Oak Ridge Site Specific Advisory Board Monthly Meeting

Wednesday, May 10, 2023, 6 p.m.

The mission of the Oak Ridge Site Specific Advisory Board (ORSSAB) is to provide informed advice and recommendations concerning site specific issues related to the Department of Energy's (DOE's) Environmental Management (EM) Program at the Oak Ridge Reservation. In order to provide unbiased evaluation and recommendations on the cleanup efforts related to the Oak Ridge site, the Board seeks opportunities for input through collaborative dialogue with the communities surrounding the Oak Ridge Reservation, governmental regulators, and other stakeholders.

CONTENTS

AGENDA

PRESENTER BIO

CALENDARS
1. May
2. June (draft)

BOARD MINUTES/RECOMMENDATIONS & MOTIONS
1. Draft February 8, 2023 Full Board Meeting minutes for approval
2. Draft March 8, 2023 Full Board Meeting minutes for approval
3. Draft Recommendation on the FY 2025 OREM Budget
4. Draft Chairs recommendation

REPORTS & MEMOS
1. Abbreviations & Acronyms
2. FY 2023 Incoming Correspondence
3. FY 2023 Travel Opportunities
4. Jones Chairs Meeting Contacts
5. Jones Chairs Meeting Trip Report
6. McManamy-Johnson Chairs Meeting Trip Report
7. Shields Chairs Meeting Trip Report
8. Member Bios
9. Proposed Plan for an Interim Record of Decision for Groundwater in the Main Plant Area at ETTP_Jan 2023

Oak Ridge Site Specific Advisory Board
Wednesday, May 10, 2023, 6:00 p.m.
Hybrid meeting

AGENDA

I. Welcome and announcements (L. Shields) 6:00–6:05

II. Comments from federal and state agency representatives
(L. Wilkerson, R. Petrie, S. Urquhart-Foster, K. Czartoryski)..... 6:05–6:10

III. Presentation: Main Plant Groundwater Remedies (R. Petrie)..... 6:10–6:30
Issue Group: *Bartholomew, Butler, Jones, Lohmann, McCormick, McCurdy, Michaels, Sharpe, Shields, Shoemaker, Tapp*
– Members, please inform staff if you wish to join this or any other topic on the Work Plan.

Questions regarding the **presentation/speaker only**..... 6:30–6:40
i. Board members
ii. Guests – Please indicate you wish to speak by using the "raise hand" action in Zoom and wait to be acknowledged. Or you may type your question in the chat window.

IV. Public comment period (S. Kimel)..... 6:40-6:50
i. Comments on **other topics or concerns** for DOE or the board – Comments previously received to be read into the record.
ii. *Comments pertaining to this meeting will continue to be accepted by email to orssab@orem.doe.gov by no later than 5 p.m. EST on Monday, Feb. 13, 2023.*

V. Call for additions & motion to approve agenda (L. Shields) 6:50
A. Requests for new action items
B. Next meeting –June 14 to discuss the Proposed Plan for K-31/33 Area Groundwater.

This ends the presentation portion of the meeting – presenters and subject experts may depart

VI. Board Business (L. Shields)..... 7:00–7:10
A. Vote to Approve Previous Meeting Minutes
a. Minutes of February 8, 2023
b. Minutes of March 8, 2023
B. Discussion & Vote on Budget Recommendation
C. Discussion & Vote on Chairs recommendation (no changes may be made)

VII. Responses to recommendations & DDFO's report (M. Noe) 7:10–7:15

VIII. Committee reports..... 7:15–7:20
A. EM/Stewardship (M. Sharpe)
B. Next meeting – May 24 for continued discussion on Main Plant Groundwater Remedies

IX. Additions to agenda & closing remarks (Shields)..... 7:20–7:30

X. Adjourn 7:30

Roger Petrie serves as the regulatory affairs specialist and Federal Facilities Agreement projects manager for the U.S. Department of Energy's (DOE) Oak Ridge Office of Environmental Management. Mr. Petrie brings unique insight and understanding to the position with more than 25 years of experience working for the Tennessee Department of Environment and Conservation (TDEC) and cleanup contractor UCOR.

Prior to joining the federal program in 2020, Mr. Petrie provided regulatory support to UCOR, the prime environmental cleanup contractor leading remediation projects across DOE's Oak Ridge Reservation. During his time with the state, he served as the Federal Facility Agreement projects manager for TDEC and worked with counterparts at the U.S. Environmental Protection Agency and DOE to facilitate Comprehensive Environmental Response, Compensation, and Liability Act cleanup on the Oak Ridge Reservation.

Mr. Petrie began his career in the Aquatic Biology Division of the Tennessee Valley Authority before transitioning to the Oak Ridge National Laboratory's Environmental Sciences Division conducting research focused on bioaccumulation of contaminants in fish. Mr. Petrie holds a BS and MS in Wildlife and Fisheries Science from the University of Tennessee – Knoxville.

Oak Ridge Site Specific Advisory Board

May 2023

Topic: ETTP Main Plant Area Groundwater Remedies

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	**2**	**3** Executive Committee meeting – 4 p.m. (virtual)	**4**	**5**	**6**
7	**8**	**9**	**10** Full board meeting – 6 p.m. (hybrid)	**11**	**12**	**13**
14	**15**	**16**	**17**	**18**	**19**	**20**
21	**22**	**23**	**24** EM & Stewardship Committee Meeting – 6 p.m. (hybrid)	**25**	**26**	**27**
28	**29**	**30**	**31**			

For information about attending meetings virtually or in person, please email orssab@orem.doe.gov at least 1 week prior to the scheduled meeting.

ORSSAB Support Office: (865) 241-4583 or 241-4584 **DOE Information Center:** (865) 241-4780

Oak Ridge Site Specific Advisory Board

June (draft) 2023

Topic: ETTP K-31/K-33 Area Groundwater Remedies

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2	3
4	5	6	7 Executive Committee meeting – 4 p.m. (virtual)	8	9	10
11	12	13	14 Full Board Meeting – 6 p.m. (hybrid)	15	16	17
18	19	20	21	22	23	24
25	26	27	28 EM & Stewardship Committee meeting – 6 p.m. (hybrid)	29	30	

For information about attending meetings virtually or in person, please email orssab@orem.doe.gov at least 1 week prior to the scheduled meeting.

ORSSAB Support Office: (865) 241-4583 or 241-4584 **DOE Information Center:** (865) 241-4780

Many Voices Working for the Community

Oak Ridge Site Specific Advisory Board

Monthly Meeting of the Oak Ridge Site Specific Advisory Board

DRAFT February 8, 2023 Meeting Minutes

The Oak Ridge Site Specific Advisory Board (ORSSAB) held its monthly meeting virtually via Zoom and in person at 1 Science.gov Way on Wednesday, February 8, 2023 at 6 p.m. Copies of referenced meeting materials are attached to these minutes. A video of the meeting was made and is available on the board's YouTube site at www.youtube.com/user/ORSSAB/videos.

Members Present

Atilio Anzellotti
Kris Bartholomew
Mary Butler
Harold Conner, Jr.
Paul Dill
Rosario Gonzalez
Amy Jones
Noah Keebler
Michelle Lohmann
Mike Mark
Thomas McCormick
Harriett McCurdy
Christine Michaels
Michael Sharpe
Leon Shields
Bonnie Shoemaker

Members Absent

John Tapp
Tom Tuck

[1]Third consecutive absence

Liaisons, Deputy Designated Federal Officer, and Alternates Present

Jay Mullis, Oak Ridge Office of Environmental Management (OREM) General Manager
Dennis Mayton, OREM
Melyssa Noe, ORSSAB Deputy Designated Federal Officer (DDFO), OREM
Roger Petrie, ORSSAB Alternate DDFO, OREM
Kristof Czartoryski, Tennessee Department of Environment and Conservation (TDEC)
Samantha Urquhart-Foster, U.S. Environmental Protection Agency (EPA)

Others Present

Shelley Kimel, ORSSAB Support Office
Sara McManamy-Johnson, ORSSAB Support Office
Emily Day, UCOR

Mark Maki, OREM
Erin Sutton, OREM
Brad Stephenson, TDEC
L'Tonya Spencer-Harvey, EPA
Carl Froede, EPA
Scott Anderson, UCOR
Conner Ingram, UCOR

Three members of the public were present.

Liaison Comments

Mr. Mullis – Mr. Mullis began the meeting by introducing new board members: Atilio Anzellotti, Kris Bartholomew, Mary Butler, Harold Conner, Jr., Paul Dill, Michael Mark, and Christine Michaels. He then gave members a brief update on achievements within the cleanup program since the board met last. He said UCOR took over operations at the Transuranic Waste Processing (TWP) late last year, and it has been a smooth transition. He then discussed OREM's recent public outreach regarding the planned Environmental Management Disposal Facility (EMDF), including a public information meeting held in December. Next, he said there is a public comment period planned for the spring regarding groundwater remedy selections at East Tennessee Technology Park (ETTP). He then moved on to the K-25 Viewing Platform planned for ETTP, and he said the project is moving along and the goal is to have a groundbreaking in the summer. Lastly, he highlighted OREM's recently launched news program, Energy Cast.

L'Tonya Spencer-Harvey – No comments.

Mr. Czartoryski – No comments.

Presentation

Ms. Lohmann introduced Dennis Mayton, presenter for the evening's topic on Ensuring Sufficient Waste Disposal Capacity for the Oak Ridge Reservation.

Mr. Mayton began his presentation by giving members an overview of the Oak Ridge Reservation's (ORR) current waste disposal facilities. He described the hierarchy used for making waste disposal decisions, and he said disposal options include recycle/reuse, sanitary waste ORR landfills, Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) waste landfills – including the Environmental Management Waste Management Facility (EMWMF), and shipping offsite.

Next, he gave an overall volume comparison of waste disposed of offsite versus onsite before then describing the locations of onsite disposal facilities supporting cleanup operations. He told members that onsite disposal facility capacity has been key to the success of ETTP cleanup. He then gave members an overview of EMWMF and its capacity and said the facility's remaining capacity supports completion of ETTP cleanup. He then gave members an overview of the cleanup required at the Oak Ridge National

Laboratory (ORNL) and Y-12 National Security Complex (Y-12) and said additional waste disposal capacity will be needed to complete these. He said EMWMF is expected to be nearly full at the end of the 2020s.

Mr. Mayton said DOE's Oak Ridge FY 2023 budget sustains cleanup momentum.

Next, Mr. Mayton gave additional details on permitted ORR landfills and the status of the planned EMDF. He described the waste disposal planning, operation, and oversight processes to be used with EMDF to offer multiple layers of protective mechanisms. He then outlined OREM outreach activities performed and planned for the EMDF project, and he described the steps remaining before EMDF construction can begin.

<u>After the presentation, board members asked the following questions:</u>

- Ms. Shoemaker asked whether waste acceptance criteria for EMDF has been established yet. She then asked how frequently water discharges from the facility will be monitored.
    - Mr. Petrie said waste acceptance criteria has not been completely established, however some aspects have been. He said the facility will not accept any transuranic (TRU) waste, listed hazardous waste, or mercury-characteristic waste. He said water discharge monitoring frequency has not been established yet.
- Mr. Conner asked when work will begin on rerouting the haul road and what impact that would have on groundwater remediation at ETTP.
    - Mr. Mayton said that will start later this summer. He said the work on the haul road will be scheduled to occur on weekends to avoid interfering with other work.
- Ms. Butler asked whether the current EMDF completion timeline will still allow for a two-year operational overlap with EMWMF.
    - Mr. Mayton said OREM is looking at making adjustments to the timing of deactivations to create more of an operational overlap with EMDF and EMWMF.
    - Mr. Petrie added that OREM is also looking at ways to extend the life of EMWMF to create more of an overlap. He said they're trying to find ways to segregate waste to send more to other landfills or reuse materials. He added that doing so increases the required amount of characterization, so it's a tradeoff.
    - Mr. Mullis said an important metric to remember is that the majority of the costs and the hazardous materials are in the "de-ac" or "pre-demo" work. He said once that work is done, it's usually much cheaper to remove the building itself because usually the structure itself is not that contaminated.
- Mr. Conner added that EMWMF has been a complete success in the investment of time and effort over the years and the safety aspect has been remarkable.

- Ms. Shoemaker added there have been a lot of lessons learned from EMWMF.
- Mr. Mullis said a lot of the lessons learned from EMWMF have gone into the design for EMDF.
- Ms. McCurdy asked how the required cleanup is determined.
    - Mr. Petrie gave an overview of the building characterization/inspection process.
- Mr. Anzellotti asked what would happen if any of the fill demonstration tests don't pass.
    - Mr. Mayton said they are not "go or no-go" tests, so they would result in design changes.
- Mr. Bartholomew asked what will happen to EMWMF when it is shut down.
    - Mr. Petrie said it will be capped and maintained in perpetuity by DOE.

Questions from the Public

- Mr. Sid Jones asked what data was used to develop the pie chart used on slide 4 in the presentation. He then commented on the importance of developing reasonable waste acceptance criteria for EMDF.
    - Mr. Petrie said that pie chart was constructed from data of not only what went into EMWMF, but also OREM's inventory of TRU waste, activity for material that is still to be disposed of, including materials from reactors ORNL, and a variety of other materials.

Public Comment

Mr. Doug Colclasure submitted a public comment via email before the meeting (see attached Public Comment #1).

Board Business/Motions

1. Mr. Shields asked for a motion to approve the October 12, 2022 meeting minutes.
    a. **2.8.23.1 Motion to approve the October 12, 2022 meeting minutes**
    Motion made by Ms. McCurdy and seconded by Ms. Butler. Motion passed.
2. Mr. Shields asked for a motion to approve the November 9, 2022 meeting minutes.
    a. **2.8.23.1 Motion to approve the November 9, 2022 meeting minutes**
    Motion made by Ms. Shoemaker and seconded by Mr. Dill. Motion passed.

Responses to Recommendations & Alternate DDFO Report

Ms. Noe told members there are no open recommendations and she encouraged members to sign up for issue groups. She then reminded members that the Spring Chairs Meeting will be held in Washington

D.C. in March and that Oak Ridge will host the Fall Chairs Meeting this year.

Committee Reports

Executive – None.

EM & Stewardship – None.

Additions to the Agenda & Open Discussion

None.

Action Items

Open

None

Closed

None

The meeting adjourned at 7:12 p.m.

I certify that these minutes are an accurate account of the February 8, 2023, meeting of the Oak Ridge Site Specific Advisory Board.

Leon Shields, Chair Michelle Lohmann, Secretary

May 10, 2023

Oak Ridge Site Specific Advisory Board

ML/sm

Many Voices Working for the Community

Oak Ridge Site Specific Advisory Board

Monthly Meeting of the Oak Ridge Site Specific Advisory Board

DRAFT March 8, 2023 Meeting Minutes

The Oak Ridge Site Specific Advisory Board (ORSSAB) held its monthly meeting virtually via Zoom and in person at 1 Science.gov Way on Wednesday, March 8, 2023 at 6 p.m. Copies of referenced meeting materials are attached to these minutes. A video of the meeting was made and is available on the board's YouTube site at www.youtube.com/user/ORSSAB/videos.

Members Present

Kris Bartholomew	Paul Dill	Christine Michaels
Mary Butler	Noah Keebler	Michael Sharpe
Harold Conner, Jr.	Harriett McCurdy	Leon Shields

Members Absent

Atilio Anzellotti	Michelle Lohmann	Bonnie Shoemaker
Rosario Gonzalez	Mike Mark	John Tapp
Amy Jones	Thomas McCormick	Tom Tuck

[1]Third consecutive absence

Liaisons, Deputy Designated Federal Officer, and Alternates Present

Jay Mullis, Oak Ridge Office of Environmental Management (OREM) General Manager
Karen Thompson, OREM
Melyssa Noe, ORSSAB Deputy Designated Federal Officer (DDFO), OREM
Roger Petrie, ORSSAB Alternate DDFO, OREM
Kristof Czartoryski, Tennessee Department of Environment and Conservation (TDEC)
Samantha Urquhart-Foster, U.S. Environmental Protection Agency (EPA)

Others Present

Shelley Kimel, ORSSAB Support Office
Sara McManamy-Johnson, ORSSAB Support Office
Emily Day, UCOR
Erin Sutton, OREM

Two members of the public were present.

Liaison Comments

Mr. Mullis – Mr. Mullis began the meeting by giving members a recap of the Waste Management Conference held the week prior. He said a record number of people attended the event, and OREM representatives participated in a couple of panels, which included discussion about UCOR's partnership with Isotek. Next, he said the Army Corp of Engineers was due to make an announcement within the next week about the K-25 History Center. Lastly, he said there was an event planned for April about the uranium 233 (U-233) processing and cancer research.

Samantha Urquhart-Foster – Ms. Urquhart-Foster said she and several EPA staff members have spent the week in Oak Ridge for the Oak Ridge partnering team meeting, and she summarized some of the recent OREM accomplishments.

Mr. Czartoryski – No comments.

Presentation

Mr. Shields introduced OREM's Karen Thompson, presenter for the evening's presentation on OREM's FY 2025 Budget Request.

Ms. Thompson began her presentation by giving members an overview of the federal budget process. She said that each Cabinet-level department submits a budget to the Office of Management and Budget (OMB), which then consolidates those budgets and prioritizes them. That prioritized budget is then sent for the President's approval before being submitted to Congress. She then further broke down the process after the proposed budget reached Congress.

Ms. Thompson said before all that happens, each individual office develops a budget. She said OREM maintains a comprehensive work plan that reflects all the priorities and work scope for the site through the end of the year 2047. She then described how OREM uses that comprehensive work plan to map out future work and prioritize the budget. She said the work is categorized according to what needs to be done for safety and regulatory compliance and then prioritized according to safety and regulatory compliance, future work needs and current work needs. After the site receives a planning target from headquarters, the plan is refined to fit within that target dollar amount.

She said Oak Ridge's FY 2022-2023 budget is comprised of two appropriations, defense and non-defense, and the equivalent of ten bank accounts. When funds are assigned to those "bank accounts," OREM may only perform work within the scope of each designated account. To use the funds for a different scope of work, OREM must first ask Congress to move the funds to a different account.

Ms. Thompson then gave members an overview of the various appropriation accounts in OREM's FY 2022 and FY 2023 budgets and FY 2022 accomplishments and FY 2023 planned accomplishments. Accounts included uranium 233 (U-233) disposition, transuranic (TRU) waste disposition, safeguard and security operations, Y-12 National Security Complex (Y-12) and Oak Ridge National Laboratory

(ORNL) surveillance and maintenance activities and operations, excess facilities cleanup, the Mercury Treatment Facility (MTF), Environmental Management Disposal Facility (EMDF), technology development, regulatory support, East Tennessee Technology Park (ETTP) cleanup, and pension and medical benefits.

She then discussed OREM's priorities, which include complete ETTP remediation, demolish excess contaminated facilities at ORNL and Y-12, build infrastructure to enable cleanup (MTF and EMDF), disposition U-233 material, disposition legacy transuranic contact-handled (CH) / remote-handled (RH) debris and sludges, and maintain and operate facilities at ORNL and Y-12.

Ms. Thompson concluded her presentation by noting that the FY 2024 budget is embargoed and added that this is an opportunity for the board to provide input on the FY 2025 budget.

<u>After the presentation, board members asked the following questions:</u>

- Mr. Conner asked whether OREM can negotiate the target dollar amounts provided by headquarters.
    - Mr. Mullis said the site typically is given a planning target and two additional "over" targets that are sometimes designated as percentages and sometimes designated as dollar values to use for planning purposes in case additional funds become available. He added that budget workshops are held for discussions regarding potential project impacts from budgetary actions.
- Ms. Butler asked for clarification of ORSSAB's role in the budget process.
    - Ms. Thompson said hearing the board's priorities allows OREM to ensure the work being done is the work that is important to the community.
- Mr. Conner asked how recent work done at Y-12, which is under the purview of the National Nuclear Security Administration (NNSA), and ORNL, which is under the purview of DOE's Office of Science (OSC), has impacted the budgeting process.
    - Mr. Mullis said it has not had a direct impact either positively or negatively. He said there has been a lot of support and advocacy among the entities, and he gave significant credit to UCOR for reaching out to NNSA and OSC.
- Ms. McCurdy asked whether the various DOE sites doing cleanup are in direct competition with each other for funds.
    - Mr. Mullis said the appropriators have a significant impact on the budget.
- Ms. Michaels asked if OREM has the capability to request excess funds from one category be moved to a different area.
    - Ms. Thompson said OREM can ask to re-program funds, and although DOE headquarters

has limited authority to do so, most of those requests must go back through Congress. Mr. Mullis added that typically if there is excess funds left in one category at the end of the year, this excess, called "carryover," is applied to the next year and that year's funding is adjusted accordingly.

Questions from the Public

- Mr. Luther Gibson asked for confirmation on OREM's funding categories. He then asked for clarification about funding and administration for Oak Ridge pensions.
    - Ms. Thompson confirmed OREM's funding categories and provided clarification regarding funding and administration for Oak Ridge pensions.

Public Comment

Public Comment #1 – See attached.

Public Comment #2 – Mr. Luther Gibson commented about the speed of the public release of budget information.

Board Business/Motions

The board was unable to conduct business due to lack of a quorum.

Responses to Recommendations & Alternate DDFO Report

Ms. Noe told members there are no open recommendations.

Committee Reports

Executive – None.

EM & Stewardship – Mr. Sharpe said the committee discussed the Environmental Management Disposal Facility (EMDF), and key takeaways from the discussion were that any potential changes to EMDF models would be communicated to the board and that tree clearing on the site is scheduled to begin this year. He said the committee has no recommendations related to EMDF at this time, however, a recommendation could come in the future if the board chooses to revisit the topic.

Additions to the Agenda & Open Discussion

None.

Action Items

Open

None

Closed

None

The meeting adjourned at 6:50 p.m.

I certify that these minutes are an accurate account of the March 8, 2023, meeting of the Oak Ridge Site Specific Advisory Board.

Leon Shields, Chair Michelle Lohmann, Secretary

May 10, 2023

Oak Ridge Site Specific Advisory Board

ML/sm

From: dougcolcl@aol.com <dougcolcl@aol.com>
Sent: Thursday, March 2, 2023 10:41:21 PM
To: Kimel, Shelley (CONTR) <Shelley.Kimel@orem.doe.gov>
Subject: [EXTERNAL] Greenways/Roads BORCE Areas., Smoother Surfacing

Attn : ORSSAB
The agreement to set aside the areas (BORCE) - North Boundary and at Dyllis Orchard , includes providing recreational opportunities as compensation for losses/contamination to Watts Bar Lake from DOE programs over the years . Public use of the BORCE areas and roads was given a recreation $ value in this compensation & resource damage mitigation agreement, see at bottom. When Jim Evans was the TWRA manager he was sponsoring modest mileage of woodland trails as a option for visitors to have dirt tread trails and avoid the gravel by having more inviting trail conditions.

The rock spreading going on now around BORCE especially E-BORCE is resulting in unappealing (even unsafe) conditions with long stretches of loose rock ranging in size from 3" down to dust. One report of twisted ankle and others finding cycling difficult going & treacherous where the rock is loose and soft. There has been discussion about this going back more than 10 years. The importance to maintain roads for wildland fire fighting equipment access is understood but every time new rock is added the greenway enjoyment is diminished and visitors stop coming for several years until traffic (infrequent as it is) eventually compacts or scatters the large loose rock out of the main tracks. As for visitor enjoyment it was a perfect condition for walkers and cyclists before this recent reapplication. In general it takes about 5 years or so before the new rock gets compacted .

The rock being used now has considerable "fines" dust but the first big rain washes that away leaving large loose rock. It seems there can be a balance at no additional cost. Would it be possible without too much cost/effort or road durability to adjust the graveling requirements & techniques on the E - W BORCE and Gallaher Bend roads ? The Gallaher Bend greenway road has large loose rock on the first mile or so then is ideally compacted smooth with much smaller rock. Back 15 years ago the ES&H contractor used a roller that helped some . Perhaps smaller stone and more uniform application could be used at virtually the same cost with the objective of a compacted result appealing to walkers and cyslists.

Visitation of the Greenways drops dramatically when this overtopping with large rock happens. Families with young kids like the safety of these trails, shaded & away from traffic , but won't be visiting now minus some way to uniformly smooth and compact the new gravel. Since this recent reapplication, some walkers and cyclists stay off the gravel by using the edge of the ditch line . Even dogs are staying over at the edge. We are coming up on the spring when use increases, for example UT and area HS track teams like these safe trails for training runs.

In years past I have talked to a number of the folks on the crews doing the road maintenance and they tell me there are suitable options for rock (milled asphalt , # 10 crushed limestone or pugmill or screenings,) and ways to achieve smooth compacting. I have noticed the gravel roads in Cherokee NF and Catoosa WMA are a smaller crushed stone. All different size rock and asphalt milling material that

Rogers Group quarries & crushes is within a dollar or so per ton the same price . See attached product and pricing sheet.

I know everyone that i stop to talk to will appreciate anything you can do. Some pictures attached.

We have invested $ millions over nearly 20 years establishing the BORCE and its community economic & public enjoyment benefits, hopefully by working together we can focus on the figurative "last mile" of investment so to speak , to gain all the values envisioned/intended in the BORCE .

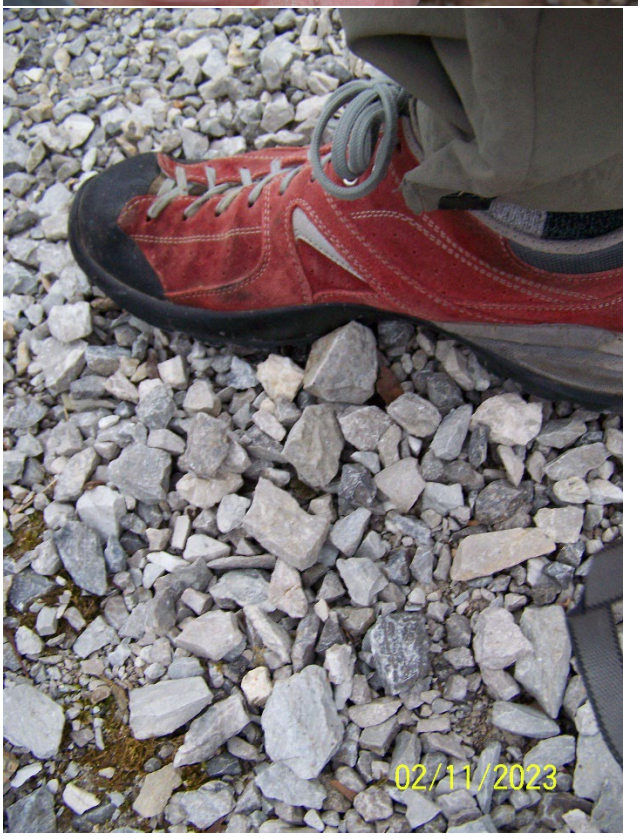
The convenient accessibility of these trails offers significant economic value to Oak Ridge and the surrounding counties. One of the first marketing assets mentioned in realty ads for the adjoining residential developments is convenient access to greenway trails.

Please help anyway you can .

---Respectfully , Doug Colclasure, Committee Member, Greenways Oak Ridge and West End Trail Steward

Oak Ridge Reservation Natural Resource Damage Assessment Evaluation of Contaminant-Related Losses in Watts Bar Reservoir and Gains from the Black Oak Ridge Conservation Easement (BORCE) -- Final Report | 18 September 2008
https://doeic.science.energy.gov/uploads/G.0719.065.0012.pdf
https://doeic.science.energy.gov/uploads/G.0719.009.0011.pdf


02/11/2023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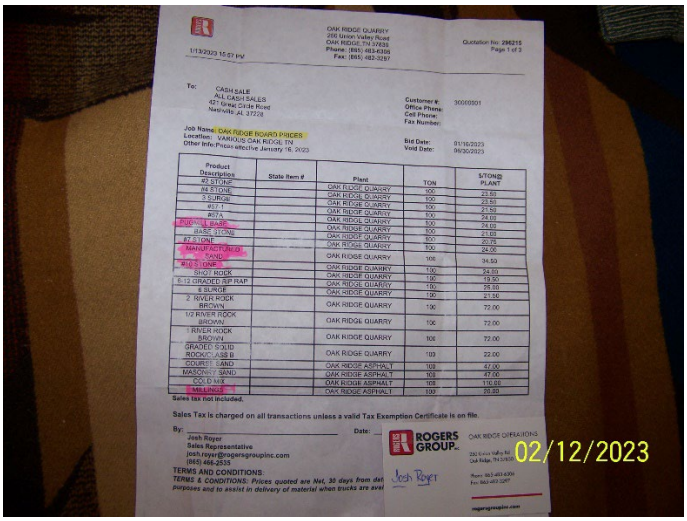
OAK RIDGE QUARRY
Quotation No: 296215
Page 1 of 3
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To:
CASH SALE
ALL CASH SALES
421 Great Circle Road
Nashville, AL 37228
Customer #: 30000501
Job Name: OAK RIDGE BOARD PRICES
Location: VARIOUS OAK RIDGE TN
Other Info: Prices effective January 16, 2023
Bid Date: 01/16/2023
Void Date: 06/30/2023
Product Description
State Item #
Plant
TON
$/TON@ PLANT
#2 STONE
OAK RIDGE QUARRY
100
23.85
#4 STONE
OAK RIDGE QUARRY
100
23.85
3 SURGE
OAK RIDGE QUARRY
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SHOT ROCK
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6-12 GRADED RIP RAP
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19.50
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2" RIVER ROCK BROWN
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72.00
GRADED SOLID ROCK CLASS B
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COURSE SAND
OAK RIDGE QUARRY
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22.00
MASONRY SAND
OAK RIDGE ASPHALT
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47.00
COLD MIX
OAK RIDGE ASPHALT
100
47.00
MILLINGS
OAK RIDGE ASPHALT
100
110.00
20.00
Sales Tax not included.
Sales Tax is charged on all transactions unless a valid Tax Exemption Certificate is on file.
By:
Date:
Josh Royer
Sales Representative
josh.royer@rogersgroupinc.com
(865) 466-2535
TERMS AND CONDITIONS:
TERMS & CONDITIONS: Prices quoted are Net, 30 days from
purposes and to assist in delivery of material when trucks are
ROGERS GROUP, INC.
OAK RIDGE OPERATIONS
02/12/2023


Black Oak Ridge
Conservation Easement
Rylie Orchard Road Hiking Trail
04/23/2016


05/09/2018

DRAFT

Oak Ridge Site Specific Advisory Board Recommendation xxx: On the FY 2025 Oak Ridge Environmental Management Program Budget Priorities

Background

Each year the U.S. Department of Energy (DOE) Environmental Management (EM) Program develops its budget request for the fiscal year (FY) two years beyond the current year, including requests from DOE field offices to develop the EM Program budget request to the president.

DOE-EM Headquarters typically issues guidelines to the field offices advising them how much funding they should reasonably expect when developing their FY+2 budget requests. The field offices then brief the public, the regulatory agencies, and the respective site-specific advisory boards and seek input from each regarding budget requests.

On March 8, 2023, the Oak Ridge Environmental Management (OREM) program presented on its FY 2025 budget formulation process to the Oak Ridge Site Specific Advisory Board (ORSSAB). This presentation provided content and discussions that ORSSAB used to draft its recommendations.

Discussion

In creating its recommendations for the FY 2025 OREM budget, ORSSAB focused on general near-term and long-term cleanup priorities identified by OREM. Project-specific objectives provided additional details for discussions that took place at the March 22, 2023 EM & Stewardship Committee meeting.

The board referred to the OREM 10-year Program Plan, the EM Strategic Vision, the current EM Budget Request, and the board's previous Recommendations for additional guidance on budget recommendations.[1]

Recommendations

ORSSAB supports OREM's Program Plan and recommends fully funding the activities that are currently supported by that Plan for FY 2025, broadly understood as follows:

- Complete remediation & transfer all potential property at ETTP.
- Continue demolition of excess contaminated facilities at ORNL & Y-12.
- Continue to develop infrastructure to enable cleanup at ORNL & Y-12.
  - Mercury Treatment Facility, including mercury technology development.
  - CERCLA waste disposal facility (EMDF).
- Continue disposition of U-233 material.
- Continue disposition of legacy transuranic debris and sludges, including use of data from the onsite sludge test area to inform design of the future Sludge Processing Facility.
- Maintain and operate facilities at ORNL and Y-12.

[1] All documents are available on www.energy.gov/orem or www.energy.gov/orssab.

With this support, ORSSAB recommends funding the FY 2025 budget to include all activities necessary to complete these cleanup priorities in an effective, timely and safe manner.

Related to this, ORSSAB is also concerned that inflationary pressures exist to an extent that has not been realized in 40 years; therefore, ORSSAB further recommends that the funds requested for FY 2025, 2 years from now, reflect the appropriate amount necessary to offset those inflationary pressures.

ENVIRONMENTAL MANAGEMENT SITE-SPECIFIC ADVISORY BOARD

Hanford Idaho Nevada Northern New Mexico

Oak Ridge Paducah Portsmouth Savannah River

INSERT DATE

Mr. William "Ike" White
Senior Advisor
U.S. Department of Energy (DOE) Office of Environmental Management (EM)
1000 Independence Avenue, SW
Washington, DC 20585

Dear Mr. White:

BACKGROUND

According to the EM SSAB charter (Section 3), the EM SSAB provides EM senior management "with advice and recommendations concerning issues affecting the EM program." The EM SSAB has made at least 10 recommendations to DOE since 2018, often at the request of DOE. The recommendation process includes three parts: (1) the EM SSAB recommendation, (2) the DOE response to the recommendation, and (3) the final policy action or implementation of the recommendation by DOE. While parts (1) and (2) are well recognized (e.g., in public postings on the EM SSAB website and responses distributed to local Boards), it is part (3), implementation, that makes EM SSAB recommendations meaningful and the recommendation process an effective use of time and other resources, those of both EM SSAB members and DOE.

It is important to review the implementation of recommendations for several reasons:

1. Ensuring accountability: Recommendation implementation reviews help ensure that DOE is held accountable for the advice it requests and/or receives from its volunteer Board members. By examining whether recommendations have been implemented as written, EM SSAB can assess how its efforts are valued and identify areas where further deliberations and recommendations are needed.
2. Improving effectiveness: Recommendation reviews provide an opportunity to assess whether recommended activities are working as intended and identify areas for improvement. By examining the results of recommendation implementation, EM SSAB and DOE can make adjustments to recommended activities to ensure they achieve their intended goals.
3. Enhancing transparency: Reviews of recommendation implementation increase transparency by providing a clear understanding of how recommendations are being implemented

and the outcomes they are producing. This transparency is critical for building trust in DOE and ensuring that the public has confidence in DOE and its clean-up activities.

4. Promoting learning: Recommendation implementation reviews provide an opportunity for EM SSAB and DOE to learn from their experiences and identify best practices for making and implementing recommendations. By sharing these best practices, EM SSAB and DOE can promote more effective and efficient recommendation making and implementation in the future.

RECOMMENDATION

The EM SSAB recommends:

1. DOE provide clear and publicly accessible information regarding implementation of EM SSAB Chairs recommendations for the last five years. In addition to a clear statement about implementation status (e.g., "Implementation of the recommendation is complete (or “ongoing”, “suspended”, or “discontinued”), the information should include an explanation of any deviations from the DOE response to the recommendation.

2. DOE report to the EM SSAB at least annually a summary of the status of all EM SSAB Chairs recommendation items and any recommendation action item completed during the reporting period.

Who We Are

The EM SSAB is the DOE-EM’s most effective vehicle for fostering two-way communication between DOE-EM and the communities it serves. The EM program is the world’s largest environmental cleanup program, and the EM SSAB its only citizen advisory board. For more than 20 years, the volunteer citizens of the EM SSAB have partnered with EM officials at both the local and national levels to ensure that the public has a meaningful voice in cleanup decisions.

Public participation is required/recommended as part of a number of environmental regulations. It is also good business practice, resulting in better decisions that often result in improved cleanup. Over the past two decades, EM SSAB members have volunteered over 48,000 hours of their time and submitted to EM officials over 1500 recommendations, 88% of which have been fully or partially implemented, resulting in improved cleanup decisions.

The EM SSAB comprises approximately 200 people from communities in Georgia, Idaho, Kentucky, Nevada, New Mexico, Ohio, Oregon, South Carolina, Tennessee and Washington. The Board is cumulatively representative of a stakeholder population totaling millions of people who are affected by generator sites, transportation routes and disposal sites. As we move forward, the EM SSAB welcomes the opportunity to highlight the value of this unique volunteer board and discuss its priorities during the months and years ahead.

Susan Coleman, Chair
Hanford Advisory Board

Teri Ehresman, Chair
Idaho Cleanup Project CAB

Anthony Graham, Chair
Nevada SSAB

Cherylin Atcitty, Chair
Northern New Mexico CAB

Leon Shields, Chair
Oak Ridge SSAB

Don Barger, Chair
Paducah CAB

Jody Crabtree, Chair
Portsmouth SSAB

Gregg Murray, Chair
Savannah River Site CAB

cc: Kelly Snyder, Designated Federal Officer, EM-4.32

Abbreviations/Acronyms List for Environmental Management Projects

AM – action memorandum
ACM – asbestos containing material
ARARs – Applicable or Relevant and Appropriate Requirements
ARRA – American Recovery and Reinvestment Act
BCV – Bear Creek Valley
BG – burial grounds
BV - Bethel Valley
CARAR – Capacity Assurance Remedial Action Report
CART - carbon steel casing dollies
CBFO – Carlsbad Field Office
CERCLA – Comprehensive Environmental Response, Compensation and Liability Act
CD – critical decision
CH – contact handled
CNF – Central Neutralization Facility
COLEX – column exchange
CS – construction start
CY – calendar year
D&D – decontamination and decommissioning
DARA – Disposal Area Remedial Action
DDFO – Deputy Designated Federal Officer
DNAPL – Dense Non-Aqueous Phase Liquids
DOE – Department of Energy
DSA – documented safety analysis
DQO – data quality objective
EE/CA – engineering evaluation/cost analysis
EFPC – East Fork Poplar Creek
EM – environmental management
EMDF – Environmental Management Disposal Facility
EMWMF – Environmental Management Waste Management Facility
EPA – Environmental Protection Agency
EQAB – Environmental Quality Advisory Board
ETTP – East Tennessee Technology Park
EU – exposure unit
EV – earned value
FACA – Federal Advisory Committee Act
FCAP - Facilities Capability Assurance Program
FFA – Federal Facility Agreement
FFS – Focused Feasibility Study
FPD – federal project director
FY – fiscal year
GIS – geographical information system

GW – groundwater
GWTS – groundwater treatability study
HQ – Headquarters
HRE – Homogenous Reactor Experiment
IROD – Interim Record of Decision
ISD - In-Situ Decommissioning
LEFPC – Lower East Fork Poplar Creek
LGWO – Liquid and Gaseous Waste Operations
LLW – low-level waste
MLLW – mixed low-level waste
MSRE – Molten Salt Reactor Experiment
MTF – Mercury Treatment Facility
MV – Melton Valley
NaF – sodium fluoride
NDA – non-destructive assay
NEPA – National Environmental Policy Act
NNSS – Nevada National Security Site (new name of Nevada Test Site, formerly NTS)
NPDES – National Pollutant Discharge Elimination System
NPL – National Priorities List
OR – Oak Ridge
ORGDP – Oak Ridge Gaseous Diffusion Plant
OREIS – Oak Ridge Environmental Information System
OREM – Oak Ridge Office of Environmental Management
ORNL – Oak Ridge National Laboratory
ORO – Oak Ridge Office
OROP - Oak Ridge Oxide Processing
ORR – Oak Ridge Reservation
ORRR – Oak Ridge Research Reactor
ORRS – operational readiness reviews
PaR – trade name of remote manipulator at the Transuranic Waste Processing Center
PCB - polychlorinated biphenyls
PCCR – Phased Construction Completion Report
PM – project manager
PP – Proposed Plan
PPE – Personal Protective Equipment
QAPP – Quality Assurance Project Plan
RA – remedial action
RAR – Remedial Action Report
RAWP – Remedial Action Work Plan
RCRA – Resource Conservation Recovery Act
RDR – Remedial Design Report
RDWP – Remedial Design Work Plan
RER – Remediation Effectiveness Report

RFI – Request for Information
RGRS – Reactive Gas Removal System
RH – remote handled
RI/FS – Remedial Investigation/Feasibility Study
RIWP – Remedial Investigation Work Plan
RmAR – Removal Action Report
RmAWP – Removal Action Work Plan
ROD – Record of Decision
RSE – Remedial Site Evaluation
RUBB – trade name of a temporary, fabric covered enclosure
S&M – surveillance and maintenance
SAP – sampling analysis plan
SEC – Safety and Ecology Corp.
SEP – supplemental environmental project
STP – site treatment plan
SW – surface water
SWSA – solid waste storage area
Tc – technetium
TC – time critical
TDEC – Tennessee Department of Environment and Conservation
TRU – transuranic, an artificially made, radioactive element that has an atomic number higher than uranium in the periodic table
TSCA – Toxic Substances Control Act
TWPC – Transuranic Waste Processing Center
U – uranium
UEFPC – Upper East Fork Poplar Creek
UPF – Uranium Processing Facility
URS/CH2M – (UCOR) DOE's prime cleanup contractor
VOC – volatile organic compound
VPP – Voluntary Protection Plan
WAC – waste acceptance criteria
WEMA – West End Mercury Area (at Y-12)
WHP – Waste Handling Plan
WIPP – Waste Isolation Pilot Plant
WRRP – Water Resources Restoration Program
WWSY – White Wing Scrap Yard
Y-12 – Y-12 National Security Complex
ZPR – Zero Power Reactor

FY 2023 Incoming Correspondence

#	Date	To	From	Description	DOEIC, Notified board officers of receipt
133	2/28/2023	Urquhart-Foster, EPA & Young, TDEC	Henry & Petrie, DOE	Federal Facility Agreement Milestone Extension Request for Submission of Addendum to The Remedial Design Report for The Disposal of Oak Ridge Reservation Comprehensive Environmental Response, Compensation, And Liability Act Of 1980 Waste, Oak Ridge, Tennessee Work Plan for Groundwater Monitoring Wells West of EMWMF (DOE/OR/01-1873&D4/A2)	DOEIC, Notified board officers of receipt
134	3/3/2023	Urquhart-Foster, EPA & Young, TDEC	Henry & Petrie, DOE	Transmittal of the Addendum to the Removal Action Work Plan for the Y-12 Facilities Deactivation/Demolition Project, Oak Ridge, Tennessee: Alpha-2 Complex Demolition (DOE/OR/01-2479&D1/A13/R2)	DOEIC, Notified board officers of receipt
135	3/3/2023	Urquhart-Foster, EPA & Young, TDEC	Hardin & Petrie, DOE	Transmittal of the Action Memorandum for the Ponds at the East Tennessee Technology Park, Oak Ridge, Tennessee: K-1007-P Holding Ponds, K-901-A Holding Pond, K-720 Slough, And K-770 Embayment (DOE/OR/01-2314&D4)	DOEIC, Notified board officers of receipt
136	3/6/2023	Petrie, DOE	Young, TDEC	TDEC Review (Follow-up) Revised Administrative Record Index dated October 31, 2022 and submitted November 9, 2022 in support of the Record of Decision	DOEIC, Notified board officers of receipt
137	3/6/2023	Urquhart-Foster, EPA & Young, TDEC	Henry & Petrie, DOE	Transmittal of U. S. Environmental Protection Agency Comments on the D1 Phase 3 (Borrow Areas) Characterization Report for the Environmental Management Disposal Facility, Oak Ridge, Tennessee (DOE/OR/01-2832&D1)	DOEIC, Notified board officers of receipt

FY 2023 Incoming Correspondence

#	Date	To	From	Description	DOEIC, Notified board officers of receipt
138	3/7/2023	Petrie, DOE	Young, TDEC	TDEC Approval: Federal Facility Agreement Milestone Extension Request for Submission of Addendum to the Remedial Design Report for the Disposal of Oak Ridge Reservation Comprehensive Environmental Response, Compensation, and Liability Act of 1980 Waste, Oak Ridge, Tennessee; Work Plan for Groundwater Monitoring Wells West of EMWMF (DOE/OR/01-1873&D4/A2)	DOEIC, Notified board officers of receipt
139	3/8/2023	Petrie, DOE	Froede, EPA	EPA Approval: of the Proposed Plan for an Interim Record of Decision for Groundwater in the Main Plant Area at the East Tennessee Technology Park, Oak Ridge, Tennessee (DOE/OR/01-2921&D2/R1)	DOEIC, Notified board officers of receipt
140	3/8/2023	Urquhart-Foster, EPA & Young, TDEC	Hardin & Petrie, DOE	Transmittal of the Phased construction completion Report for Exposure Unit Z2-19 in Zone 2, East Tennessee Technology Park, Oak Ridge, Tennessee (DOE/OR/01-2936&D2)	DOEIC, Notified board officers of receipt
141	3/8/2023	Urquhart-Foster, EPA & Young, TDEC	Hardin & Petrie, DOE	Transmittal of The Proposed Plan for The Record of Decision for Groundwater in the K-31/K-33 Area at The East Tennessee Technology Park, Oak Ridge, Tennessee (DOE/OR/01-2922&D2)	DOEIC, Notified board officers of receipt
142	3/8/2023	Petrie, DOE	Adams, EPA	EPA Approval: Addendum 1 (EU Z2-18) to the Fiscal Year 2009 Phased Construction Completion Report for Zone 2 Exposure Units 11, 12, 17, 18, 29, AND 38 at East Tennessee Technology Park, Oak Ridge, Tennessee (DOE/OR/01-2415&D2/A1/R1)	DOEIC, Notified board officers of receipt
143	3/9/2023	Petrie, DOE	Young, TDEC	TDEC Comments: Federal Facility Agreement Appendix 1-5 Information Assessment for Oak Ridge National Laboratory, Oak Ridge, Tennessee	DOEIC, Notified board officers of receipt

FY 2023 Incoming Correspondence

#	Date	To	From	Description	DOEIC, Notified board officers of receipt
144	3/10/2023	Petrie, DOE	Young, TDEC	TDEC Comment Letter Addendum to the Action Memorandum for the Y-12 Facilities Non-Time Critical Removal Action Deactivation/Demolition Project, Oak Ridge, Tennessee (DOE-OR-01-2462&D2-A1-R1)	DOEIC, Notified board officers of receipt
145	3/13/2023	Petrie, DOE	Young, TDEC	TDEC Approval Letter Waste Handling Plan for Demolition of the Oak Ridge Graphite Reactor Support Facilities, Buildings 3002, 3003, and 3018, Oak Ridge National Laboratory, Oak Ridge, Tennessee (DOE/OR/01-2904&D1)	DOEIC, Notified board officers of receipt
146	3/13/2023	Petrie, DOE	Urquhart-Foster, EPA	EPA Approval: Federal Facility Agreement Appendix I-5 Information Assessment for Oak Ridge National Laboratory, Oak Ridge, Tennessee (UCOR-5589)	DOEIC, Notified board officers of receipt
147	3/13/2023	Petrie, DOE	Urquhart-Foster, EPA	EPA Comments: Addendum 15 to the Remedial Design Report/Remedial Action Work Plan for Zone 2 Soils, Slabs, and Subsurface Structures at East Tennessee Technology Park Oak Ridge, Tennessee: Water Management In Exposure Unit Z2-13 DOE/OR/01-2224&D5/A15	DOEIC, Notified board officers of receipt
148	3/14/2023	Urquhart-Foster, EPA & Young, TDEC	Henry & Petrie, DOE	Notice of Non-Significant Change to the Record of Decision for Phase I Interim Source Control Actions in Upper East Fork Poplar Creek Characterization Area, Oak Ridge, Tennessee (DOE/OR/01-1951&D3)	DOEIC, Notified board officers of receipt
149	3/14/2023	Urquhart-Foster, EPA & Young, TDEC	Petrie, DOE	Transmittal of The Federal Facility Agreement Proposed Appendix J	DOEIC, Notified board officers of receipt
150	3/14/2023	Hughey, TDEC	Wilkerson, DOE	Notice of Deficiency – Class 11 Permit Modification for Permit Number TNHW-145 At the Oak Ridge National Laboratory	DOEIC, Notified board officers of receipt

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#	Date	To	From	Description	DOEIC, Notified board officers of receipt
151	3/14/2023	Petrie, DOE	Urquhart-Foster, EPA	EPA Approval: Federal Facility Agreement Milestone Extension Request for Submission of Addendum to The Remedial Design Report for The Disposal of Oak Ridge Reservation Comprehensive Environmental Response, Compensation, And Liability Act Of 1980 Waste, Oak Ridge, Tennessee Work Plan for Groundwater Monitoring Wells West of EMWMF (DOE/OR/01-1873&D4/A2)	DOEIC, Notified board officers of receipt
152	3/17/2023	Urquhart-Foster, EPA & Young, TDEC	Petrie, DOE	Final Transmittal of the 2023 Remediation Effectiveness Report for the U.S. Department of Energy Oak Ridge Site Oak Ridge, Tennessee Data and Evaluations (DOE/OR/01-2938&D1)	DOEIC, Notified board officers of receipt
153	3/17/2023	Urquhart-Foster, EPA & Young, TDEC	Henry & Petrie, DOE	Final Transmittal of the Addendum to the Action Memorandum for the Y-12 Facilities Non-Time Critical Removal Action Deactivation/ Demolition Project, Oak Ridge, Tennessee (DOE/OR/01-2462&D2/A1/R1)	DOEIC, Notified board officers of receipt
154	3/17/2023	Urquhart-Foster, EPA & Young, TDEC	Henry & Petrie, DOE	Final Transmittal of the Addendum to the Removal Action Work Plan for the Y-12 Facilities Deactivation/Demolition Project, Oak Ridge, Tennessee: Beta-1 Complex Pre-Demolition (DOE/OR/01-2479&D1/A9/R2)	DOEIC, Notified board officers of receipt
155	3/21/2023	Cooke, DOE	Young, TDEC	TDEC Comments: RE: Request for Approval of Soil Boring to Depths Greater Than 10 Feet Below Ground Surface in Parcel Economic Development-11 at the East Tennessee Technology Park	DOEIC, Notified board officers of receipt

FY 2023 Incoming Correspondence

#	Date	To	From	Description	DOEIC, Notified board officers of receipt
156	3/23/2023	Petrie, DOE	Young, TDEC	TDEC Approval Letter for the Proposed Plan for an Interim Record of Decision for Groundwater in the Main Plant Area at the East Tennessee Technology Park, Oak Ridge, Tennessee (DOE/OR/01-2921&D2/R1)	DOEIC, Notified board officers of receipt
157	3/24/2023	Petrie, DOE	Young, TDEC	TDEC Comments Action Memorandum for the Ponds at the East Tennessee Technology Park Oak Ridge, Tennessee K-1007-P Holding Ponds, K-901-A Holding Pond, K-720 Slough, and K- 770 Embayment (DOE-OR-01-2314&04)	DOEIC, Notified board officers of receipt
158	3/24/2023	Urquhart-Foster, EPA & Young, TDEC	Henry & Petrie, DOE	Submittal of the Field Sampling Plan for Baseline Groundwater and Surface Water Characterization at the Proposed Environmental Management Disposal Facility, Oak Ridge	DOEIC, Notified board officers of receipt
159	3/24/2023	Petrie, DOE	Young, TDEC	TDEC Comments: DOE's Transmittal of the Federal Facility Agreement Proposed Appendix J	DOEIC, Notified board officers of receipt
160	3/27/2023	Petrie, DOE	Young, TDEC	TDEC Approval: Phased Construction Completion Report for Exposure Unit 22-19 in Zone 2, East Tennessee Technology Park, Oak Ridge, Tennessee (DOE/OR/01-2936&D2)	DOEIC, Notified board officers of receipt
161	3/27/2023	Urquhart-Foster, EPA & Young, TDEC	Henry & Petrie, DOE	Submittal of the Fiscal Year 2023 Phased Construction Completion Report for the Oak Ridge Reservation Environmental Management Waste Management Facility DOE-OR-01-2941-D1	DOEIC, Notified board officers of receipt
162	3/28/2023	Urquhart-Foster, EPA & Young, TDEC	Henry & Petrie, DOE	Transmittal of The Addendum to The Action Memorandum for the Y-12 Facilities Non-Time-Critical Removal Action Deactivation/Demolition Project, Oak Ridge, Tennessee (DOE/OR/01-2462&D2/A1/R2)	DOEIC, Notified board officers of receipt

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#	Date	To	From	Description	DOEIC, Notified board officers of receipt
163	3/28/2023	Petrie, DOE	Dawson, EPA	EPA Approval - Waste Handling Plan For Building 3038 – Isotope Row Development Laboratory, Hot Cells Project For The Oak Ridge Office Of Environmental Management, Oak Ridge, Tennessee (DOE-OR-01-2510&D2-R1)	DOEIC, Notified board officers of receipt
164	3/28/2023	Petrie, DOE	Adams, EPA	EPA Approval Addendum 7 (Exposure Unit Z2-41 Final) to the Fiscal Year 2007 Phased Construction Completion Report for the Zone 2 Soils, Slabs, and Subsurface Structures at East Tennessee Technology Park, Oak Ridge, Tennessee (DOE/OR/01-2723&D2/A7/R1)	DOEIC, Notified board officers of receipt
165	3/29/2023	Cooke, DOE	Urquhart-Foster, EPA	EPA Approval of request for soil borings to 20 feet or groundwater in ED-11	DOEIC, Notified board officers of receipt
166	3/31/2023	Petrie, DOE	Urquhart-Foster, EPA	EPA Comments: Non-Significant Change to the Record of Decision for Phase I Interim Source Control Actions in Upper East Fork Poplar Creek Characterization Area, Oak Ridge, Tennessee (DOE/OR/01-1951&D3)	DOEIC, Notified board officers of receipt
167	4/3/2023	Petrie, DOE	Young, TDEC	TDEC Comments Addendum to the Removal Action Work Plan for the Y-12 Facilities Deactivation/Demolition Project, Oak Ridge, Tennessee: Alpha-2 Complex Demolition (DOE/OR/01-2479&D1/A13/R2)	DOEIC, Notified board officers of receipt

FY 2023 Incoming Correspondence

#	Date	To	From	Description	DOEIC, Notified board officers of receipt
168	4/4/2023	Urquhart-Foster, EPA & Young, TDEC	Henry & Petrie, DOE	Final Federal Facility Agreement Milestone Extension Request for Submission of Addendum to the Remedial Design Report for the Disposal of Oak Ridge Reservation Comprehensive Environmental Response, Compensation, and Liability Act of 1980 Waste, Oak Ridge, Tennessee Work Plan for Groundwater Monitoring Wells West of EMWMF (DOE/OR/01-1873&D4/A2)	DOEIC, Notified board officers of receipt
169	4/5/2023	Petrie, DOE	Young, TDEC	Approval: Federal Facility Agreement Milestone Extension Request for Submission of Addendum to the Remedial Design Report for the Disposal of Oak Ridge Reservation Comprehensive Environmental Response, Compensation, and Liability Act of 1980 Waste, Oak Ridge, Tennessee; Work Plan for Groundwater Monitoring Wells West of EMWMF (DOE/OR/01-1873&D4/A2)	DOEIC, Notified board officers of receipt
170	4/5/2023	Petrie, DOE	Adams, EPA	EPA Approval: U.S. Department of Energy's (DOE) Phased Construction Completion Report for Exposure Unit Z2-19 in Zone 2, East Tennessee Technology Park, Oak Ridge, Tennessee (DOE/OR/01-2936&D2)	DOEIC, Notified board officers of receipt
171	4/6/2023	Petrie, DOE	VanTrees, EPA	EPA Approval: Department of Energy (DOE)'s Proposed Plan for The Record of Decision for Groundwater in the K-31/K-33 Area at The East Tennessee Technology Park, Oak Ridge, Tennessee (DOE/OR/01-2922&D2)	DOEIC, Notified board officers of receipt
172	4/6/2023	Petrie, DOE	Young, TDEC	TDEC Approval Letter for the Proposed Plan for the ROD for Groundwater in the K-31-K-33 Area at the ETTP Oak Ridge Tennessee (DOE-OR-01-2922D2)	DOEIC, Notified board officers of receipt

FY 2023 Incoming Correspondence

#	Date	To	From	Description	DOEIC, Notified board officers of receipt
173	4/6/2023	Petrie, DOE	Young, TDEC	TDEC Comment Letter: Addendum to the Action Memorandum for the Y-12 Facilities Non-Time Critical Removal Action Deactivation/Demolition Project, Oak Ridge, Tennessee (DOE/OR/01-2462&D2/A1/R2)	DOEIC, Notified board officers of receipt
174	4/10/2023	Petrie, DOE	Urquhart-Foster, EPA	EPA Approval of 04-04-2023 FFA Milestone Extension Request for EMWMF RDR Amendment (DOE/OR/01-1873&D4/A2)	DOEIC, Notified board officers of receipt
175	4/13/2023	Petrie, DOE	Andrews, EPA	EPA Concurrence: Action Memorandum for the Ponds at the East Tennessee Technology Park, Oak Ridge, Tennessee: K-1007-P Holding Ponds, K-901-A Holding Pond, K-720 Slough, and K-770 Embayment (DOE/OR/01-2314&D4)	DOEIC, Notified board officers of receipt
176	4/14/2023	Petrie, DOE	Young, TDEC	TDEC Comments: Remedial Design Report/Remedial Action Work Plan for the Environmental Management Disposal Facility, Oak Ridge, Tennessee: Early Site Preparation Activities (DOE/OR/01-2934&D2)	DOEIC, Notified board officers of receipt
177	4/17/2023	Petrie, DOE	Young, TDEC	Addendum to the Removal Action Work Plan for the Y-12 Facilities Deactivation-Demolition Project, Oak Ridge, Tennessee Beta-1 Complex Pre-Demolition DOE-OR-01-2479-D1-A9-R2	DOEIC, Notified board officers of receipt
178	4/17/2023	Urquhart-Foster, EPA & Young, TDEC	Petrie, DOE	Response to Comments from The Tennessee Department of Environment and Conservation on The Transmittal of The Federal Facility Agreement Proposed Appendix J	DOEIC, Notified board officers of receipt

FY 2023 Incoming Correspondence

#	Date	To	From	Description	DOEIC, Notified board officers of receipt
179	4/17/2023	Petrie, DOE	Froede, EPA	EPA Approval: Remedial Design Report/Remedial Action Work Plan for the Environmental Management Disposal Facility for the Disposal, Oak Ridge, Tennessee, Early Site Preparation Activities (DOE/OR/01-2934&D2)	DOEIC, Notified board officers of receipt
180	4/18/2023	Cooke, DOE	Young, TDEC	DOE Response and Request for Approval of Soil Boring and Excavation to Depths Greater Than 10 Feet Below Ground Surface in Parcel ED-11 at the ETTP	DOEIC, Notified board officers of receipt
181	4/19/2023	Petrie, DOE	Andrews, EPA	EPA Approval: Addendum to the Removal Action Work Plan for the Y-12 Facilities Deactivation/Demolition Project, Oak Ridge, Tennessee: Alpha-2 Complex Demolition (DOE/OR/01-2479&D1/A13/R2)	DOEIC, Notified board officers of receipt
182	4/21/2023	Petrie, DOE	Young, TDEC	TDEC Comments FSP for Baseline Groundwater and Surface Water Characterization at the Proposed EMDF (DOE-OR-01-2812&D2)	DOEIC, Notified board officers of receipt
183	4/24/2023	Urquhart-Foster, EPA & Young, TDEC	Henry & Petrie, DOE	Final Transmittal of the Addendum to the Removal Action Work Plan for the Y-12 Facilities Deactivation/Demolition Project, Oak Ridge, Tennessee: Beta-1 Complex Demolition (DOE/OR/01-2479&D1/A14/R1)	DOEIC, Notified board officers of receipt
184	4/24/2023	Urquhart-Foster, EPA & Young, TDEC	Henry & Petrie, DOE	Final Transmittal of Phased Construction Completion Report for Demolition of Building 9213 and Ancillary Facilities 9409-36, 9703-14, and 9999-2, Oak Ridge (DOE/OR/01-2945&D1)	DOEIC, Notified board officers of receipt
185	4/27/2023	Petrie, DOE	Andrews, EPA	EPA Addendum to the Action Memorandum for the Y-12 Facilities Non-Time-Critical Removal Action Deactivation/Demolition Project, Oak Ridge, Tennessee (DOE/OR/01-2462&D2/A1/R2)	DOEIC, Notified board officers of receipt

FY 2023 Incoming Correspondence

#	Date	To	From	Description	DOEIC, Notified board officers of receipt
186	4/27/2023	Cooke, DOE	Urquhart-Foster, EPA	EPA Approval Soil Boring and Excavation to Depths Greater Than 10 Feet Below Ground Surface in Parcel Economic Development-11 At the East Tennessee Technology Park	DOEIC, Notified board officers of receipt
187	4/28/2023	Urquhart-Foster, EPA & Young, TDEC	Henry & Petrie, DOE	Final Notice of Non-Significant Change to the Record of Decision for Phase I Interim Source Control Actions in Upper East Fork Poplar Creek Characterization Area, Oak Ridge, Tennessee (DOE/OR/01-1951&D3)	DOEIC, Notified board officers of receipt
188	4/28/2023	Petrie, DOE	Young, TDEC	DOE's Response to Tennessee Department of Environment and Conservation Comments on the Federal Facility Agreement Proposed Appendix J	DOEIC, Notified board officers of receipt
189	5/2/2023	Petrie, DOE	Young, TDEC	TDEC Comments: Non-Significant Change to the Record of Decision for Phase I Interim Source Control Actions in Upper East Fork Poplar Creek Characterization Area, Oak Ridge, Tennessee (DOE/OR/01-1951&D3)	DOEIC, Notified board officers of receipt

EM SSAB Chairs Meeting
March 2023

• PARTICIPANT BIOGRAPHIES •

HANFORD ADVISORY BOARD	
Chair	**Susan Coleman** represents the interests of the public-at-large on the EM SSAB at Hanford. A resident of Kennewick, Washington, Ms. Coleman retired in 2014 after serving as a safeguards and security manager for prime contractor Bechtel National, Inc. since 2011. She is retired from the U.S. Navy and holds a Bachelor's degree in Business Administration from Bowie State University. Ms. Coleman has more than 30 years of experience in security program management, program/project management, training and procedure development, and document production. During her career, she provided program management support to the Department of Energy (DOE) Richland Operations Office and the Office of River Protection through various support contractors (1995-2007). Between 2007 and 2011, she was the security manager for URENCO USA, a uranium extraction facility under a Nuclear Regulatory Commission license located in southern New Mexico. She serves on the board of 3 Rivers Community Foundation and ASIS International and is interested in county/city/tribal government and business issues. Ms. Coleman was appointed to the board as a primary member in October 2020.
Vice Chair	**Miya Burke** represents the interests of the Hanford workforce on the EM SSAB at Hanford. Ms. Burke is a program manager for Hanford Challenge, a non-profit organization dedicated to the safe and effective cleanup of the Hanford site. A resident of Portland, Oregon, she holds a Bachelor's degree in Spanish Language and Literature from the University of Puget Sound, and a Master's degree in International Environmental Policy from Middlebury Institute of International Studies, Monterey. Previously she completed a remote Hanford Cleanup internship with Columbia Riverkeeper. She is interested in worker health and safety, the environment, and the safe, effective, transparent, and accountable cleanup of the Hanford site, as well as public education and outreach about Hanford issues. Ms. Burke was appointed to the board as a primary member in November 2022.

IDAHO CLEANUP PROJECT CITIZENS ADVISORY BOARD	
Vice Chair	**Robert L. Skinner (Bonneville County).** Mr. Skinner retired from CH2M-WG Idaho, LLC in 2006 as department manager for radioactive waste operations. He was responsible for all solid low-level radioactive waste disposal at the Idaho site. Mr. Skinner spent over 30 years working in various capacities in the nuclear industry. He also worked for Bechtel BWXT Idaho, Lockheed Martin Idaho Technologies, and Westinghouse Idaho Nuclear Company. He has a Bachelor of Science in General Science from the University of Nebraska and a Science diploma from Mesa State College. Mr. Skinner served 8 years in the United States Nuclear Navy and 30 years in the United States Navy Reserve, retiring at the rank of Captain in 2007. He is associated with the American Nuclear Society, American Legion, National Registry of Radiation Protection Technologists, Bonneville County Veterans Commission, Military Affairs Committee, and the Military Officers Association. Mr. Skinner speaks to schools on a wide variety of topics and is a guest lecturer at Idaho State University and the College of Eastern Idaho. He is interested in environmental issues and resides in Idaho Falls, Idaho. He was appointed to the board in August 2020.

	and a B.S. in Biology from Oklahoma Panhandle University. She has also expressed an interest in educational issues. Ms. Atcitty is a resident of Taos Pueblo, a member of the Taos Pueblo Utility Board, and was nominated to serve on the EM SSAB in Northern New Mexico by Taos Pueblo Governor Benito Sandoval. She was appointed to the board in October 2016.
Member	**Mark R. Hayden (Santa Fe County).** Since January 2019, Mr. Hayden has been the purchasing director for the State of New Mexico. He previously served as legal services bureau chief for the State Purchasing Department and as associate general counsel at the New Mexico Human Services Department. Mr. Hayden has 20 years of experience as corporate counsel for CNA Insurance and five years as a litigator in Chicago, Illinois. Mr. Hayden earned a B.S. in Political Science from Northern Illinois University and a Juris Doctorate from the University of Wisconsin-Madison Law School. Mr. Hayden is a member of the New Mexico Bar Association, the Coalition for Sustainable Communities, the Aldea Permaculture Committee, the Aldea Birders Group, and the Kactus Kickers Hikers Club. He has expressed an interest in environmental and civic issues. Mr. Hayden is a resident of Santa Fe, New Mexico, and was appointed to the board in June 2020.

OAK RIDGE SITE SPECIFIC ADVISORY BOARD	
Chair	**Leon Shields (Loudon County).** Mr. Shields is the director of water, wastewater, and natural gas operations for the Lenoir City Utilities Board in Lenoir City, Tennessee. He is also the owner of two small businesses: Instructional Concepts, which provides training in industrial, public, and private application of firearms, explosives, vehicle extrication, and rescue operations; and Music City Speed & Nostalgia, which specializes in classic cars and vintage memorabilia. He is a member of multiple federal, state, and local boards, including planning commissions, boards of appeals, housing authorities, and advisory boards. A high school graduate, Mr. Shields is a member of several civic organizations, including the Boys and Girls Clubs of Tennessee Valley, Lenoir City High School Technical Advisory Board, Loudon County Chamber of Commerce, Demolay International, and the Fraternal Order of Police, among others. Mr. Shields has an interest in environmental issues. He resides in Lenoir City, Tennessee, and was appointed to the board in June 2017.
Vice Chair	**Amy Jones (Anderson County).** Ms. Jones is the senior benefit coordinator and a licensed insurance agent for Madison Insurance Group. She is also a sales manager for Arrowbroker and a real estate agent at Stephenson Realty & Auction. Ms. Jones was the owner of Double J Enterprises of TN, in Rocky Top, Tennessee, until mid-2018. A high school graduate, Ms. Jones has also received her real estate license and insurance license. She is active in a variety of community organizations including serving as an ambassador for the Anderson County Chamber of Commerce, vice chair for the Anderson County Republican Party, past vice chair of the Anderson County Headstart Policy Council, and chair for the State of Tennessee Order of Amaranth Diabetes Charity. She is a committeewoman on the State Executive Committee for the Tennessee Republican Party, past chair of the Women's Ministry Banquet at Main Street Baptist, and president of two groups in the Order of the Eastern Star. Ms. Jones is interested in environmental and county government issues. She lives in Briceville, Tennessee, and was appointed to the board in July 2019.

	a Bachelor's degree in Government from the University of Texas and has had numerous peer-reviewed publications. Dr. Murray is the executive director of the Association for Politics and the Life Sciences. He is the editor-in-chief of Politics and the Life Sciences for Cambridge University Press. He has expressed an interest in county/city government and civic issues. Dr. Murray resides in Augusta, Georgia, and was appointed to the board in February 2018.
Member	**Phyllis P. Britt (Aiken County).** Ms. Britt retired after 26 years as the news editor for the North Augusta Star. She holds a Bachelor's degree in Religion from Westhampton College at the University of Richmond, Virginia. She is a member of Leadership North Augusta and the North Augusta Forward. Ms. Britt has expressed an interest in educational issues. Ms. Britt resides in Aiken, South Carolina and was appointed to the board in February 2020. She serves as chair of the Facilities & Site Remediation Subcommittee of the EM SSAB at SRS.

Oak Ridge Site Specific Advisory Board

TRIP REPORT

I. Name of Traveler: Amy Jones

II. Date(s) of Travel: March 20 – March 23, 2023

III. Location of Meeting: Washington DC

IV. Name of Meeting: Chairs' Meeting

V. Purpose of Travel:

To attend the chair's meeting in Washington to receive updates on the process of the clean up effects at each site as well as a budget update.

VI. Discussion of Meeting:

Kelly Snyder opened the meeting by welcoming everyone and we went around the table and introduced ourselves. She also introduced the meeting facilitator Eric Roberts, who would be introducing the guest and leading the question and answer after each presenter. First up, we received an EM update from Ike White and Jeff Avery on the different sites Mr. White spoke about the continued issues of storing waste at the Los Alamos, and the long term effects this will have on shipments. Ike is continuing to work with the State of New Mexico to find a solution. He explained that it could be difficult to work on the reservation due to the Tribal and State officials. Mr. White also discussed the balancing of money from one site to another and how the immediate risk was a factor in that decision. Both Ike and Jeff talked about membership, how to motivate, commute information to the public and find different ways to present the information to members. During the round table discussion each site gave us an update of accomplishments, activities, challenges and goals.

Steve Trischman, Director Office of Budget and Planning, showed us the budget trends and explained where and how the money was put into different projects. He also went over the 2024 budget request by site. He also Budget Excise for us, we broke into groups and tried to balance a budget for the different sites by moving monies from one site project to another that was more important to complete or may be required by the site to get finished. The Budget exercise gave me great insight into how they must work with the site managers, and Congress to come up with a balanced budget. I really enjoyed the exercise, I appreciate the hands on approach.

Nichole Nelson-Jean gave a presentation on the Minority Servicing Institutions Partnership Program, they offer internships at EM headquarters and Savannah River site. They also offer

grants to help with research at various sites. They are expanding the program to college undergrads to help to obtain federal jobs after graduation.

Kristin Ellis discussed how her office worked with stakeholders by coordinating outreach programs, identifying opportunities and challenges, working with local and state government to promote awareness.

Ana Han and Ben Rivera, updated the group on the EM International Program and how they work with the UK, Canada and Japan.

Ming Zhu presented the EM mission needs, he explain how the departments reported to each other. Mr Zhu told us about the construction of the AMC facility at the University of South Carolina Aiken and how it would strengthen the STEM pipeline and technology development along with developing the next generation of workforce. He discussed the National Groundwater Management Strategy as there are 3 phases. Phase 1 update the 2022 documents to reflect current needs, Phase 2 Site Interviews, Phase 3 Expedite Site Closure Strategy. He gave us a quick run down of the recommendations from all the sites.

Kurt Gerdes, Technology Development discussed where his department was in the chain of command, their leadership helps with reducing cost, accelerating schedules. The office help field offices with implementing technology development concepts, along with identifying the best technological practices. A few of their focus areas include Tank Waste Treatment, Soil and Groundwater Remediations, Nuclear Material Dispositional. Technology Development budget has seen a decrease in the pass 30 years, most recently it have leveled out with some carry over from year to year.

The last presenter was Jennifer Kramb Office of Congressional and Intergovernmental Affairs. She spoke about Tribal nations being essential partners in the pursuit of the country's ambitious energy goals.

Eric, asked for us to go around the table and mention what we enjoyed about the meeting and anything we may wanted to add.

VII. Significance to ORSSAB:

The discussion and excise on the budget, will help me when it comes time to reevaluate the Budget next year. The round table and suggestion from other sites on membership, engaging the members, and how to commute the information better to the members. Suggestion on how to recruit were made with the possible of an informational packet to our colleges to increase interest.

VIII. Names & Telephone Numbers of Significant Contacts:

Attached is the list of attendees

IX. Action Items:

Attached is the draft of the recommendation

X. Traveler's Signature & Date:

Signature: ___ (via e-mail is fine)_____ Date:_____

Oak Ridge Site Specific Advisory Board

TRIP REPORT

I. Name of Traveler: Sara McManamy-Johnson

II. Date(s) of Travel: March 20-23, 2023

III. Location of Meeting: Washington, DC

IV. Name of Meeting: Spring 2023 SSAB Chairs Meeting

V. Purpose of Travel: Attend meetings

VI. Discussion of Meeting:

The first day of meetings began with opening remarks and introductions by Kelly Snyder, designated federal officer (DFO) and Eric Roberts, meeting facilitator. Next, William "Ike" White, senior advisor to EM, and Jeff Avery, principal deputy assistant secretary, provided program updates before each site's Chair provided updates on individual sites during a round-robin exercise.

Steve Trischman, director of Budget and Planning, next provided updates on EM's overall budget. In addition to providing budget updates, Trischman added a more interactive component to the agenda. All the meeting's in-person attendees were assigned to smaller groups to participate in a budget simulation exercise. For this activity, each group represented the EM complex, and each person within the group was assigned as a field site manager or as an EM leader in the budget process. Each person representing a field site manager was tasked with deciding what budget request to submit for their site, including how much to request for specific budget line-items. Each person representing the budget director and EM leadership was tasked with deciding which field site budget requests to approve or deny in order to stay within the allotted EM complex budget.

Throughout the process, "site managers" and "EM leadership" worked together to determine where funds could be cut or added.

During the latter portion of the first day, Nicole Nelson-Jean, associate principal deputy assistant secretary for the Office of Field Operations gave members an overview of DOE-EM's Minority Serving Institutions Partnership Program (MSIPP). Under this program, DOE-EM offers competitive research awards (CRAs), internships, a postdoctoral research program, grants, a graduate fellowship program (GFP), the STARS Fellows Program for undergraduates, and a ten-week hands-on summer program at the Savannah River Environmental Sciences Fields Station.

Next, Kristen Ellis, director of Regulatory, Intergovernmental, and Stakeholder Engagement, discussed community capacity building before Erik Olds, director of EM Communications, joined her to discuss SSAB member onboarding.

Day one drew to a close with board members discussing a draft recommendation regarding review and reporting on the implementation of EM SSAB Recommendations. Members were asked to bring the recommendation back to their respective site boards and vote "Yes" or "No" in support of the recommendation, which recommends DOE provide clear and publicly accessible information regarding implementation of EM SSAB Chairs recommendations for the last five years. In addition to a clear statement about implementation status (e.g., "Implementation of the recommendation is complete (or “ongoing”, “suspended”, or “discontinued”), the information should include an explanation of any deviations from the DOE response to the recommendation. Additionally, DOE should "report to the EM SSAB at least annually a summary of the status of all EM SSAB Chairs recommendation items and any recommendation action item completed during the reporting period."

During the second day of the meeting, members learned more about EM's International Program, EM's National Lab Network, and EM's Technology Development.

Kelly Snyder told Chairs that the next Chairs’ Meeting will be held in Oak Ridge, Tennessee.

VII. Significance to ORSSAB:

This trip was important because it helped enhance my understanding of the cleanup efforts of DOE EM over the whole complex and its focus on near- and long-term cleanup efforts, partnering and contracting strategies and funding.

VIII. Names & Telephone Numbers of Significant Contacts:

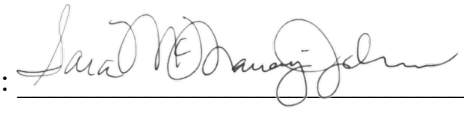
Contact info for other SSABs available on request

IX. Action Items:

ORSSAB members should be encouraged to participate in meetings that enhance their understanding of the DOE EM process and cleanup progress at other DOE sites.

Presentations and handouts from the event are available upon request.

X. Traveler’s Signature & Date:

Signature:  Date: 4/12/2023

Oak Ridge Site Specific Advisory Board

TRIP REPORT

I. Name of Traveler: Leon F. Shields

II. Date(s) of Travel: March 21-22, 2023

III. Location of Meeting: Washington, D.C.

IV. Name of Meeting: Spring Chairs Meeting

V. Purpose of Travel:

As an ORSSAB Chairman, participation is critical in understanding the vital issues related to the national operation of the SSAB in other DOEEM sites.

VI. Discussion of Meeting:

During the attendance of the spring Chairs Meeting presentations and discussions involved a wide range of topics. A few highlights include: Updates on DOE/EM form Ike White , Senior Advisor of EM regarding the internal goals and operations of the DOE. Various senior staff briefed the board on operations currently being conducted and a brief overview of each cleanup site across the country. The topics lead to discussions regarding how each facility managed funding issues from congress and the monies appropriated to do the necessary work that was desired. Updates were given as to the legislative changes to look for in upcoming years. As a ORSSAB board member, I'm proud to witness the national reaction to the cleanup process the Oak Ridge Reservation have made to date.

VII. Significance to ORSSAB:

The participation that ORSSAB members take in the role of environmental management has direct impacts on the community surrounding the Oak Ridge Reservation. Participation in these types of conferences promote networking, education, and involvement with other partnering agencies to support the actions and decisions that members make in ORSSAB stewardship. Presentations at the Chairs meeting provides a variety of aspects in issues faced in decommissioning facilities with unique factors and placing those managed areas back to a safe, eco-friendly, and economic environment.

VIII. Topics of Discussion

The 2023 Chairs meeting consisted of leaders of the SSAB's facing issues of the cleanup strategies. The two day meeting highlighted the technics currently implemented to the environmentally friendly transition from contaminations, classification, and processes to decontaminate to store in a safe environment. Discussions revisited the education learned from past projects and allowed information to be gathered and forwarded to neighboring facilities to progressively enrich the processes used on future clean up projects.

Presenters outlined the current DOE/ EM 2023 budget process and conducted a great exercise for the explanation of the process of funding.

Discussions on State / Local Outreach in educating the legislatures in the EM operations for support for City, County, State, and Federal applications.

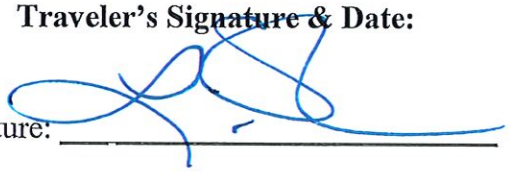
VIII. Names & Telephone Numbers of Significant Contacts

None

IX. Action Items:

No action required

X. Traveler's Signature & Date:

Signature: 

Date: 5/3/23

ENVIRONMENTAL MANAGEMENT SITE-SPECIFIC ADVISORY BOARD IN OAK RIDGE

BIOGRAPHIES

Atilio Anzelotti (Anderson County). Dr. Anzelotti is a senior scientist with PETNET Solutions and a resident of Oak Ridge, Tennessee. His B.S. and M.S. degrees in Chemistry were received in Venezuela from the University of Los Andes and the Venezuelan Institute for Scientific Research, respectively. He received a Ph.D. in Chemistry from Virginia Commonwealth University. Dr. Anzelotti is active in the community and is a member of the American Chemical Society and the Oak Ridge Environmental Quality Board. He is interested in environmental and public health issues.

Kris Bartolomew (Roane County). Mr. Bartolomew is the owner of Turn Key Plumbing and Construction, a small family-owned business. A high school graduate with some college courses, Mr. Bartolomew has received licensures related to his trade. Those licenses include general contractor (BC-b(sm), plumbing/mechanical (CMC-A), and subsurface sewage installer. He lives in Lenoir City, Tennessee, which includes portions of Loudon and Roane counties. He is interested in environmental and public health issues.

Mary Butler (Roane County). Ms. Butler retired in 2017 as a staff pharmacist with Aurora Pharmacy, Inc. She received a B.S. in Pharmacy from the University of Wisconsin. She moved to Rockwood, Tennessee in 2020 and is eager to engage in the community here as she was previously active in several organizations in her native Wisconsin. Ms. Butler is interested in civic and educational issues.

Harold Conner (Knox County). Dr. Conner is a senior engineering advisor with Strata-G, which sub-contracts with the Department of Energy (DOE) for some services. In this role, Mr. Conner, focuses on supporting community outreach, university partnerships, and student internships and mentoring. He has no oversight related to environmental management work, contracts, or employees. Dr. Conner is a former K-25 plant manager, serving from 1968-1996. He has Bachelor of Science and Master of Science degrees in Chemical Engineering from the University of Tennessee, Knoxville, where he was the program's first African-American graduate in 1968. He received his Ph.D. in Industrial and Systems Engineering from the University of Alabama at Huntsville. He is active in many community organizations including: membership on the University of Tennessee, Knoxville (UT) Alumni board, the UT Tickle College of Engineering board, as a UT Promise mentor, the STEM Scouts board; the American Museum of Science and Energy board; and Strata-G's board. He is a fellow of the American Institute of Chemical Engineers and the American Society for Engineering Management and a lifetime member of the National Society of Black Engineers and the National Organization of Black Chemists and Chemical Engineers. He is a resident of Knoxville, Tennessee and is interested in educational and minority issues.

Paul Dill (Roane County). Mr. Dill retired in 2018 as a project manager with Project Enhancement Corporation (PEC) supporting the Department of Energy's (DOE) National Nuclear Security Administration (NNSA) in the Office of Emergency Operations. In 2016, he was a senior continuity of operations analyst/subject matter expert with Excalibur/PEC supporting NNSA's Continuity Program Office. He received a B.S. in Industrial Engineering/Technology Management from Roger Williams University and an M.A. in Psychology from Ashford University. Mr. Dill also earned a Master Project Manager certification from theAmerican Academy of Project Management. He is currently an associate member of the American Psychological Association and a member of the Society for Personality and Social Psychology. Mr. Dill lives in Oliver Springs, Tennessee, which includes portions of Anderson, Roane, and Morgan counties. He is interested in environmental and public health issues.

Rosario Gonzalez (Anderson County). Ms. Gonzalez is the cafeteria manager at St. Mary's Catholic Church in Oak Ridge, Tennessee, where she has been employed since 1986. She previously worked as a secretary in Toureon, Mexico, where she received her Secretarial Academy Certification. She completed her secondary education in Mexico and received her GED from Pellissippi State Community College in Knoxville, Tennessee. She lives in Oak Ridge, Tennessee and is interested in environmental and minority issues. She previously served on the Environmental Management Site-Specific Advisory Board (EM SSAB) in Oak Ridge from July 2016 to June 2018.

Amy Jones (Anderson County). Ms. Jones is the senior benefit coordinator and a licensed insurance agent for Madison Insurance Group. She is also a sales manager for Arrowbroker and a real estate agent at Stephenson Realty & Auction. Ms. Jones was the owner of Double J Enterprises of TN, in Rocky Top, Tennessee, until mid-2018. A high school graduate, Ms. Jones has also received her real estate license and insurance license. She is active in a variety of community organizations including serving as an ambassador for the Anderson County Chamber of Commerce, vice chair for the Anderson County Republican Party, past vice chair of the Anderson County Headstart Policy Council, and chair for the State of Tennessee Order of Amaranth Diabetes Charity. She is a committeewoman on the State Executive Committee for the Tennessee Republican Party, past chair of the Women's Ministry Banquet at Main Street Baptist, and president of two groups in the Order of the Eastern Star. Ms. Jones is interested in environmental and county government issues. She lives in Briceville, Tennessee, and was appointed to the board in July 2019. She currently serves as vice chair of the EM SSAB in Oak Ridge.

Noah Keebler (Knox County). Mr. Keebler is the owner of Arc Transportation, a logistics and freight company. He was previously a nuclear electronics technician with Ametek, which is a manufacturer of electronic instruments and electromechanical devices (no business with DOE or EM). Mr. Keebler received an A.S. in Electrical Engineering from Roane State Community College. He holds a certification in Instrumentation from Ludlum Measurements and several other certifications related to his work experience, including Occupational Safety and Health Administration training, electrical safety experience and radiation worker training. Mr. Keebler has an interest in environmental

issues. He is a resident of Knoxville, Tennessee, and was appointed to the board in July 2019.

Michelle Lohmann (Knox County). Ms. Lohmann is the senior director of talent acquisition and brand at US Cellular. Previously, she was the program manager for the University Recruiting and Graduate Education Programs for Oak Ridge National Laboratory (ORNL)/UT. Ms. Lohmann is a member of the Loudon County Boys and Girls Club Advisory Board and has an interest in economic development and environmental issues. A high school graduate, Ms. Lohmann is now pursuing a joint BA/MA in organizational psychology. She resides in Knoxville, Tennessee. She currently serves as secretary of the EM SSAB in Oak Ridge and was appointed to the board in June 2017.

Michael Mark (Roane County). Mr. Mark is a former first responder and hazmat professional. He earned a high school diploma and holds many certifications related to his career. He lives in Harriman, Tennessee, and is interested in environmental and economic development issues.

Thomas McCormick (Campbell County). Mr. McCormick is the city manager for the town of Oliver Springs, Tennessee, which includes portions of Anderson, Roane, and Morgan counties. He received a B.S. in Political Science from Middle Tennessee State University. He also has numerous certifications from the State of Tennessee, including as a water and wastewater treatment plant operator. Mr. McCormick lives in Jacksboro, Tennessee and is interested in city/county government and environmental issues. He was appointed to the board in December 2020.

Ann (Harriett) McCurdy (Anderson County). Ms. McCurdy retired in 2014 after more than 40 years as a teacher for middle- and high-school students both in the U.S. and abroad with a focus on the sciences. Most recently she served as a teacher of science and biology for grades 6-10 at Yangon Academy in Yangon, Myanmar. Prior to that, she taught a variety of science courses and environmental studies courses in China, Morocco, Kuwait, and Ecuador. Ms. McCurdy received a B.A. in Biology from Earlham College and an M.A. in Teaching Biology and her teaching certificate from Washington University. She is president of the Oak Ridge League of Women Voters and a member of Tennessee Citizens for Wilderness Planning. Ms. McCurdy is a resident of Oak Ridge, Tennessee, and is interested in civic, environmental, and educational issues. She was appointed to the board in February 2019.

Christine Michaels (Anderson County). Ms. Michaels is president of the Oak Ridge Chamber of Commerce. She received a Bachelor of Science in Public Relations from Empire State College. She also has an Economic Gardening Certification for entrepreneurial economic development and an Institute for Organization Management certification from the U.S. Chamber of Commerce. Ms. Michaels is a resident of Oak Ridge, Tennessee and a member of several organizations including: the Anderson County Economic Development Board, Adventure Anderson County (tourism board), Altrusa Foundation Board, Flatwater Tales Storytelling Festival Committee, and the East

Tennessee Economic Development Board. She is a Paul Harris Fellow with the Rotary Club. Ms. Michaels is interested in economic development and business issues.

Michael Sharpe (Loudon County). Mr. Sharpe is a SharePoint administrator and performs other technology- and web-based tasks for prime contractor Oak Ridge Associated Universities, which manages the Oak Ridge Institute for Science and Education (ORISE) for DOE. ORISE provides science, education, workforce development, and health services that include some Oak Ridge EM areas such as decontamination verifications to support cleanup. Mr. Sharpe received a B.S. in Business Administration from Tusculum University and an A.S. in Computer Programming from ITT Technical. Mr. Sharpe is interested in economic development and environmental issues. He is a resident of Lenoir City, Tennessee, and was appointed to the board in December 2020. He was recently elected co-chair of the board's EM Stewardship Committee.

Leon Shields (Loudon County). Mr. Shields is the director of water, wastewater, and natural gas operations for the Lenoir City Utilities Board in Lenoir City, Tennessee. He is also the owner of two small businesses: Instructional Concepts, which provides training in industrial, public, and private application of firearms, explosives, vehicle extrication, and rescue operations; and Music City Speed & Nostalgia, which specializes in classic cars and vintage memorabilia. He is a member of multiple federal, state, and local boards, including planning commissions, boards of appeals, housing authorities, and advisory boards. A high school graduate, Mr. Shields is a member of several civic organizations, including the Boys and Girls Clubs of Tennessee Valley, Lenoir City High School Technical Advisory Board, Loudon County Chamber of Commerce, Demolay International, and the Fraternal Order of Police, among others. Mr. Shields has an interest in environmental issues. He resides in Lenoir City, Tennessee, and was appointed to the board in June 2017. He currently serves as chair of the EM SSAB in Oak Ridge.

Bonnie Shoemaker (Anderson County). Ms. Shoemaker retired in 2008 after 34 years at the DOE East Tennessee Technology Park and ORNL working in a variety of capacities, including chemical laboratory analyst, environmental compliance specialist, plant shift superintendent, emergency management specialist, and engineering technician. She is the recipient of two awards for operations and technical support in environmental compliance and emergency management. Ms. Shoemaker received her B.S. in Biology from UT. She has an interest in environmental and public health issues. Ms. Shoemaker is a resident of Clinton, Tennessee. She was appointed to the board in June 2017 and currently serves as chair of the EM Stewardship Committee for the EM SSAB in Oak Ridge.

John Tapp (Knox County). Dr. Tapp is a civil and environmental engineer with nearly 50 years of experience in all areas of environmental protection and restoration, including private and public utility management, civil and environmental engineering, strategic planning, budgeting, and project development. Dr. Tapp has recently worked for Electric Utility Disaster Specialists, Inc. as an independent technical assistance consultant for the

Federal Emergency Management Agency in the water and wastewater field with deployments to the U.S. Virgin Islands and the California Camp Wildfire. Prior work included HDR-ICA Engineering, where he provided consulting in a broad range of areas, including environmental permitting and interaction with state and federal regulatory agencies, and work with the Kentucky Infrastructure Authority, where he managed the statewide planning effort for the Authority. Dr. Tapp spent most of his career as a founding partner in Commonwealth Technology, an environmental and engineering consulting firm, and previously worked with the Kentucky Division of Water, the Environmental Protection Agency, and the U.S. Public Health Service. Dr. Tapp received his B.S. and M.S. degrees in Civil Engineering and his Ph.D. in Agricultural Engineering from the University of Kentucky. Dr. Tapp has an interest in environmental and economic development issues. He is a member and past president of the Kentucky-Tennessee Water Environment Association, a member of the Water Environment Federation, the Karns Community Club, and the Enhance Powell Committee. Dr. Tapp lives in Powell, Tennessee, and was appointed to the board in June 2017.

Thomas Tuck (Knox County). Mr. Tuck is a retired banking executive with TNBANK. He served as president of the bank since 1995 and in March of 2020 transitioned to part-time employment as part of a leadership transition/retirement. Mr. Tuck received a B.S. in Business and Marketing from University of Tennessee (UT) and is a Certified Banker through the School of Banking of the South. Mr. Tuck is a member of the board of directors for local organizations including the Oak Ridge Chamber of Commerce, Oak Ridge Heritage and Preservation Association, and the East Tennessee Economic Council. He is a member of the Y-12 Community Relations Council. He is interested in civic and local business issues. He is a resident of Knoxville, Tennessee, and was appointed to the board in December 2020.

DOE/OR/01-2921&D2/R1 January 2023

U.S. Department of Energy
Environmental Management Program DOE/OR/01-2921&D2/R1

Proposed Plan for an Interim Record of Decision for Groundwater in the Main Plant Area at the East Tennessee Technology Park, Oak Ridge, Tennessee

January 2023

This Proposed Plan:

- Describes the initiation of groundwater restoration at the East Tennessee Technology Park in Oak Ridge, Tennessee, through the use of an Interim Record of Decision, with the goal of working towards future final remedial action decisions.
- Describes the preferred alternative evaluated in the *East Tennessee Technology Park Main Plant Groundwater Focused Feasibility Study Oak Ridge, Tennessee* (DOE/OR/01-2894&D2):
  - The preferred alternative initiates contaminant mass reduction at chlorinated volatile organic compound groundwater plumes through the preferred technology of enhanced in situ bioremediation.
- Explains how to participate in selecting or modifying the preferred alternative and where to get more information.

YOUR OPINION IS INVITED

The U.S. Department of Energy (DOE) invites you to express your opinion of the presented remedial alternatives and the preferred alternative for the interim Main Plant Area groundwater decision at the East Tennessee Technology Park. You are encouraged to read the information in the Administrative Record, including the *East Tennessee Technology Park Main Plant Groundwater Focused Feasibility Study, Oak Ridge, Tennessee* (DOE/OR/01-2894&D2), for background and more detailed technical information. A comment form is attached to this fact sheet, but you are not restricted to this form. Decision makers will consider any comments received before the end of the public comment period.

Community involvement is critical to the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, cleanup process. DOE has established a 45-day public comment period, during which time local residents and interested parties can express their views and concerns on all aspects of this plan. DOE has scheduled a public meeting to discuss cleanup alternatives and to address questions and concerns the public may have.

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1 INTRODUCTION

This Proposed Plan presents the U.S. Department of Energy's (DOE's) preferred alternative for interim remedial actions in the Main Plant Area (MPA) groundwater at the East Tennessee Technology Park (ETTP), located on the Oak Ridge Reservation (ORR) in Oak Ridge, Tennessee (Figures 1.1 and 1.2). The purposes of this Proposed Plan are to solicit public involvement, describe the alternatives analyzed, identify the preferred alternative, and explain the rationale for the preferred alternative.

This Proposed Plan is issued to solicit public involvement, as required under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) Section 117(a), as amended by the Superfund Amendments and Reauthorization Act of 1986 (42 United States Code Section 9601, et seq.) and the National Oil and Hazardous Substances Pollution Contingency Plan (40 Code of Federal Regulations [CFR] 300.430[f][2]). Additional information on the description and evaluation of the alternatives is contained in the *East Tennessee Technology Park Main Plant Groundwater Focused Feasibility Study, Oak Ridge, Tennessee* (DOE/OR/01-2894&D2; Focused Feasibility Study [FFS]).

Remediation efforts on the ORR are governed by the *Federal Facility Agreement for the Oak Ridge Reservation* (DOE/OR-1014). DOE is the lead agency for this Proposed Plan. The U.S. Environmental Protection Agency (EPA) Region 4 and the State of Tennessee Department of Environment and Conservation (TDEC) support the issuance of this Proposed Plan. In accordance with the *DOE Secretarial Policy Statement on the National Environmental Policy Act* (DOE 1994), National Environmental Policy Act of 1969 (NEPA) values have been incorporated into the CERCLA documentation prepared for this project.

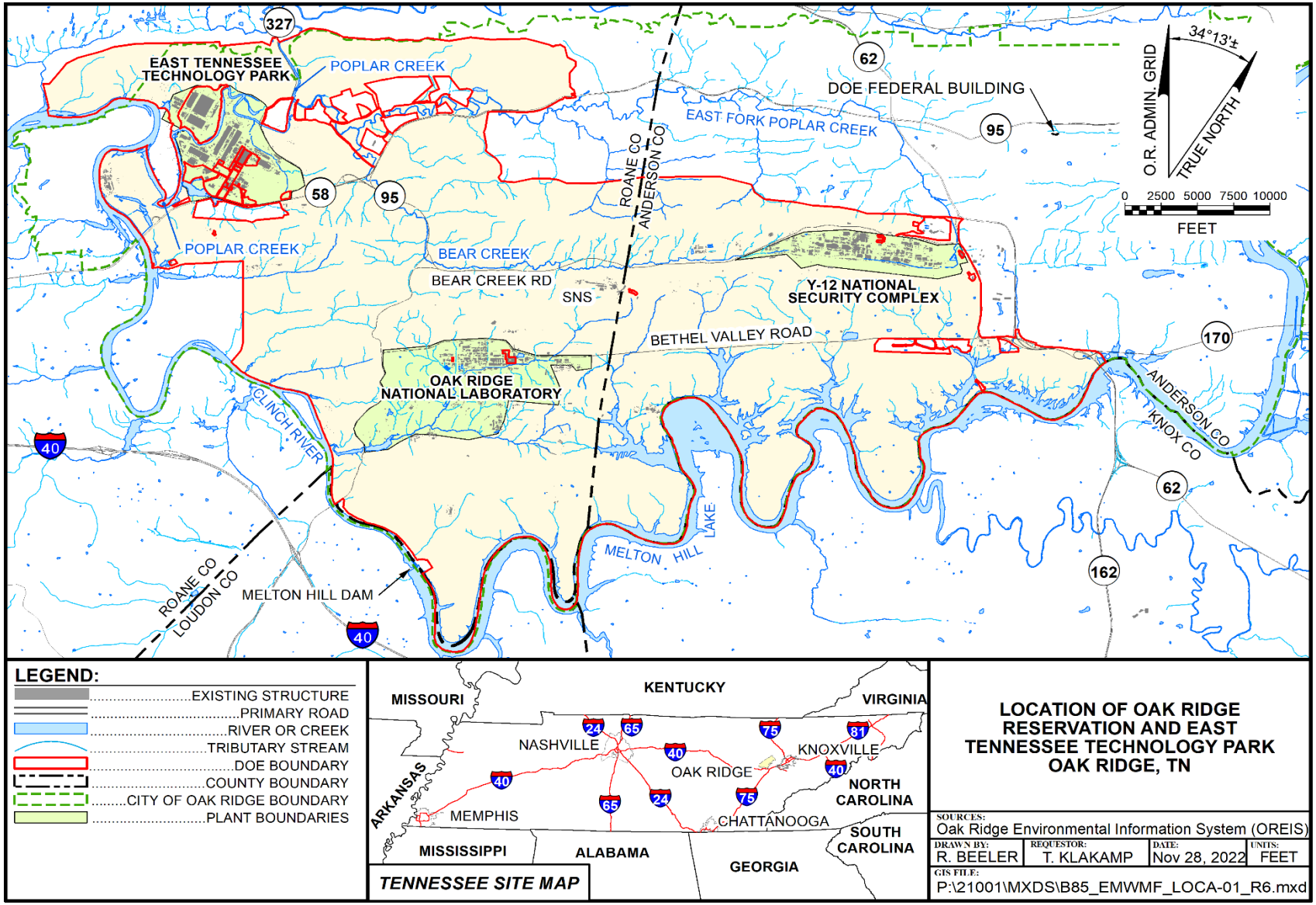

Figure 1.1. Location of ORR and ETTP.

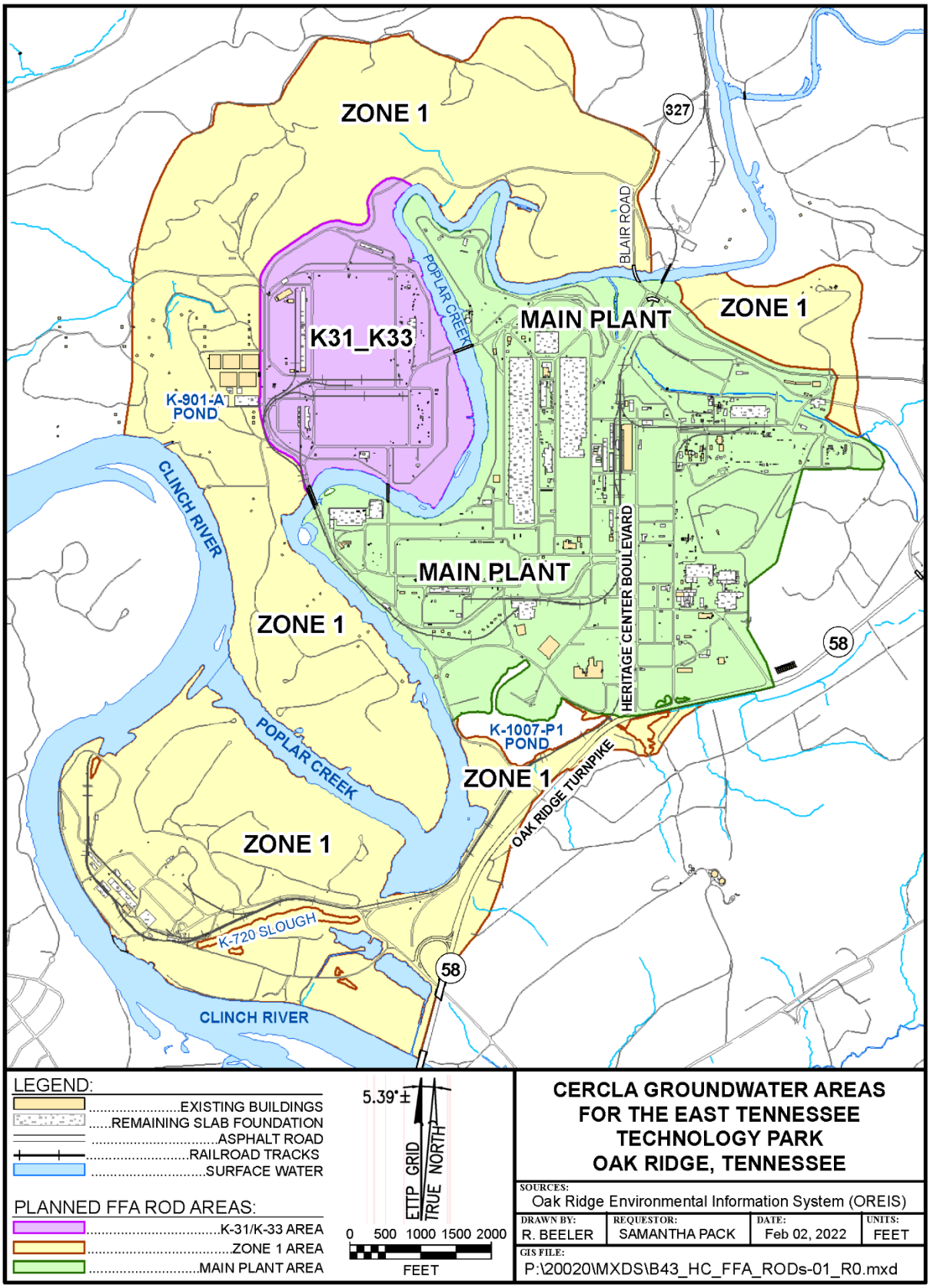

Figure 1.2. ETTP groundwater areas.

2 SCOPE OF PROPOSED REMEDIAL ACTION

The scope covered by the proposed interim action is groundwater within the MPA of ETTP. The specific scope covered in the predecessor FFS includes:

- Six specific areas of groundwater contamination (i.e., groundwater plumes) within the MPA located below the water table in the unconsolidated weathered soil/rock and bedrock zones.

The specific six areas generally are named for former buildings in the area of the contamination and include (Figure 2.1) six chlorinated volatile organic compound (CVOC) groundwater plume areas where contaminant concentrations exceed 1000 µg/L are considered for active remediation:

- Mitchell Branch Comingled Plume/ K-1407-B
- K-1401
- K-25/K-1024
- K-1035
- K-27/K-1232
- K-1239

Additional groundwater CVOC areas of concern have been identified in the ETTP MPA, as shown in Figure 2.1. Some of these additional areas require additional data-collection activities prior to proposing an action. In a few cases, it has yet to be determined if a dense, non-aqueous-phase liquid (DNAPL) form of contamination is present that could require different remedial approaches. Additional data-gathering activities will be initiated as part of a Remedial Investigation Work Plan (RIWP) aimed at obtaining data for final decisions on MPA groundwater.

For the six sites covered by this Proposed Plan, the primary soil sources associated with the groundwater plumes have been or are being excavated above the water table under the *Record of Decision for Soil, Buried Waste, and Subsurface Structure Actions in Zone 2, East Tennessee Technology Park, Oak Ridge, Tennessee* (DOE/OR/01-2161&D2; Zone 2 Soil Record of Decision [ROD]), as shown in Table 2.1. Completion of the soil work sets the stage for this next phase of work below the water table. The Zone 2 Soil ROD has been responsible for:

> "Soil or buried material that contains sufficiently high levels of soluble contaminants can be a source of contamination to groundwater. The intent of cleanup is to remediate subsurface soil or buried material above the water table or bedrock that poses a threat of causing continued or further spread of groundwater contamination (*Remedial Design Report/Remedial Action Work Plan for Zone 2 Soils, Slabs, and Subsurface Structures East Tennessee Technology Park, Oak Ridge, Tennessee*; DOE/OR/01-2224&D5)."

The large amount of contaminated soil source mass removal that has been or will be excavated as part of the Zone 2 work should result in decreasing trends in groundwater contaminant concentrations. Monitoring for this will be a key component of the work under the RIWP.

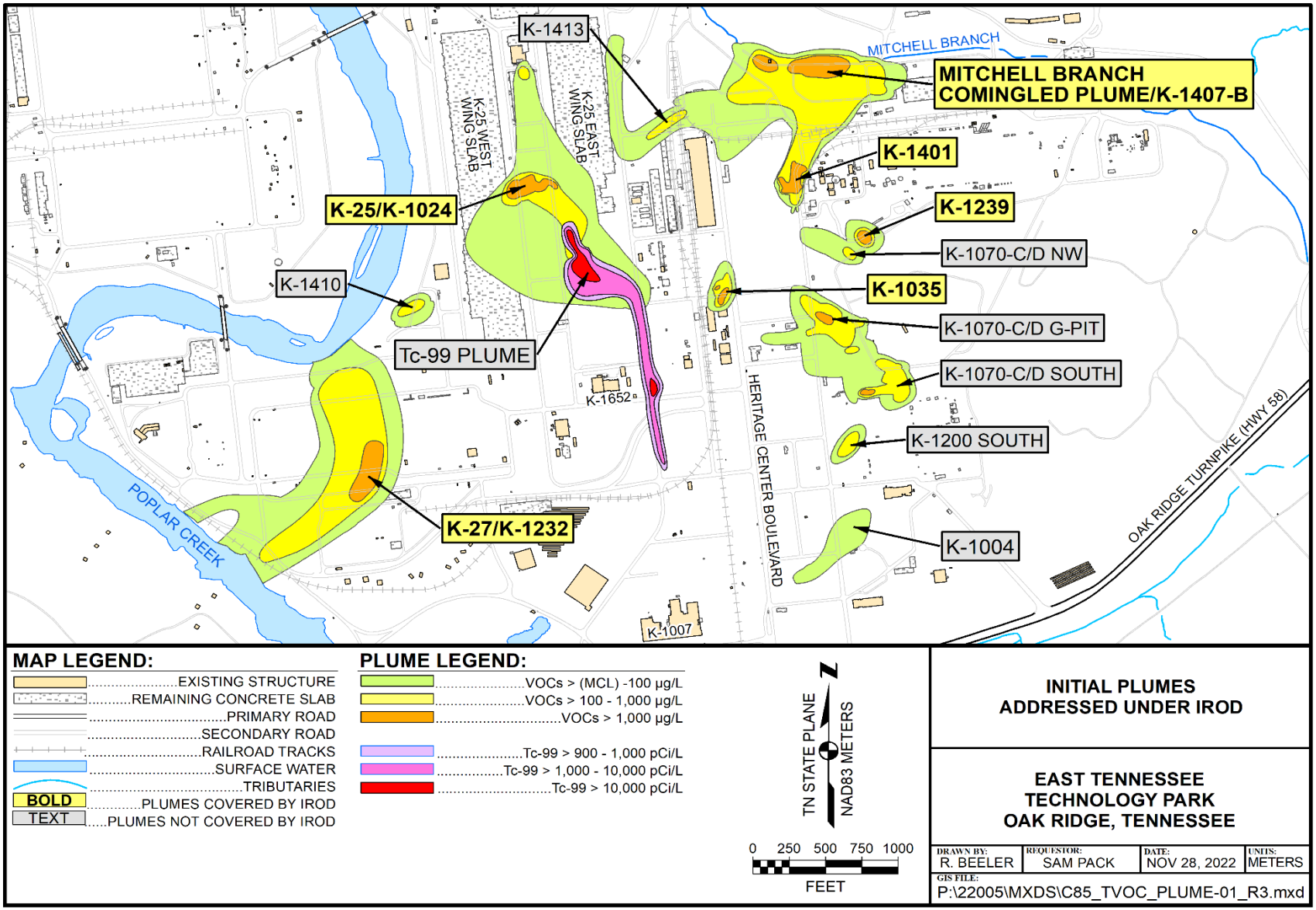

Figure 2.1. Scope of proposed remedial action.

Table 2.1. MPA locations where contaminated soil excavation actions have or will be occurring

Groundwater area of contamination	Zone 2 source action	Excavation volume (yd^3)
Areas included in proposed IROD		
Mitchell Branch Comingled Plume/K-1407-B	EU Z2-35 Area 2 (tetrachloroethene)	850
	K-1407-B Pond	1000
K-1401	Degreasers, acid baths and dip tanks, and other degreasing infrastructure removed during demolition of K-1401	--
K-25/K-1024	EU Z2-21	70,000[a]
K-1035	Pits, drain lines, and soil removed (2009)	2540
K-27/K-1232	K-631 North TCE	19,000[a]
	K-131 North TCE	
	Tank Farm Area TCE	
	K-413 Southeast TCE	
K-1239	No CVOCs identified in Zone 2 soils; further evaluation in progress	--
Areas not included in proposed IROD		
K-1004	Suspect source (dilution pits) removed (2007)	50
Tc-99 dig	EU Z2-21 and EU Z2-22	93,000
K-1413	EU Z2-25 North soil	10,080
	EU Z2-25 K-1413 soil	13,000
K-1410	No CVOC source identified; radiological soil >SSL removed	14,200
K-1420	Contaminated soils and slabs	9000
K-1070-C/D North	Further evaluation in progress	TBD
K-1070-C/D G-Pit	G-Pit removed under separate action	--
K-1070-C/D South	Further evaluation in progress	TBD
K-1200 South	No CVOCs identified in Zone 2 soils	--

[a]Estimated future volumes.

CVOC = chlorinated volatile organic compound
EU = exposure unit
IROD = Interim Record of Decision
MPA = Main Plant Area
SSL = soil screening level
TBD = to be determined
TCE = trichloroethene

3 SITE BACKGROUND

3.1 OVERVIEW OF THE SITE

The 34,465-acre DOE ORR is located within and adjacent to the corporate limits of the city of Oak Ridge, Tennessee, in Roane and Anderson Counties (Figure 1.1). The ORR is bounded to the east, south, and west by the Clinch River and on the north by the developed portion of the city of Oak Ridge. Three major industrial research and production facilities originally constructed as part of the World War II-era Manhattan Project—ETTP, formerly the K-25 Site and Oak Ridge Gaseous Diffusion Plant; Oak Ridge National Laboratory (ORNL), formerly X-10; and the Y-12 National Security Complex (Y-12)—are located on the ORR.

ETTP's principal mission was uranium enrichment. Enrichment activities ceased in 1987 and demolition of all buildings covered under CERCLA was completed in 2020. ETTP currently is being cleaned up to allow beneficial reuse of the land, infrastructure, and groundwater. ORNL historically performed a variety of research and development activities, including the use of research nuclear reactors for DOE. Y-12 has served several missions, including uranium enrichment, lithium refining, nuclear weapons component manufacturing, and weapons disassembly, and has a continuing mission in some of these areas. Historic operations resulted in waste disposal areas as well as soil, surface water, sediment, groundwater, and buildings contamination. Consequently, the ORR, including all of ETTP, was placed on the CERCLA National Priorities List in 1989.

3.2 SITE HISTORY AND STATUS

ETTP occupies approximately 5000 acres of the ORR. Areas potentially impacted by site activities account for roughly 2200 of the 5000 acres. ETTP's original mission was to supply enriched uranium material for nuclear weapons. From 1945–1964, gaseous diffusion technology was used to enrich uranium for use in nuclear weapons. There were five primary process buildings (K-25, K-27, K-29, K-31, and K-33) where highly enriched uranium (HEU) and low enriched uranium (LEU) were produced. In 1964, HEU production was discontinued and the K-25 and K-27 process buildings were shut down.

Over the next 20 years, ETTP's primary mission was LEU production for fabrication into fuel elements for commercial and research nuclear reactors. Secondary missions in the mid-1980s included research on new technologies for uranium enrichment, such as gas centrifuge and laser isotope separation. In 1985, because of a decline in the demand for enriched uranium, DOE placed ETTP in standby mode. ETTP was shut down permanently in 1987. Currently, DOE activities at ETTP include environmental cleanup and reindustrialization efforts. Portions of ETTP are used for non-DOE industrial activities.

ETTP operations resulted in a legacy of inactive and contaminated facilities, waste disposal areas, and contaminated media, including the following:

- Buildings
- Buried wastes
- Buried tanks
- Underground waste lines
- Scrap and debris
- Surface and subsurface soils
- Surface water and sediment
- Groundwater

Early investigations of hazardous releases from contaminant source areas at ETTP were initiated to meet the requirements of the Resource Conservation and Recovery Act of 1976, as amended by the Hazardous and Solid Waste Amendments of 1984 and CERCLA. The first set of key decisions addressed single-project, higher risk early actions to remove primary sources of contamination or address primary release mechanisms. In addition, buildings have been demolished under CERCLA removal authority. The early actions and facility demolition are complete.

The second set of key decisions at ETTP addressed soil, buried waste, and subsurface structures. For the purposes of these decisions, ETTP was divided into two geographical areas: Zone 1, consisting of approximately 1400 acres outside the original fence line of the main processing/industrial area; and Zone 2, the processing/industrial area inside the original fence line. Historically, Zone 1 was mostly undeveloped, but portions were used for industrial purposes (e.g., power generation) and limited waste disposal. Zone 2 is the main plant production area associated with heavy industrial use as well as waste treatment and disposal.

Characterization and remedial actions for soil, buried waste, and subsurface structures in Zone 1 were implemented under the *Record of Decision for Interim Actions in Zone 1, East Tennessee Technology Park, Oak Ridge, Tennessee* (DOE/OR/01-1997&D2; Zone 1 Soil Interim ROD [IROD]), as amended. The approved *Amendment to the Record of Decision for Interim Actions in Zone 1 for Final Soil Actions, East Tennessee Technology Park, Oak Ridge, Tennessee* (DOE/OR/01-2817&D3) added protection of ecological receptors in the terrestrial environment, given that much of Zone 1 is undeveloped and is viable ecological habitat.

All the Zone 1 Soil IROD remedial actions are complete. Remedial actions in Zone 2 are in progress, and all required soil excavations are anticipated to be completed by September 2025. Actions under the Zone 1 Soil IROD and Zone 2 Soil ROD are based on the protection of both human health and the environment, including requirements to remove soil that could continue to leach contaminants to groundwater. Neither ROD includes actions that extend below the water table (or below the top of bedrock).

The remaining CERCLA decisions at ETTP will address contamination in groundwater, soil vapor, surface water, and sediment in the ponds, wetlands, and perennial streams. The groundwater scope at ETTP has been divided into three geographical areas for CERCLA decisions (Figure 1.2):

- MPA groundwater
- K-31/K-33 Area groundwater
- Zone 1 groundwater

The proposed MPA Groundwater IROD that is the subject of this Proposed Plan is the result of a two-step process that has occurred starting in 2018 when the Federal Facility Agreement (FFA) parties agreed to divide the groundwater scope. In November 2019, DOE submitted to the regulators the *East Tennessee Technology Park Main Plant Groundwater Feasibility Study, Oak Ridge, Tennessee* (DOE/OR/01-2835&D1; Feasibility Study [FS]). This FS covered all groundwater scope in the MPA. Comments resulting from regulatory review pointed to issues that would need to be addressed prior to obtaining a Final ROD, including but not limited to:

- Incomplete characterization of the entire plume areas downgradient of the >1000-µg/L area (both depth and lateral spread).
- Incomplete characterization of radiological and metal contaminants in groundwater.
- Incomplete understanding of the weathered rock and bedrock flow zones.

Based on the comments, the FFA parties altered the path to focus on a subset of the MPA groundwater contamination for which sufficient data were available to evaluate remedial technologies and to proceed with an FFS and an IROD on these areas. The FFA parties agreed that comments on the original FS would need to be addressed as part of future efforts toward a final ROD for MPA groundwater.

3.3 SITE CHARACTERISTICS

The MPA is bounded on the north and west by Poplar Creek, Highway 58 on the south, and unindustrialized wooded areas to the east (Figure 1.1). Bedrock geology within the MPA is complex, reflecting lithologic diversity (carbonate and clastics) and structural complexity at different scales. Bedrock is mantled largely by a veneer of unconsolidated overburden ranging up to 70 ft thick. The overburden is made up of a combination of soil and weathered bedrock. These conditions have created a complex hydrogeologic environment, in which groundwater flow patterns reflect a variety of subsurface influences, including bedrock weathering profiles, relict drainage features, historical cut and fill activities, structural geology (e.g., strike and dip and fracturing), subsurface utilities, and karst features.

The K-25 Fault transects the eastern portion of the MPA and is a northeast-dipping thrust fault that places Rockwood Formation clastics over Chickamauga carbonates. The K-25 Fault also separates the groundwater areas addressed in this Proposed Plan into those underlain by clastic rocks (K-1401, K-1407-B, and K-1239) and those underlain by carbonates (K-1024, K-1035, and K-27/K-1232).

The water table in the MPA occurs at depths ranging from approximately 2 to 50 ft below land surface and generally occurs within the unconsolidated zone above bedrock. However, in the southeastern portion of the MPA, bedrock is shallow enough that the water table lies completely within bedrock.

Contaminated groundwater containing CVOCs occurs in both the unconsolidated materials and in

the underlying bedrock resulting from historical use of these compounds as cleaning solvents. Historical releases of CVOCs occurred from equipment cleaning and maintenance, leaking process piping, degreasing pits, and other surface/near-surface releases. The contamination migrated downward to the water table where it dispersed in the unconsolidated zone and also reached the underlying bedrock. Groundwater has continued to migrate in response to natural hydraulic gradients and buried infrastructure and relict drainage features. In addition to CVOCs, other contaminants have entered the groundwater at ETTP, particularly Tc-99 in the area of the former K-25 building. This Proposed Plan addresses specific groundwater areas of contamination within the MPA, including K-27/K-1232, K-1024, K-1401, K-1035, Mitchell Branch Comingled Plume/K-1407-B, and K-1239, as shown in Figure 2.1.

The CVOC groundwater treatment areas were defined on the basis of concentrations of 1000 µg/L for at least one of the CVOCs identified for that particular source, typically trichloroethene (TCE). For areas with high concentrations of vinyl chloride (VC), a more toxic compound, a concentration limit of 400 µg/L is used along with a 1000-µg/L limit for other CVOCs.

The CVOC high-concentration areas are within the larger plume area, as shown on Figure 2.1. These plumes range in concentrations from <1000 µg/L to levels near the EPA maximum contaminant levels (MCLs). Although not the focus of the actions aimed at reducing contaminant mass in the groundwater plumes described in this Proposed Plan, the actions are also expected to have a beneficial effect on these larger plume areas. If the proposed remedy proves effective, remediation efforts may extend into these dissolved-phase areas.

There are additional areas of groundwater contamination at ETTP that are not currently included in the scope of this Proposed Plan, as well as potential unknown areas of contamination that may be discovered as additional characterization work is implemented under the new RIWP. They include but are not limited to:

- The Tc-99 plume
- K-1004
- K-1413
- K-1410
- K-1420
- K-1064 Peninsula
- K-1070-C/D burial grounds (both in the northerly G-Pit and southerly K-1200 flow directions)
- Several DNAPL areas of concern in bedrock
- Other sites identified by further MPA groundwater-characterization activities

These remaining areas of contamination will be included in the final ROD.

3.4 SITE TRANSFER STATUS

Portions of the ETTP MPA have been or will be leased or transferred for reindustrialization. In all cases, the transfer deeds transfer the property but prevent use of groundwater at the site. The transfer status of the sites addressed in this Proposed Plan is listed below:

- The K-1407-B area has not been transferred.
- The K-1401 and K-1035 groundwater plumes areas are located in parcel ED-11, which transferred in May 2014.
- The K-1024 area will be retained by the federal government as part of the K-25 National Historic Preservation/National Park Service footprint.
- The K-1239 groundwater plume lies within parcel ED-10, which transferred in February 2012, but additional pre-design investigations (PDIs) could show it may encroach on other areas.
- Most of the K-27/K-1232 area has not been transferred, but the southern portion is in a “pending transfer” area.

Despite having transferred the land for reuse at the MPA, the deeds all contain language that ensures DOE retains unrestricted access to the groundwater plumes at ETTP for the purpose of investigations, remedial action, and monitoring. Coordination with existing tenants may need to be accounted for in planning and implementing work.

3.5 INTEGRATION WITH OAK RIDGE RESERVATION GROUNDWATER STRATEGY

From 2013–2014, the FFA parties met to develop a strategy for addressing the complex CERCLA groundwater cleanup challenges on the ORR. These meetings culminated in the *Groundwater Strategy for the U.S. Department of Energy Oak Ridge Reservation, Oak Ridge, Tennessee* (DOE/OR/01-2628&D2/V1; Groundwater Strategy report). The report identified six key recommendations that were considered in the development of this plan:

- Perform an Off-site Groundwater Quality Assessment, including monitoring residential wells and springs downgradient of ETTP, to address the potential for off-site public health threats, as addressed in Section 4.1.2.
- Continue with ORR conceptual site model investigations.
- Enhance groundwater flow modeling.
- Coordinate with the FFA parties to support technology development toward final groundwater decisions.
- Identify groundwater early actions/remedial actions, as portrayed by this IROD Proposed Plan.
- Include some remediation elements related to MNA.

Components of the strategy not directly addressed by this interim action will be incorporated into the development of the RIWP for the MPA Final ROD.

4 SUMMARY OF SITE RISKS

Historical groundwater monitoring at ETTP has identified areas of groundwater contamination throughout the site. Baseline human health risk assessments have been performed for most of the CVOC plumes addressed under this Proposed Plan to identify current and hypothetical future industrial and residential health risks. Risks associated with current land use and hypothetical future land use are summarized below. A full baseline human health risk assessment will be included in the remedial investigation report for the MPA Final ROD.

4.1 CURRENT LAND USE

4.1.1 Onsite

Current land use for the ETTP MPA is commercial/industrial. The State of Tennessee designates groundwater at ETTP as general use, per State of Tennessee Water Quality Criteria General Use Ground Water (0400-40-03-.07(4)(b)) requirements; however, currently, there are prohibitions against groundwater use at ETTP. Because of groundwater use restrictions, no current direct exposure risk to industrial workers via use of potable water exists.

A potential for indirect exposure to groundwater CVOC contaminants via migration of vapors through subsurface soils into buildings exists. Characterization work performed as part of the CERCLA 120(h) land transfer process (*Evaluating the Potential for Vapor Intrusion at the East Tennessee Technology Park, Oak Ridge, Tennessee* [DOE/OR/01-2572]) indicated there are no unacceptable exposures associated with vapor intrusion of chlorinated solvents in the footprints of buildings that were being transferred at that time. Additionally, the property deeds for transferred properties in the MPA require any new buildings constructed on the property that are intended to be occupied by workers 8 hr or more per scheduled workday or by public visitors follow Office of Solid Waste and Emergency Response 9200.2-154, Section 8.2.3, *OSWER Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air*, which requires evaluation and design/construction requirements to prevent exposure to CVOC vapors. Recent Zone 2 CERCLA soil completion efforts have included a vapor screening evaluation as part of the Phased Construction Completion Reports.

4.1.2 Offsite

In addition to on-site industrial receptors, residents currently are located offsite to the north and west of ETTP. DOE conducted the *Offsite Groundwater Assessment Remedial Site Evaluation* (DOE/OR/01-2715&D2) from fiscal year 2014 through fiscal year 2016 to investigate groundwater quality and potential off-site migration of contaminants from the ORR. The study included sampling 15 wells and springs downgradient of ETTP. That study concluded cancer risks at all off-site monitoring locations are within the EPA acceptable risk range. Non-cancer risks were

above a hazard index (HI) of 1 at five locations; however, these HI values for non-cancer toxic effects are associated with three inorganic chemicals—lithium, fluoride, and manganese. The study concluded the inorganics contributing to the non-cancer HI >1 are not likely an ORR-related issue for one or more of the following reasons:

- The inorganics may be naturally occurring.
- The total HI is the sum of inorganics with different toxic endpoints.
- The inorganic chemicals did not exceed any primary drinking water standards (i.e., MCL), or there is no access to springs for drinking water.

These three inorganics are not chemicals of concern identified in the ETTP soil RODs or the previous groundwater remedial investigations.

4.2 FUTURE LAND USE

Future land use assumptions for the MPA are based on input from the Oak Ridge Site-Specific Advisory Board and the End Use Working Group and discussion with regulatory agencies. The designated future land use for the MPA is commercial/industrial. As established in the Zone 2 Soil ROD, industrial use is restricted to a depth of 10 ft below ground surface, and in some areas, to a 2-ft-below-ground-surface depth. Land use around the former K-25 building footprint will be historic preservation in support of the Manhattan Project National Historical Park. DOE will retain three classified burial grounds within the MPA at ETTP. Areas within the MPA may be changed to recreational use; however, these areas likely would be limited to a narrow strip of land bordering Poplar Creek.

Under these future land uses, the *East Tennessee Technology Park Administrative Watershed Remedial Action Report Comprehensive Monitoring Plan, Oak Ridge, Tennessee* (DOE/OR/01-2477&D4; ETTP Remedial Action Report [RAR] Comprehensive Monitoring Plan [CMP]) institutional controls on groundwater usage will remain in place through deed restrictions filed in the transfer deeds. The ETTP RAR CMP states, "In the event of property transfer, DOE will ensure that DOE's property disposal agent incorporates the Land Use Control (LUC) objectives into restrictive covenant languages in the deeds transferring the property… The deeds will contain appropriate provisions to ensure the restrictions continue to run with the land and are enforceable by DOE." (Refer to Table 6.2 [Section 6.2] for the ETTP RAR CMP land use control [LUC] requirements for transferred properties.)

Despite these land use designations and restrictions, and in accordance with CERCLA baseline risk assessment practices, the past risk assessments have evaluated future hypothetical residential land use, including the use of groundwater as a potable water source. This residential use evaluation is used to help evaluate the potential to return the groundwater resource to unrestricted uses and to determine the need for ongoing use controls.

The 2007 risk assessment (*Final Sitewide Remedial Investigation and Feasibility Study for East Tennessee Technology Park, Oak Ridge, Tennessee* [DOE/OR/01-2279&D3]) evaluated a hypothetical resident who lived above the high-concentration portion of a groundwater plume and obtained water for all household uses from groundwater within that source area. Potential exposure routes assessed for the adult and child residents included ingestion of drinking water, dermal contact with household water, and inhalation of CVOCs. In addition, inhalation of CVOCs migrating from groundwater through soil and into a home (i.e., vapor intrusion) was assessed. The evaluation followed the guidance for assessing a reasonable maximum exposed individual. This assessment was used as a starting point for the FFS assessment.

The risk assessment in the FFS identified groundwater underlying ETTP as contaminated with CVOCs that could result in unacceptable human health risks if used as a potable water source. Incremental lifetime cancer risk for a future hypothetical resident ranges from 1.7×10^{-2} to 7.5×10^{-5}, depending on the specific groundwater plume. These estimated risks are above the CERCLA acceptable risk range of 1×10^{-4} to 1×10^{-6}. The estimated HI ranged from 12 to 340, well above the acceptable HI of 1. The predominant CVOC and greatest risk driver present in groundwater is TCE, with 1,1,1-trichloroethane and tetrachloroethene also contributing risk but being less widespread throughout the area. Degradation products of these parent compounds, primarily cis-1,2-dichloroethene; 1,1-dichloroethene; and VC, are also present in some areas. Although additional chemicals of potential concern were identified, CVOCs were identified as the principal concern with regard to protection of human health.

5 REMEDIAL ACTION OBJECTIVES

The purpose of the interim action is to initiate remedial actions while additional information is collected to better assess the practicability of aquifer restoration prior to determining final cleanup goals.

Interim remedial action objectives (IRAOs) establish goals for the interim action to provide the basis for evaluating alternatives and to help identify a target for determining the action has been successful. IRAOs are sometimes referred to as functional objectives, technology-specific goals/performance metrics, and near-term remediation goals. They describe intermediary goals that guide progress towards achieving final remedial action objectives (RAOs) in a Final ROD.

In the ETTP MPA, CVOCs present the greatest human health risks in groundwater and exceed MCLs by several orders of magnitude. The MPA groundwater plume areas addressed in this Proposed Plan are the areas where the greatest CVOC contaminant mass has been observed. These areas act as sources of continued releases to the associated groundwater plumes. The IRAO for the IROD is to substantially reduce CVOC contaminant mass in these areas. Reducing groundwater plume source material will facilitate long-term restoration of groundwater at the site.

A target performance metric identified for the IROD is to reduce contaminant concentrations below 1000 µg/L for individual CVOCs (or 400 µg/L for VC). This 1000-µg/L threshold was selected because it is a practical goal to achieve contaminant mass removal and is similar to values selected for several other CERCLA sites for this purpose, including two EPA Region 4 National Aeronautics and Space Administration sites and DOE's Santa Susana site. It also represents a contaminant level that is less than values suggesting the presence of DNAPL, or less than 1% of the solubility of TCE and other priority CVOCs. Treatment to these levels contributes to DOE's strategy to substantially reduce further contribution of contaminant mass to the aquifer.

If performance data indicate treatment is capable of reducing contaminant concentrations to levels below the target performance metrics (400 µg/L for VC and 1000 µg/L for the other CVOCs), then active remediation will continue to achieve the greatest practicable reduction in contaminant mass. In this situation, the treatment would continue until performance data indicate additional treatment actions do not accomplish any further practicable reduction in contaminant concentrations. Decision rules identified in the Remedial Design Report (RDR)/Remedial Action Work Plan (RAWP) will be used to define the conditions for ceasing active treatment operations for the interim action and in collaboration with TDEC and EPA to determine the next stage of work. The IRAO for this Proposed Plan does not include groundwater restoration to CVOC MCLs; rather, it focuses on plume contaminant mass reduction to identified interim numeric goals. Nonetheless, the action identifies Safe Drinking Water Act MCLs as chemical-specific applicable or relevant and appropriate requirements (ARARs) because they are still well suited to establishing remedial goals for groundwater. However, because this is an interim action, DOE is seeking a waiver from these ARARs under CERCLA Section 121(d)(4)A), 42 United States Code Section 9621(d)(4)(A), which allows for remedial actions to be selected that will not attain ARARs, if the remedial action selected is only part of a total remedial action that will attain such level or standard of control when completed (commonly called the interim action waiver).

6 SUMMARY OF REMEDIAL ALTERNATIVES

The FFS developed and evaluated four alternatives to address CVOC contamination >1000 µg/L in the six groundwater plumes described in Section 2. These remedial alternatives are described below.

6.1 REMEDIAL ALTERNATIVES DEVELOPED FOR CHLORINATED VOLATILE ORGANIC COMPOUND GROUNDWATER PLUMES

The four alternatives evaluated in the FFS for the CVOC groundwater plumes are:

- No action
- In situ thermal treatment (ISTT)
- Enhanced in situ bioremediation (EISB) treatment
- In situ soil mixing (ISSM), along with EISB for deeper zones

Major components of each remedial alternative are summarized in Table 6.1. The remedial alternatives developed are a set of technology combinations that will result in the most promising

alternatives to achieve cleanup objectives. With the exception of the no action alternative, all the remedial alternatives listed in Table 6.1 include common components such as PDIs, performance monitoring, LUCs, and Five-Year Reviews (FYRs). These remedial alternatives are described more fully in the FFS.

The IRAO for the CVOC groundwater plumes is to substantially reduce CVOC mass. The performance metric for accomplishing this IRAO is to reduce concentrations of individual chlorinated organics to less than or equal to 1000 µg/L (or 400 µg/L in the case of VC).

Table 6.1. Summary of alternatives for CVOC groundwater plumes

Alternative	Description	Cost/Timeframe
No action	No actions	Cost: $0 Timeframe: not applicable
ISTT	This alternative involves installing heating elements to increase the subsurface temperature, resulting in volatilization of contaminants, with capture of the resulting vapors using a vacuum extraction system. The vapors will be treated before being discharged to the atmosphere. Process water produced as a result of treatment will be treated onsite and discharged to a permitted NPDES outfall	Capital cost: $123.3 million Total present-worth cost: $133.5 million Timeframe: 5 years
EISB	This alternative involves stimulating existing subsurface bacteria to promote dechlorination and ultimate destruction of the CVOC contaminants. It involves installing injection wells in the unconsolidated and bedrock zones. A carbon substrate, along with other supporting treatment reagents such as supplements and bioaugmentation cultures, will be injected into the wells so they can be distributed in the subsurface. Multiple injections will be completed to recharge the system with treatment reagents	Capital cost: $16.9 million Total present-worth cost: $32.7 million Timeframe: 5 years
ISSM, along with EISB for deeper zones	This alternative involves using a soil mixing technology to deliver zero valent iron and bentonite to the unconsolidated zone. The reagents will treat contaminants and minimize contamination migration from the treatment zone. The soil mixing technology will be completed under a tent with air control to prevent the release of CVOCs to the atmosphere. This alternative also uses EISB treatment in the bedrock zone	Capital cost: $154.1 million Total present-worth cost: $167.2 million Timeframe: 5 years

CVOC = chlorinated volatile organic compound
EISB = enhanced in situ bioremediation
ISSM = in situ soil mixing
ISTT = in situ thermal treatment
NPDES = National Pollutant Discharge Elimination System

6.2 COMMON COMPONENTS OF REMEDIAL ALTERNATIVES

With the exception of the no action alternative, the remedial alternatives include the following common components:

- **PDIs** – Existing data are sufficient to evaluate technologies and remedial alternatives for remediation of MPA groundwater. However, additional data are required to complete the final design and implement the selected remedy. These data will be collected as part of a PDI that will be defined in the Remedial Design Work Plan (RDWP). The PDIs will be intended to address and manage uncertainties and challenges with the selected remedy.
- **Performance Monitoring** – Performance monitoring will be conducted to assess remedy effectiveness. Performance metrics for determining when the remedial action is successful will be established in the RDR/RAWP. For the purposes of this Proposed Plan, the remedies are assumed to be implemented and evaluated for 5 years, a time period considered appropriate for determining if IRAOs can be achieved in a reasonable period of time. As such, present-worth costs are based on a 5-year timeframe. Performance monitoring will include collecting groundwater samples. The details of performance monitoring will be developed in the RDR/RAWP. For the conceptual design of each remedial alternative, the following assumptions were made:
  - A portion of the new wells installed as part of the PDIs is located such that they can be used as the performance monitoring wells for each remedy.
  - Monitoring frequency and target analytes will be defined in the RDR/RAWP. For cost-estimating purposes, frequency is assumed to be semiannual, and target analytes are assumed to be the same as those currently used for semiannual monitoring at the site.
  - Data collected during performance monitoring will be used to optimize specific remedial actions.
  - DOE will incorporate post-IROD remedy optimization as a part of groundwater remedial actions, consistent with EPA guidance on optimization, which DOE has determined may be helpful in ensuring the treatment of these plumes is achieving its remediation goals in a reasonable timeframe.
- **LUCs** – DOE has implemented LUCs to prevent potential exposures to contaminated groundwater at ETTP. These LUCs are included as part of each alternative for this interim action and are part of the selected remedy. LUCs include institutional controls (ICs) and engineering controls. ICs include restricting groundwater use for any purpose and may include additional requirements for constructing buildings until groundwater future final cleanup goals are achieved. LUCs currently are implemented in accordance with the ETTP RAR CMP, which includes the LUC Implementation Plan (LUCIP) and engineered remedies and controls. Applicable LUCs follow:
  - Property record restrictions
  - Property record notices
  - Excavation/Penetration permit program
  - Access controls
  - Vapor intrusion controls

  Guidelines for property transfer and LUC verification and reporting are also included.

  LUCs application will be the same for all remedial alternatives (Table 6.2). These LUCs will remain in effect until they are updated or removed in a future decision document.

  DOE will ensure that any unacceptable risks due to vapor intrusion will be addressed and a final remedy for vapor intrusion will be selected as part of the Final MPA Groundwater ROD. The deeds for property transfer require that any buildings newly constructed on the property that are intended to be occupied by workers 8 hr or more per scheduled workday or by public visitors will be designed and constructed to minimize exposure to volatile organic compound vapors, if determined to be necessary, using Office of Solid Waste and Emergency Response 9200.2-154 or an alternative, more recent EPA guidance document.
- **FYRs** – FYRs are required at sites where contaminant concentrations remain above unlimited use and unrestricted exposure, following guidance provided in EPA's

Comprehensive Five-Year Review Guidance (EPA/540/R-01/007). The objectives of the FYR are to assess remedy performance and determine remedy protectiveness. Each FYR will cover the following six components:

- Community involvement
- Document review
- Data review and analysis
- Site inspection
- Interviews
- Protectiveness determination

  The protectiveness determination is further evaluated by addressing the following:

  - Is the remedy functioning as intended?
  - Are the exposure assumptions, toxicity data, cleanup levels, and RAOs still valid?
  - Has any other information come to light that could call into question the protectiveness of the remedy?

  FYR preparation is part of the Water Resources Restoration Program implemented at ETTP, and costs for completing FYRs are covered under that program.

In addition to the above common components of the various alternatives, DOE performed a comprehensive sustainability analysis of the technologies in the original 2019 FS. This served as a quantitative assessment of the potential environmental and social impact of each alternative. That analysis recommended that, once a technology is selected, it be further evaluated during the design phase to explore opportunities to integrate sustainable remediation best practices in the design, construction, and operation of the alternative.

Table 6.2. LUCs for MPA in place during the preferred alternative

Type of control	Purpose of control	Duration	Implementation	Affected area
1. Property record restrictions: A. Land use	Impose limitations to restrict use of property	Until concentrations of hazardous substances are at such levels to allow for unrestricted use/unlimited exposure	Drafted and implemented by DOE upon transfer of affected areas. Recorded by DOE in accordance with state law at County Register of Deeds office (verified every 5 years)	All WMAs and other areas where hazardous substances are left in place at levels requiring land use and/or groundwater restrictions
B. Groundwater	Prohibit groundwater use	Until final groundwater decision is made		
C. Vapor intrusion	Mitigate the vapor intrusion pathway on existing and future enclosed building structures, as needed	Until the concentrations of volatile organic contaminant vapors reach levels to allow for unrestricted use and unlimited exposure	Drafted and implemented by DOE upon transfer of affected areas. Recorded by DOE in accordance with state law at County Register of Deeds office	All of ETTP, consistent with deed covenants
2. Property record notices	Notify anyone searching records about existence and location of contaminated areas and limitations on their use	Until concentrations of hazardous substances are at such levels to allow for unrestricted use and unlimited exposure; groundwater use prohibitions are in place until final groundwater decision is made	Recorded by DOE in accordance with state law at County Register of Deeds office and copied to the appropriate zoning office (verified every 5 years). (1) Tennessee Code Annotated notice of land use restrictions after signing the ROD. (2) Upon transfer of affected areas. (3) Upon completion of a remedial action that leaves hazardous substances in place	All of ETTP
3. Zoning notice	Notify city about existence and location of waste disposal and residual contamination areas for zoning/planning purposes	Until concentrations of hazardous substances are at such levels to allow for unrestricted use and unlimited exposure; groundwater use prohibitions are in place until final groundwater decision is made	Initial zoning notice (same as property record notice) filed with City Planning Commission as soon as practicable after signing the ROD. Final zoning notice and survey plat filed with City Planning Commission upon completion of all remedial actions	All WMAs and other areas where hazardous substances are left in place at levels requiring land use and/or groundwater restrictions

Table 6.2. LUCs for MPA in place during the preferred alternative (cont.)

Type of control	Purpose of control	Duration	Implementation	Affected area
4. Excavation/ Penetration permit program	Notify worker/ developer (i.e., permit requestor) on extent of contamination and prohibit or limit excavation/ penetration activity	Until concentrations of hazardous substances are at such levels to allow for unrestricted use and unlimited exposure; groundwater use prohibitions are in place until final groundwater decision is made	Implemented by DOE and its contractors. Initiated by permit request (verified annually)	Remediation systems, all WMAs, and areas where hazardous substances are left in place at levels requiring land use and/or groundwater restrictions. All of ETTP for groundwater. Remainder of Zone 1 and all of Zone 2 below 10 ft
5. Access controls (e.g., fences, gates, signs, and portals)	Control and restrict access to workers and the public to prevent unauthorized uses	Until concentrations of hazardous substances are at such levels to allow for unrestricted use and unlimited exposure; groundwater use prohibitions are in place until final groundwater decision is made	Maintained by DOE (verified annually)	Remediation systems, all WMAs, and areas where hazardous substances are left in place at levels requiring land use and/or groundwater restrictions

DOE = U.S. Department of Energy
ETTP = East Tennessee Technology Park
LUC = land use control
MPA = Main Plant Area
ROD = Record of Decision
WMA = waste management area

EXPLANATION OF NINE COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT OF 1980 EVALUATION CRITERIA

1. **Overall Protection of Human Health and the Environment** addresses whether a remedial action provides overall protection of human health and the environment. This criterion must be met for a remedial alternative to be eligible for selection.

2. **Compliance with Applicable or Relevant and Appropriate Requirements** addresses whether a remedial action meets all the applicable or relevant and appropriate federal and state environmental requirements or provides grounds for invoking a waiver of the requirements. This criterion must be met for a remedial alternative to be eligible for selection.

3. **Long-term Effectiveness and Permanence** considers the ability of an alternative to protect human health and the environment over time.

4. **Reduction of Toxicity, Mobility, or Volume Through Treatment** evaluates an alternative's use of treatment to reduce harmful effects of contaminants, their ability to move in the environment, and the amount of contamination present.

5. **Short-term Effectiveness** refers to potential adverse effects on workers, human health, and the environment during the construction and implementation phases of a remedial action.

6. **Implementability** refers to the technical and administrative feasibility of a remedial action alternative, including the availability of materials and services needed to implement the alternative.

7. **Cost** refers to an evaluation of the capital, operation and maintenance, and monitoring costs for each alternative, including present-worth costs.

8. **State Acceptance** indicates whether the state concurs with the preferred alternative.

The following is applied after comments are received on the Proposed Plan.

9. **Community Acceptance** assesses the general public response to the Proposed Plan following a review of public comments received during the public comment period. The remedial action is selected only after consideration of this criterion.

7 COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT OF 1980 PROCESS FOR EVALUATION OF ALTERNATIVES

CERCLA Section 121, as amended, specifies statutory requirements for remedial actions. These requirements include protection of human health and the environment, compliance with ARARs, a preference for permanent solutions that incorporate treatment as a principal element to the maximum extent practicable, and cost effectiveness. To assess whether alternatives meet these requirements, the following nine criteria (*Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA* [EPA/540/G-89/004]) are identified in the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR 300.430(f)(2)) and must be evaluated for each alternative (Section 300.430(e)(9)(iii)).

- Threshold criteria:
  - Overall protection of human health and the environment
  - Compliance with ARARs
- Balancing criteria:
  - Long-term effectiveness and permanence
  - Reduction of toxicity, mobility, or volume through treatment
  - Short-term effectiveness
  - Implementability
  - Cost
- Modifying criteria:
  - State acceptance
  - Community acceptance

The first two criteria are the threshold criteria that relate directly to statutory findings that must be documented in a final ROD. The next five criteria, the balancing criteria, address performance of the alternative and verify the alternative is realistic. The last two modifying criteria are taken into account after public comments are received on the Proposed Plan.

In addition to these evaluation criteria prescribed under CERCLA, DOE policy directs the substantive elements of analysis required under NEPA be incorporated into CERCLA decision documents (DOE 1994). Elements common to both CERCLA and NEPA include protectiveness, compliance with ARARs, long-term effectiveness and permanence, short-term effectiveness, and cost. Additional NEPA values not specifically included in CERCLA criteria include socioeconomic impacts, environmental justice, irreversible and irretrievable commitment of resources, and cumulative impacts.

The following sections summarize the evaluation of alternatives presented in the FFS and how each alternative compares to the other alternatives evaluated. Table 7.1 summarizes the comparative evaluation of alternatives presented in the following sections.

7.1 OVERALL PROTECTION OF HUMAN HEALTH AND THE ENVIRONMENT

Because LUCs are in place at ETTP, no action during the interim period does not pose a threat to human health. However, the no action alternative does not achieve the IRAO of substantially reducing source mass, which is the first step in overall protection of human health in the long term. The three treatment alternatives are expected to substantially reduce contaminant mass and achieve IRAOs to support a final cleanup decision and final RAOs.

Table 7.1. Summary of CVOC groundwater actions against CERCLA evaluation criteria

CERCLA criteria	No action	ISTT	EISB	ISSM
Threshold criteria				
Protection of human health and the environment	Does not achieve IRAOs	Protective	Protective	Protective
Compliance with ARARs	Does not address contaminants with ARARs	Complies/ seeking waiver	Complies/ seeking waiver	Complies/ seeking waiver
Primary balancing criteria				
Long-term effectiveness and permanence	Lower compared to other alternatives	Comparable to ISTT and EISB	Comparable to ISTT and ISSM	Comparable to ISTT and EISB
Reduction of toxicity, mobility, or volume through treatment	Lower, no active treatment performed	Higher than other alternatives	Comparable to ISSM	Comparable to EISB
Short-term effectiveness	Lower compared to other alternatives	Comparable to ISSM	Higher than other alternatives	Comparable to ISTT
Implementability	No remediation activities implemented	Higher than ISSM and lower than EISB	Higher than other alternatives	Lower than ISTT and EISB
Present-worth cost	$0	$133.5 million	$32.7 million	$167.3 million

ARAR = applicable or relevant and appropriate requirement
CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CVOC = chlorinated volatile organic compound
EISB = enhanced in situ bioremediation
IRAO = interim remedial action objective
ISSM = in situ soil mixing
ISTT = in situ thermal treatment

7.2 COMPLIANCE WITH APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS

As the goal of the interim action is groundwater plume mass reduction and DOE's use of the interim action waiver, treatment to chemical-specific ARARs is not applicable at this time. For a final ROD, a decision will be made on what appropriate actions are necessary to achieve contaminant-specific ARARs. The three treatment alternatives are capable of complying with identified action- and location-specific ARARs.

7.3 LONG-TERM EFFECTIVENESS AND PERMANENCE

The no action alternative is not considered an effective long-term solution to groundwater contamination problems in the MPA.

The three treatment alternatives are expected to be effective in the long term, aid toward achieving a permanent solution, and have the following attributes in common:

- Treatment will target the most highly contaminated groundwater that represents the greatest risks at the site and where concentrations of specific CVOCs exceed 1000 µg/L.
- Treatment in bedrock represents a challenge that will be addressed incrementally over time, starting with attempts to target contamination in the bedrock zone during the PDI step.
- Treatment will continue until target contaminants are reduced below 1000 µg/L, at which point treatment will continue as long as it is technically and economically feasible.
- Groundwater will be monitored to assess the treatment progress.
- Treatment is expected to substantially reduce contaminant concentrations in the groundwater plumes.

The ISTT alternative is limited in delivering heat to the high-concentration area in a complex geologic environment and capturing the volatilized mass. Some unrecovered volatilized organic mass in the bedrock zone may migrate outside the treatment zone and condense, resulting in moving of contaminant mass rather than achieving full recovery of the volatilized contaminants.

Treatment by EISB has been demonstrated to be effective at removing contaminant mass, including a successful treatability study at ORNL in 2010 that resulted in strong reduction of TCE and daughter product concentrations (DOE/OR/01-2566&D1), and a study of in situ reductive dechlorination of a solvent plume in karst bedrock (Alexander et al. 2003). There are some challenges where soil material has less permeability, which may create challenges to distributing treatment reagents. The remedial design will assess engineering options to improve confidence in distributing treatment reagents.

Both EISB and ISSM rely on liquid injections to deliver treatment reagents to the bedrock zone, which pose challenges due to the network of fractures that are present and the potential to create preferential flow paths for treatment reagents.

Overall, the amount of mass and risk reduction in the unconsolidated zone is expected to be comparable for ISTT and ISSM; the risk reduction for EISB is expected to be slightly less due to potential reagent delivery challenges in the less permeable soils.

While different elements of the three treatment alternatives have different strengths and challenges, overall, the alternatives were considered to be comparable, with EISB scoring slightly less than ISTT and ISSM because less mass reduction is anticipated. However, EISB is still expected to achieve IRAOs.

7.4 REDUCTION OF TOXICITY, MOBILITY, OR VOLUME THROUGH TREATMENT

The no action alternative does not use treatment to reduce groundwater contaminant mass.

ISTT involves heating the soils or rock, which volatilizes the contaminants. The resulting vapors are collected by vapor extraction wells and passed through an above-ground treatment unit that uses activated carbon to remove the contaminants from the vapors. The carbon media containing the contaminants are ultimately sent offsite to an appropriately permitted disposal facility. Because the contamination is removed from the soil/rock and eventually sent offsite for disposal, thermal treatment is considered an irreversible treatment technology. Treatment residuals from ISTT involve generating spent carbon, which will be managed at an appropriately permitted disposal facility.

EISB involves implementing biological treatment. With this technology, transient intermediate degradation products may have greater toxicity and mobility than parent compounds, but they are expected to be reduced by properly implementing the treatment process.

EISB and ISSM both involve implementing biological treatment in the unconsolidated and bedrock zones. EISB involves injecting either or both microbial populations and a food source to increase aquifer biological populations. ISSM uses stabilizing material that will be left behind in the treated soils. Contaminants will be treated with zero valent iron (ZVI) or will remain immobile in the stabilized material.

Overall, ISTT scored highest for this criterion and EISB and ISSM were considered comparable. The no action alternative scored the lowest.

7.5 SHORT-TERM EFFECTIVENESS

There are no risks to workers with the no action alternative. This alternative does not impact workers or the community, and it does not have an environmental impact. There is no timeframe to operate the no action alternative.

EISB scored the highest in protecting workers because of the limited mechanical components of the alternative. ISSM has the greatest potential to impact workers due to the need to work with a high level of personal protective equipment and mechanical mixing for soil. ISTT rated in the middle because it uses heat to treat contaminated groundwater and includes mechanical treatment components.

The three treatment alternatives were evaluated to have limited and similar impacts on the community.

The environmental impacts of ISTT were considered highest due to the energy demand of the treatment components, followed by ISSM due to energy required for mixing soils and material intensity. EISB has the lowest environmental impacts.

The three treatment alternatives are planned to be operated for 5 years and are expected to achieve the IRAOs in this period of time.

Overall, EISB scored higher than the other treatment alternatives.

7.6 IMPLEMENTABILITY

There are no activities implemented with the no action alternative.

The three treatment alternatives will need to comply with DOE's rigorous on-site requirements for construction and operation of treatment systems. CERCLA considerations related to implementability are discussed below:

- The need to perform all treatment activities in a tent for the unconsolidated zone will be challenging for ISSM.
- EISB has the least potential for schedule delays, while ISTT and ISSM have greater potential for schedule delays.
- ISTT and EISB were considered compatible with the potential for future remedial actions if needed at the treatment sites. The use of stabilizing agents in the unconsolidated zone limits the type of additional remediation that could be implemented if ISSM is selected. This alternative also has limitations on what kind of redevelopment could occur at the treatment sites because of the potential for subsidence of soils as a result of mixing and adding ZVI and stabilization materials.
- The three treatment alternatives were considered comparable in the ability to monitor the remedy.
- Based on availability of services and materials, EISB was evaluated to be best due to its use of common treatment reagent material as well as availability of contractors that can implement the technology. There are few technology vendors that can implement ISTT and ISSM.

Overall, EISB scored higher than ISTT, and ISSM scored the lowest.

7.7 COST

There are no costs for implementing the no action alternative.

EISB is the lowest cost alternative because the technology only uses injection wells and episodic reagent injection events. It is the least expensive alternative being 19.5% of the costs of ISSM and 24.0% of the costs of ISTT on a net present-value basis.

ISTT and ISSM have significantly greater costs than EISB due to their need to use significant groundwater treatment equipment (thermal) or heavy construction equipment, with work being performed in a high level of personal protective equipment in a ventilated tent (soil mixing). The pre-design and performance monitoring components of these two alternatives are comparable.

7.8 STATE ACCEPTANCE

State involvement has been solicited throughout the CERCLA and remedy selection process. TDEC supports the preferred alternative, and its final concurrence will be solicited following review of all comments received during the public comment period.

7.9 COMMUNITY ACCEPTANCE

Community acceptance will be evaluated after the public comment period for this Proposed Plan.

8 SUMMARY OF PREFERRED ALTERNATIVE

8.1 IDENTIFY THE PREFERRED ALTERNATIVE

The preferred alternative for the MPA IROD is active remediation using EISB at six CVOC groundwater plumes.

The preferred alternative includes continuation of LUCs that are currently in place at ETTP as part of the selected remedy.

The preferred alternative is based on current information and could change in response to public comment or new information.

8.2 DESCRIBE THE PREFERRED ALTERNATIVE

Table 8.1 summarizes the preferred alternative for the MPA IROD.

Table 8.1. Summary of preferred alternative

Site	Primary COCs	Initial treatment area (ft^2)	Selected technology[a]	Cost		
				Capital (M$)	5-Year O&M (M$)	Total (M$)
Mitchell Branch Comingled Plume/K-1407-B	CVOC	69,260	EISB	$5.9	$5.5	$11.4
K-1401	CVOC	23,522	EISB	$2.0	$1.9	$3.9
K-25/K-1024	TCE	33,106	EISB	$2.8	$2.6	$5.4
K-1035	CVOC	6098	EISB	$0.52	$0.48	$1.0
K-27/K-1232	TCE	59,677	EISB	$5.1	$4.7	$9.8
K-1239	CVOC	7405	EISB	$0.63	$0.59	$1.2
			TOTAL	**$16.95**	**$15.8**	**$32.7**

[a]Common components to all actions are pre-design investigations, performance monitoring, land use controls, and Five-Year Reviews.

COC = contaminant of concern
CVOC = chlorinated volatile organic compound
EISB = enhanced in situ bioremediation
M$ = millions of dollars
O&M = operation and maintenance
TCE = trichloroethene

The proposed preferred alternative is implementation of EISB to meet the interim goal to "remove contaminant mass (EPA, 1990)" in selected groundwater source areas. EISB refers to remediation systems that are designed to remediate chlorinated solvents by input of an organic source, nutrients, electron acceptors, and/or microbial cultures into a plume to stimulate degradation of the contamination. The precise delivery system for the inputs will be described in the RDR/RAWP. EISB is proposed at the following sites:

- Mitchell Branch Comingled Plume/K-1407-B
- K-1401
- K-25/K-1024
- K-1035
- K-27/K-1232
- K-1239

If successful, EISB likely will be considered for additional CVOC remedial actions in the MPA.

Additional data are required to complete the final design and implement the selected remedy. These data will be collected as part of a PDI outlined in the RDWP. The PDI will be designed to address and manage uncertainties and challenges with the selected remedy. This investigation primarily will consist of installing groundwater wells and piezometers in the unconsolidated and bedrock zones to better characterize the nature and extent of the target CVOC concentrations greater than 1000 µg/L (and VC greater than 400 µg/L) to design the injection network.

Once design is complete, permanent injection wells will be constructed to treat groundwater within the unconsolidated and bedrock zones. Figure 8.1 exemplifies how the injection wells would be configured at an example groundwater plume (K-1401). The unconsolidated wells will be clustered with two separate screen intervals—one in the overburden and one in the weathered bedrock. The EISB injection wells would distribute a carbon substrate to the area. The substrate used for injections is assumed to be commercially available emulsified vegetable oil (EVO). Other substrates could also be used (e.g., EVO with ZVI), and/or the EVO might be amended with other organics (e.g., lactate) plus buffers and bioaugmentation cultures. Sampling and analysis of geochemical and microbial parameters will be performed as part of the PDI to help assess the need for other amendments. The effectiveness of substrate delivery is a key variable in the effectiveness of this alternative. PDI testing (e.g., tracer testing or other strategies) will help identify injection wells placement to optimize substrate distribution and monitoring of the remedy.

Operation and maintenance activities associated with this alternative include initial injections, groundwater monitoring, and potential follow-up injections. Additional optimizations of the injections may be carried out based on monitoring data. These optimizations would be designed to target uncertainties and challenges with delivery and could include additional injections, optimizing the substrate mixture, and possibly recirculating

groundwater to optimize delivery to more challenging locations within the formation. For cost-estimating purposes, a second round of injections is assumed to occur at year 2 and be followed by a 3-year period of post-injection monitoring. Injection well fouling may require routine well maintenance and rehabilitation prior to each injection.

For this interim action, remedies are assumed to be implemented and evaluated for 5 years, a time period considered appropriate for determining if IRAOs can be achieved in a reasonable period of time.

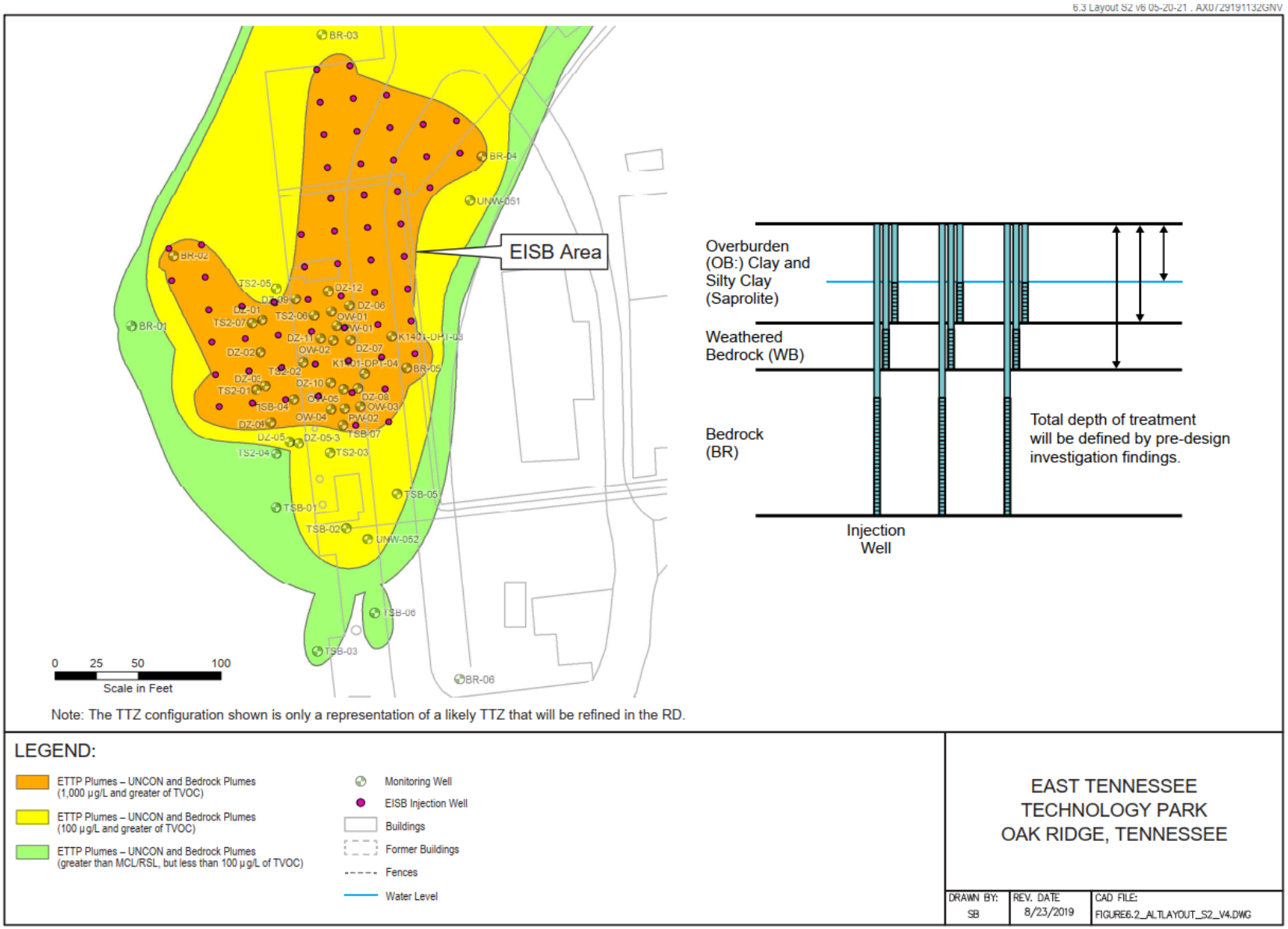

Figure 8.1. Injection wells example.

8.3 STATUTORY DETERMINATION

Based on information currently available, DOE, as the lead agency, believes the preferred alternative meets the threshold criteria and provides the best balance of tradeoffs among the other alternatives with respect to the balancing and modifying CERCLA criteria. DOE expects the preferred alternative to satisfy the following statutory requirements of CERCLA Section 121(b): (1) be protective of human health and the environment, (2) comply with ARARs (or justify a waiver), (3) be cost-effective, (4) use permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable, and (5) satisfy the preference for treatment as a principal element (or justify not meeting the preference). Should DOE encounter principal threat source material during the pre-design phase, treatment would be applied to the principal waste to the extent practicable.

9 NATURAL RESOURCE DAMAGES

Hazardous substances above health-based levels will remain onsite if this remedy is implemented. Because hazardous substances will remain, DOE, TDEC, and EPA recognize Natural Resource Damage claims, in accordance with CERCLA, may be applicable. This Proposed Plan does not address restoration or rehabilitation of any natural resource injuries that may have occurred, or whether any such injuries have occurred. Neither DOE nor TDEC waives any rights or defenses they may have under CERCLA Section 107(1)4(c).

10 COMMITMENT TO LONG-TERM STEWARDSHIP

Areas within the MPA at ETTP cannot support unrestricted use due to hazardous substances remaining in place after the selected remedy is implemented. Land use restrictions limiting the use and/or exposure to those areas of the property, including water resources, that are contaminated are required as part of earlier CERCLA actions at ETTP. DOE is committed to implementing and maintaining LUCs, including ICs, to ensure the selected interim remedy remains protective of human health and the environment.

DOE, EPA, and TDEC have agreed upon a LUC Assurance Plan (LUCAP) for the ORR to help ensure ongoing effectiveness of LUCs imposed in remedial actions to protect human health and the environment from remaining contamination. The LUCAP establishes regular inspection and reporting procedures designed to ensure each required LUC is properly implemented and maintained for as long as it is needed and it continues to provide the expected level of protection. Any LUCs relied upon as part of the IROD for the ETTP MPA groundwater remedial action will be implemented in accordance with the existing LUCIP and the ORR LUCAP agreement.

11 COMMUNITY PARTICIPATION

DOE, EPA, and TDEC encourage the public to review this document and other relevant documents in the Administrative Record to gain an understanding of the ETTP MPA and the proposed interim remedial action. A copy of this Proposed Plan, as well as the entire Administrative Record, is located at the DOE Information Center, at the Office of Scientific and Technical Information, 1 Science.gov Way, Oak Ridge, Tennessee, 37830. The center is open Monday through Friday, 8 a.m. to 5 p.m.; the telephone number is (865) 241-4780.

DOE will establish a 45-day public comment period and schedule a public meeting to discuss cleanup alternatives and address any questions or concerns from the public. The public meeting will be held at the DOE Information Center (see the previous paragraph for the address).

The public comment period will begin upon regulatory approval of the Proposed Plan, and the dates will be specified in DOE's public notice announcing the availability of the Proposed Plan and the dates for the public comment period. The announcement will include details regarding the public meeting.

DOE also encourages the public to submit comments on the proposed cleanup alternatives. Comments may be provided at the public meeting or via email to OakRidgeEM@orem.doe.gov. Written comments may be addressed to the FFA Project Manager, Oak Ridge Environmental Management, DOE Oak Ridge Operations, Post Office Box 2001, Oak Ridge, Tennessee, 37831. Extensions to the comment period will be granted if requested via email to OakRidgeEM@orem.doe.gov or via written correspondence to the physical address provided above.

DOE will document and respond to comments as part of the ROD that will be issued after the public comment period.

12 REFERENCES

40 CFR 300.430, et seq. *Remedial Investigation/Feasibility Study and Selection of Remedy*, 2011, U.S. Environmental Protection Agency, Washington, D.C.

42 U.S.C. Section 9601, et seq. *Superfund Amendments and Reauthorization Act of 1986*, 1986, U.S. Environmental Protection Agency, Washington, D.C.

Alexander et al. 2003. Pilot Study for In Situ Reductive Dechlorination of a Solvent Plume in Karst Bedrock. A-61, in: R.R. Sirabian and R. Darlington (Chairs), *Bioremediation and Sustainable Environmental Technologies—2013*, Second International Symposium on Bioremediation and Sustainable Environmental Technologies (Jacksonville, FL; June 10–13, 2013). ISBN 978-0-9819730-7-4, Battelle Memorial Institute, Columbus, OH.

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GLOSSARY

Applicable or relevant and appropriate requirement – Those cleanup standards and other substantive requirements, criteria, or limitations promulgated under federal or more stringent state environmental or facility siting laws that are either legally applicable or relevant and appropriate to the hazardous substances, pollutant, contaminant, remedial action, location, or other circumstance found at the CERCLA site.

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) – The federal law that establishes, among other requirements, a program for parties (including federal agencies) to identify, investigate, and, if determined necessary, remediate inactive site/facilities contaminated with a hazardous substance, pollutant, or contaminant. It is also known as the Superfund law.

Focused feasibility study – The step in the CERCLA process in which alternatives for interim remediation of a contaminated site or of other remediation decisions are developed and evaluated.

National Environmental Policy Act of 1969 (NEPA) – A federal law that requires federal agencies to consider and evaluate environmental impacts associated with any significant proposed actions or activities. For CERCLA actions undertaken by the U.S. Department of Energy, any impacts to NEPA values associated with the proposed action are considered along with other factors required to be evaluated.

Proposed Plan – The formal document in which the lead agency identifies its preferred alternative for remedial action, explains why this alternative was preferred, and solicits comments from the public.

Interim Record of Decision – The formal document in which the lead agency sets forth the selected interim remedial action and the reasons for its selection.

ACRONYMS

ARAR	applicable or relevant and appropriate requirement
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR	Code of Federal Regulations
CMP	Comprehensive Monitoring Plan
CVOC	chlorinated volatile organic compound
DNAPL	dense, non-aqueous-phase liquid
DOE	U.S. Department of Energy
EISB	enhanced in situ bioremediation
EPA	U.S. Environmental Protection Agency
ETTP	East Tennessee Technology Park
EVO	emulsified vegetable oil
FFA	Federal Facility Agreement
FFS	focused feasibility study
FS	feasibility study
FYR	Five-Year Review
HEU	highly enriched uranium
HI	hazard index
IC	institutional control
IRAO	interim remedial action objective
IROD	Interim Record of Decision
ISSM	in situ soil mixing
ISTT	in situ thermal treatment
LEU	low enriched uranium
LUC	land use control
LUCAP	Land Use Control Assurance Plan
LUCIP	Land Use Control Implementation Plan
MCL	maximum contaminant level
MPA	Main Plant Area
NEPA	National Environmental Policy Act of 1969
ORNL	Oak Ridge National Laboratory
ORR	Oak Ridge Reservation
PDI	pre-design investigation
RAO	remedial action objective
RAR	Remedial Action Report
RAWP	Remedial Action Work Plan
RDR	Remedial Design Report
RDWP	Remedial Design Work Plan
RIWP	Remedial Investigation Work Plan
ROD	Record of Decision
TCE	trichloroethene
TDEC	Tennessee Department of Environment and Conservation
VC	vinyl chloride
Y-12	Y-12 National Security Complex
ZVI	zero valent iron

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PROPOSED PLAN FOR AN INTERIM RECORD OF DECISION FOR GROUNDWATER IN THE MAIN PLANT AREA AT THE EAST TENNESSEE TECHNOLOGY PARK, OAK RIDGE, TENNESSEE
PUBLIC COMMENT SHEET

The U.S. Department of Energy (DOE) is interested in your comments on the alternatives being considered in the *Proposed Plan for an Interim Record of Decision for Groundwater in the Main Plant Area at the East Tennessee Technology Park, Oak Ridge, Tennessee,* including the preferred alternative. The mailing address is preprinted on the back of this form. You may use this form to submit your comments. We must receive your comments on or before the close of the public comment period. If you have questions, please contact Mr. Roger Petrie, FFA Project Manager; Oak Ridge Environmental Management; DOE Oak Ridge Operations; P.O. Box 2001, Oak Ridge, TN 37831; (865) 316-4063.

Name: _____

Address: _____

City: _____ State/Zip: _____

Phone: _____

MAILING LIST ADDITIONS:

Please add my name to the Environmental Management Program mailing list to receive additional information on the progress at the Oak Ridge Reservation: ☐ Yes ☐ No

Place stamp here

Mr. Roger Petrie, FFA Project Manager
Oak Ridge Environmental Management
DOE Oak Ridge Operations
P.O. Box 2001
Oak Ridge, TN 37831

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