004	~2007 soils  not clear how long water treatment will be necessary  stew. is perpetual	Protect surface water recreational user	Surface and ground water sampling, signs, weekly patrols, and deed restrictions to limit access to source areas	<ul style="list-style-type: none"> <li>• Quarterly sampling of surface water</li> <li>• Review remedy every 5 years</li> </ul>	Total annual O&M costs est. at \$1.4 million  Individual stew. costs not available
				Maintain caps in working order	Quarterly inspections, regular cap upgrades		
				Restrict access to capped areas	Fences to limit access to cap areas		
				Restrict ability to disturb soils	Deed restrictions to limit ownership and development		
Sediment removal from UEFPC and Lake Reality	<ul style="list-style-type: none"> <li>• Remove ~4000 yards from UEFPC</li> <li>• Remove ~8000 yards from Lake Reality</li> <li>• 70% disposal in EMWMF</li> <li>• 70% disposal off site</li> </ul>	~2007	~2011  stew. is perpetual	Protect surface water recreational user	Surface water sampling, signs, weekly patrols, and deed restrictions to limit access to source areas	<ul style="list-style-type: none"> <li>• Quarterly sampling of surface water</li> <li>• Review remedy every 5 years</li> </ul>	Individual stew. costs not available