



Oak Ridge Site Specific Advisory Board

2018 ANNUAL PLANNING MEETING

CONTENTS

I. WELCOME

- Memo from ORSSAB Chair Dennis Wilson

II. GENERAL INFORMATION

- Map & Directions
- Meeting Agenda

III. FY 2019 WORK PLAN DEVELOPMENT

- DOE Topics for Consideration in FY 2019
- TDEC Topics for Consideration in FY 2019 (Presentation TBD)
- EPA Topics for Consideration in FY 2019
- Work Plan Flowchart
- Example Work Plan

IV. FY 2018 REVIEW

- FY 2018 Board Mission & Accomplishments
- 2018 ORSSAB Member Survey Results

V. BOARD BUSINESS

- 2018 ORSSAB Nominating Committee Report
- June 13, 2018 Full Board Meeting Minutes Draft
- Recommendations on the FY19 Oak Ridge EM Budget Priorities
- Recommendations on the Proposed Environmental Management Disposal Facility

MEMO



Oak Ridge Site Specific Advisory Board
P.O. Box 2001, EM-91, Oak Ridge, TN 37831
Phone 865-241-4583, 865-241-4584 • Fax 865-574-3521

To: ORSSAB members & liaisons
From: Dennis Wilson, Chair
Date: August 14, 2018
RE: Annual Planning Meeting

Enclosed are materials for our annual planning meeting at Black Bear Inn & Suites on Saturday, August 25 in Gatlinburg. A map and directions are included.

- For those of you coming to dinner Friday evening, we'll be dining at Howard's Steakhouse, 976 Parkway, Gatlinburg, TN 37738, at 6 p.m.
- The hotel serves breakfast in the lobby starting at 7 a.m. Breakfast is free for guests and we have arranged for reception to take payment individually for those not staying overnight. There are also options within walking distance of the hotel.
- Members staying overnight may park in the hotel lot. Those driving up can park at the pay lot across street from hotel

Please take a minute to review the agenda and other materials in your packet. Come prepared to discuss the agenda items and with any suggestions for topics you would like to see covered in the FY19 Work Plan.

I know this will be the very first SSAB meeting for most new members and that you may not feel qualified to weigh in. Please ask questions and make comments whenever you like. The decisions made at the meeting will guide our work in FY 2019, so your participation is important and will help make the coming year more productive.

The agenda includes provision for follow-on discussion from 1:30 to 2:30 should we require it, but if we accomplish everything by lunch, we will adjourn at that time.

If you have any questions or need help finding the hotel, please contact Shelley Kimel of our support office at 865-315-3441.

This meeting promises to be very productive, and I look forward to seeing you.

A handwritten signature in black ink, appearing to read "Dennis Wilson".

Dennis



Oak Ridge Site Specific Advisory Board

2017 ANNUAL PLANNING MEETING

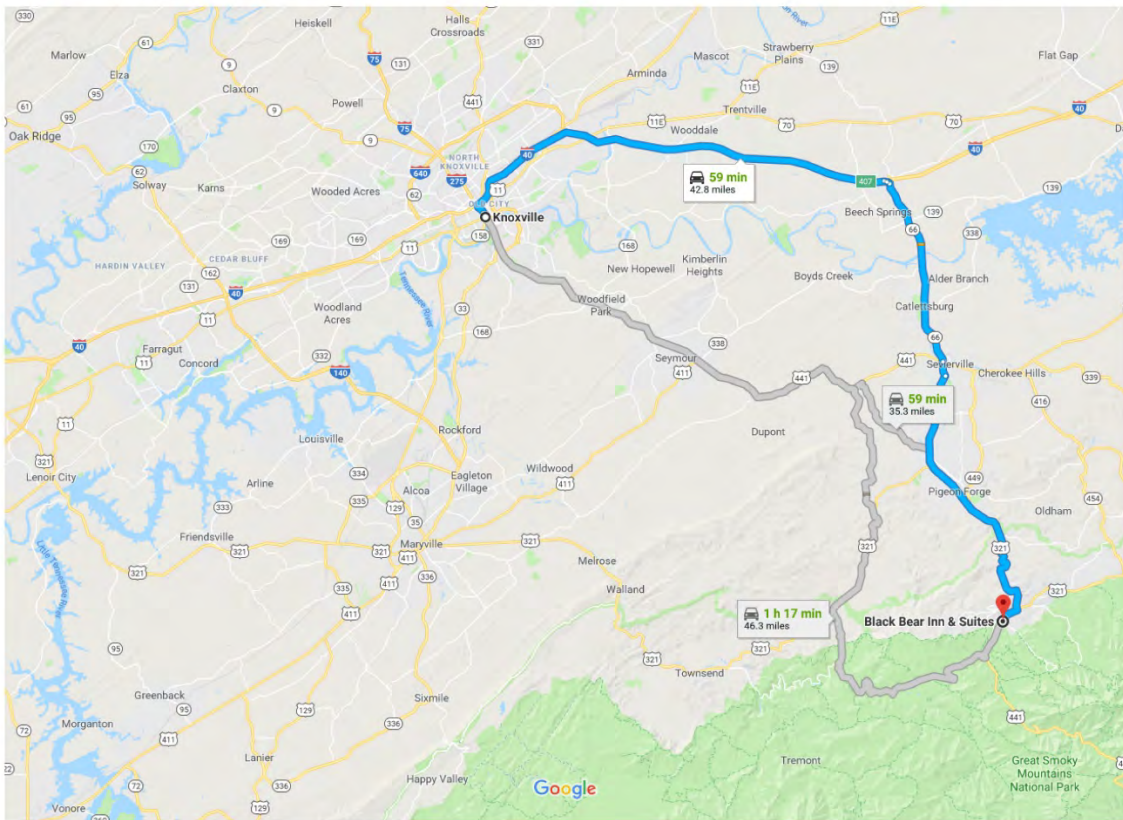
Map & Directions to Black Bear Inn & Suites

1100 Parkway
Gatlinburg, TN 37738
Phone: (865) 436-5656

From Knoxville: (distance ~43 mi.)

1. Follow I-40 E to exit 407
2. Use the right 2 lanes to take exit 407 toward TN-66/SWinfield Dunn Pkwy
3. Keep right at the fork, follow signs for TN-66 S/Sevierville/Pigeon Forge/Gatlinburg and merge onto TN-66 S/Winfield Dunn Pkwy
4. Drive to US-441 S/Parkway in Gatlinburg
5. Continue onto Forks of the River Pkwy
6. Forks of the River Pkwy turns right and becomes US-441 S/Parkway
7. Pass by Texas Roadhouse on the right in 13.4 miles, and Black Bear Inn & Suites will be on the left.

Google Maps Knoxville, TN to black bear inn gatlinburg Drive 42.8 miles, 59 min



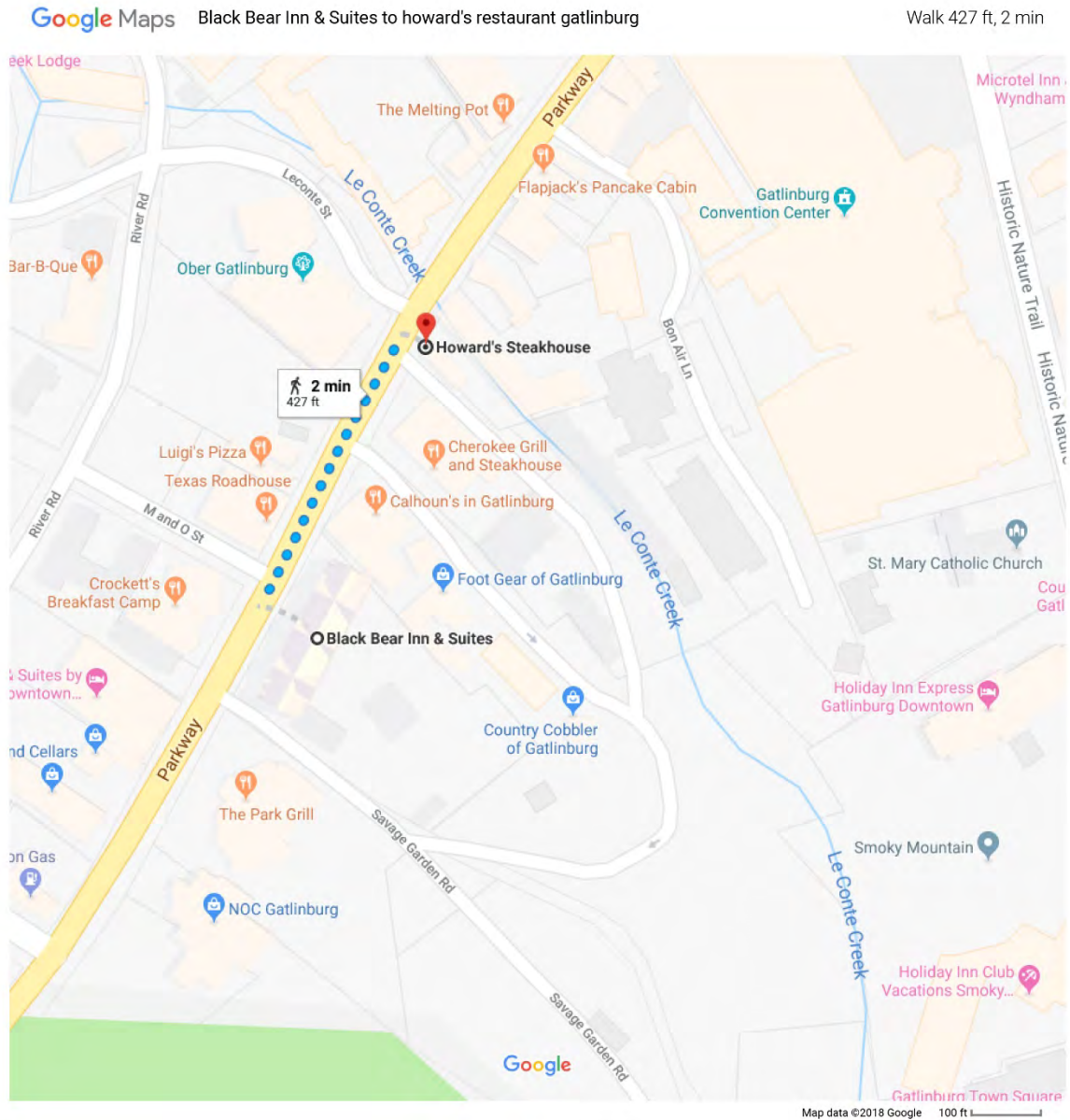
<https://goo.gl/maps/Lv45JfF4aBk>

Map & Directions to Howard's Steakhouse

976 Parkway
Gatlinburg, TN 37738
Phone: (865) 436-3600

From Black Bear Inn & Suites: (distance ~427 ft.)

1. Head northeast on Parkway toward M and O St.
2. Howard's Steakhouse will be on the right.





Oak Ridge Site Specific Advisory Board
Annual Meeting
9:00 a.m. – 2:30 p.m. Saturday, August 25, 2018
Black Bear Inn & Suites
1100 Parkway, Gatlinburg, TN 37738

OBJECTIVES

1. Develop an increased understanding of and commitment to the goals of the board
2. Evaluate the effectiveness and achievements of FY 2018
3. Begin development of the FY 2019 work plan

AGENDA

- 9:00–9:05 Welcome (5)*
- Opening Remarks – Dennis Wilson
 - Introduction of New Members – David Adler
- 9:05–9:10 Objectives, Logistics, Keys to Success – Jenny Freeman (5)
- 9:10–9:40 Deputy Designated Federal Officer Comments – David Adler (30)
- 9:40–11:20 Work Plan Topics (1 hour 40 min)
- Presentations by Agencies – David Adler, Mike Higgins, Connie Jones (30 ea.)
 - Suggestions from Members (10)
- 11:20–11:25 Break (5)
- 11:25–11:30 Process and Plan for Issue Group Signup – Melyssa Noe (5)
- 11:30–11:55 Board FY18 Review – Dennis Wilson (25)
- Mission and Accomplishments
 - Results of Member Survey
- 11:55–12:00 Summary of Morning Discussions – Jenny Freeman (5)
- 12:00–12:05 Public Comment Period (5)
- 12:05–12:25 Board Business (20)
- June 13, 2018 Meeting Minutes – Richard Burroughs
 - Recommendations on the FY 2019 OREM Budget Priorities – Fred Swindler
 - Recommendations on the Recommendations on the Proposed Environmental Management Disposal Facility – Shell Lohmann
 - Voting on Candidates for FY 2019 Officers – Jenny Freeman
- 12:25–12:30 Remarks – Melyssa Noe, Dennis Wilson (5)
- End of Day Meeting Evaluation
- 12:30–1:30 Lunch Break (60)
- 1:30–2:30 Follow-on Discussion – Jenny Freeman (60)

**Numbers in parentheses indicate minutes assigned to topic*



Department of Energy

Oak Ridge Office of Environmental Management
P.O. Box 2001
Oak Ridge, Tennessee 37831

July 13, 2018

Mr. Dennis Wilson, Chair
Oak Ridge Site Specific Advisory Board
Post Office Box 2001
Oak Ridge, Tennessee 37831

Dear Mr. Wilson:

FISCAL YEAR 2019 TOPICS FOR THE OAK RIDGE SITE SPECIFIC ADVISORY BOARD

Thank you for your recent letter requesting suggestions for topics on which to focus the resources of the Oak Ridge Site Specific Advisory Board (ORSSAB) during Fiscal Year (FY) 2019. Input from the ORSSAB on the following program areas in FY 2019 would be most appreciated:

1. Participation in Ongoing Efforts to Assure Sufficient Waste Disposal Capacity – Brian Henry

Provision of additional disposal capacity is of paramount importance to the Oak Ridge cleanup program so we can transition from the cleanup of the East Tennessee Technology Park (ETTP) to the Y-12 National Security Complex and the Oak Ridge National Laboratory (ORNL) without interruption. Continuing input from the ORSSAB on this project is requested.

2. Excess Facilities Risk Reduction of Activities at ORNL and Y-12 National Security Complex – Brian Henry/Bill McMillan

The U.S. Department of Energy (DOE) is working to address many deteriorating, “excess,” or unused buildings that pose environmental hazards, impact worker safety, and hinder mission progress at DOE sites in Oak Ridge. Continuing awareness from the ORSSAB on this project is requested.

3. Extending Operational Life of Facilities and Reducing Surveillance and Maintenance Requirements

DOE has activities underway to extend the operational life of the ORNL Liquid and Gaseous Waste Operations facilities, as well as to reduce the surveillance and maintenance requirements at the Molten Salt Reactor Experiment facility. We would like to brief the ORSSAB on these activities.

FISCAL YEAR 2019 TOPICS FOR THE OAK RIDGE SITE SPECIFIC ADVISORY BOARD

4. Evaluation of Ongoing Groundwater Evaluations

During the January 2017 meeting, the ORSSAB was briefed on the groundwater treatability study underway at ETTP. DOE recently completed characterizing the groundwater at the K-1401 site. The results indicate a pilot test is no longer needed at the site. Also, DOE would like to proceed with remedy selection and implementation of remaining groundwater areas at ETTP. We would like to brief the ORSSAB on the results of the most recent characterization efforts and obtain the ORSSAB input on groundwater resource management at ETTP.

5. Input on Reuse and Historic Preservation Activities at ETTP

Completion of site cleanup measures across large portions of ETTP is expected to present opportunities for land transfer and site redevelopment, including new facilities to interpret and communicate the history of the site. Awareness and input from the ORSSAB on these important program objectives are requested.

6. Provision of Input into the FY 2021 Budget Development Effort

The ORSSAB annual participation in this effort remains important, particularly with a focus on establishing program priorities. We would like to brief the ORSSAB on all major projects underway and obtain project prioritization input. In particular, participation by the ORSSAB members in the annual public budget planning workshop is requested.

We look forward to providing additional information concerning these topics during the ORSSAB retreat in August 2018. If you have any questions or if we can be of further assistance, please contact me at 576-0742 or Dave Adler at 576-4094.

Sincerely,



John A. Mullis II
Manager

cc:

Connie Jones, EPA Region 4
Kristof Czartoryski, TDEC, Oak Ridge
Dave Adler, EM-94
Mike Koentop, EM-90
Melyssa Noe, EM-942



U.S. DEPARTMENT OF
ENERGY

OFFICE OF
**ENVIRONMENTAL
MANAGEMENT**

Fiscal Year 2019 Topics for the Oak Ridge Site Specific Advisory Board

Dave Adler

Acting Deputy Manager
Oak Ridge Office of Environmental Management

August 25, 2018

Participation in Ongoing Efforts to Assure Sufficient Waste Disposal Capacity



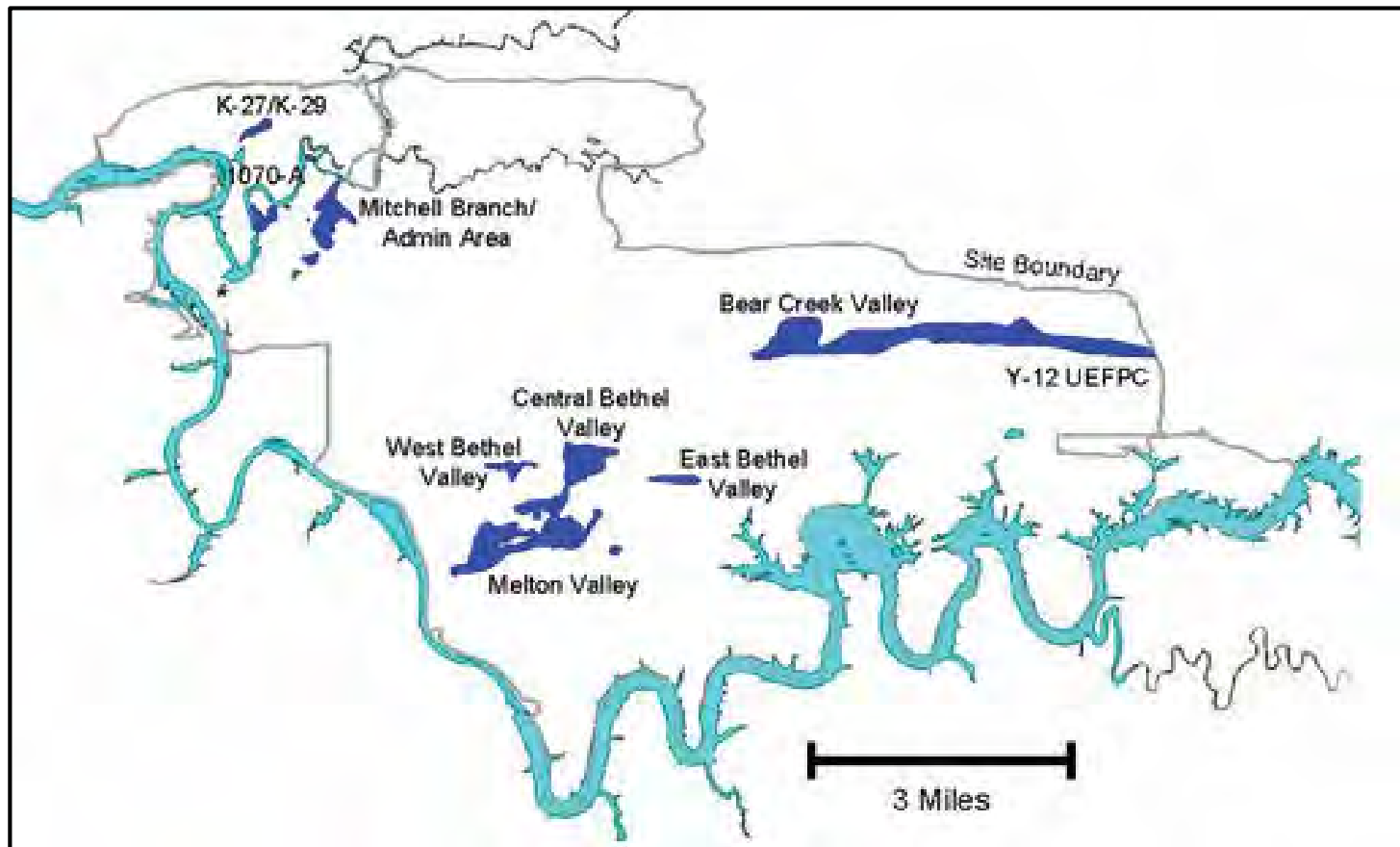
Extending Operational Life of Facilities & Reducing Surveillance and Maintenance Requirements



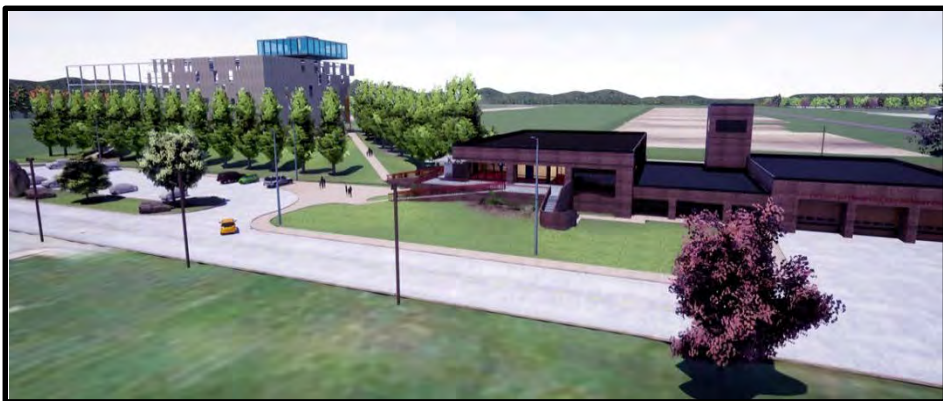
Participation in Efforts to Address Excess Contaminated Facilities



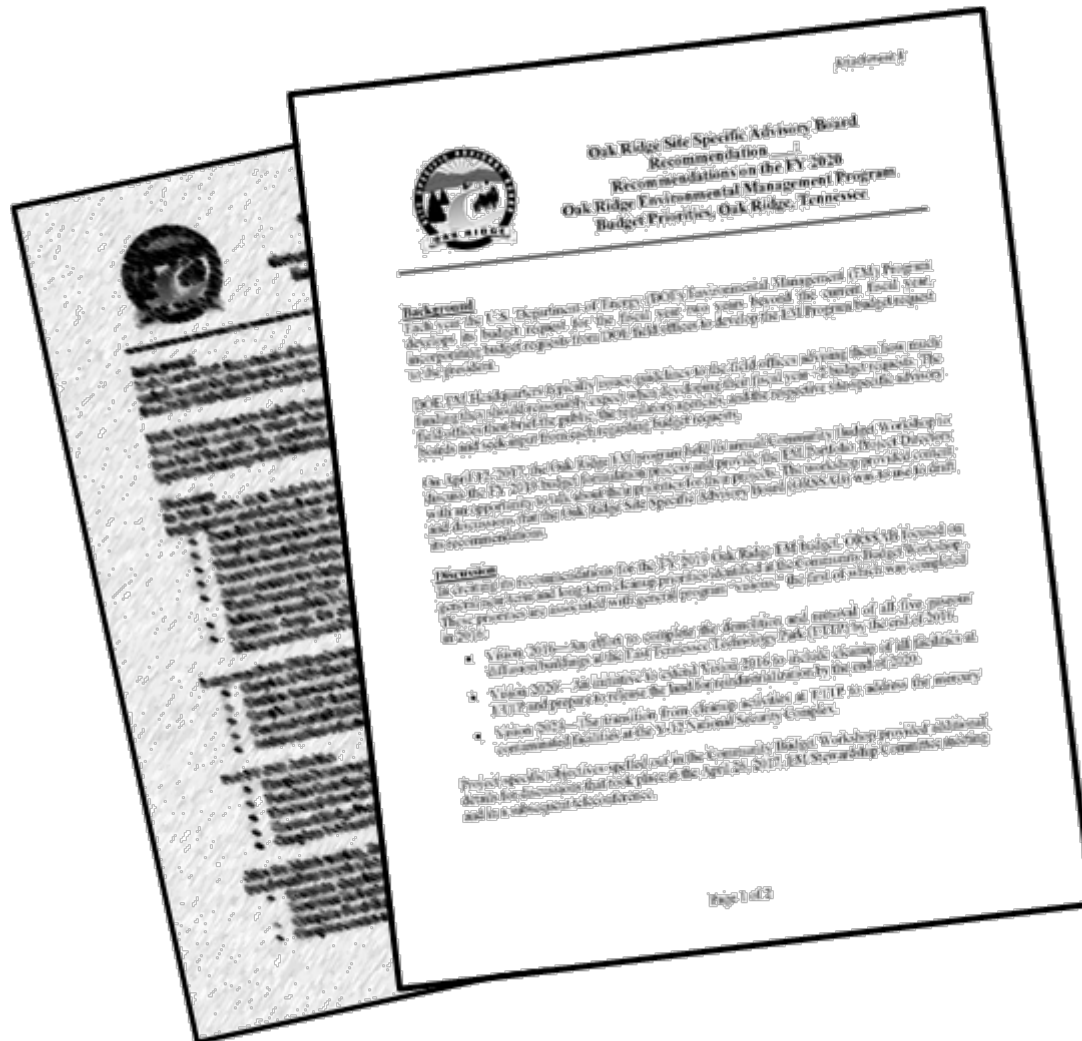
Evaluation of Ongoing Groundwater Efforts



Input on Reuse and Historic Preservation Activities at the East Tennessee Technology Park (ETTP)



Provision of Input into the FY 2021 Budget Development





Department of
**Environment &
Conservation**

Oak Ridge Site Specific Advisory Board

Fiscal Year 2019 Topics

Michael Higgins P.E., FFA Program Manager
Division of Remediation, Oak Ridge office
August 25, 2018

Fiscal Year 2019 Topics

TDEC Division of Remediation, Oak Ridge office recommends the following program areas where stakeholder comments and recommendations would be most beneficial:

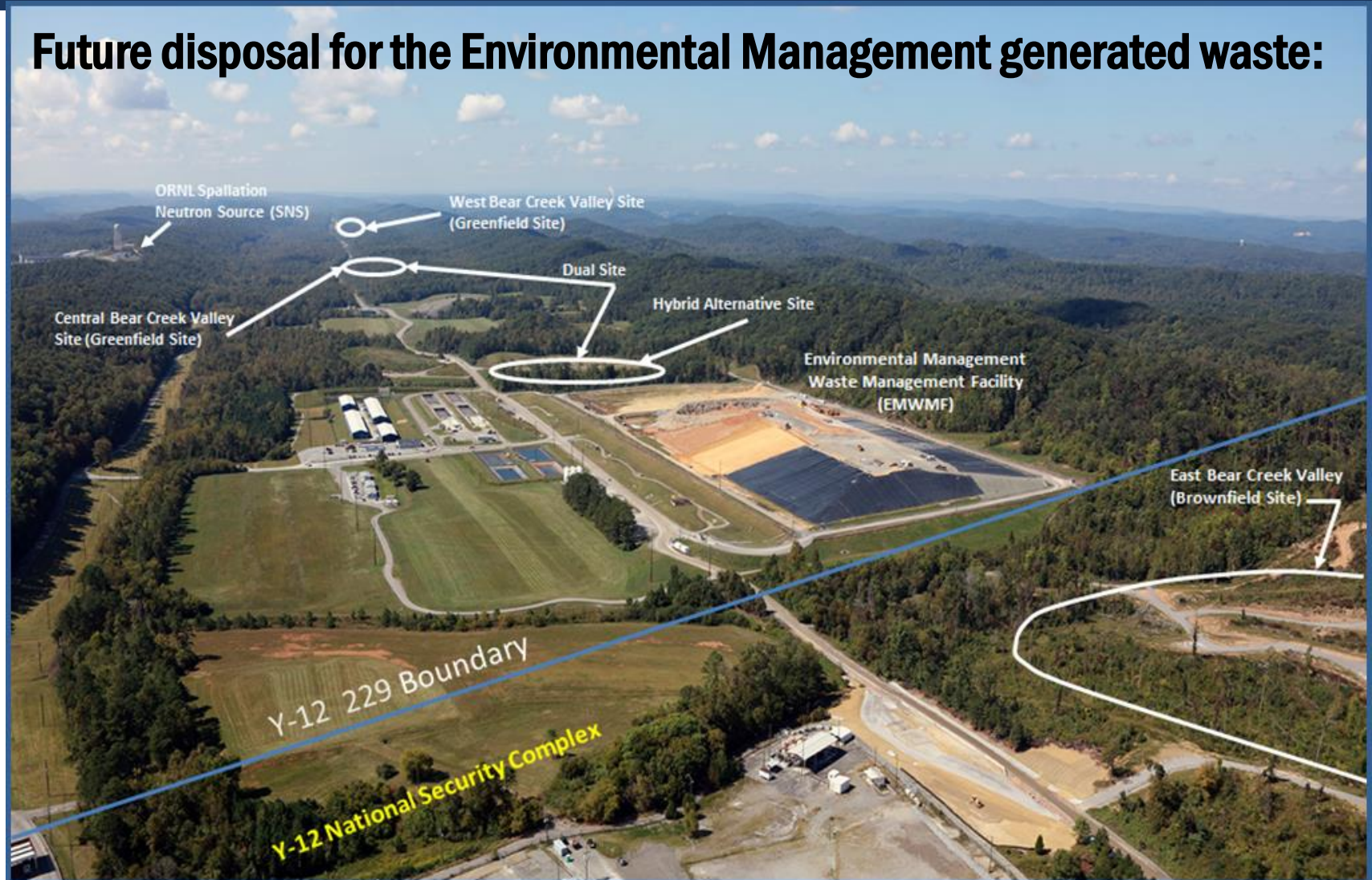
- **Proposed Environmental Management Disposal Facility (EMDF),**
- **Processing and disposition of Transuranic (TRU) waste,**
- **Assessment of Groundwater,**
- **Mercury Remediation,**

Fiscal Year 2019 Topics (continued)

- **Water Management**
- **Molten Salt Reactor Experiment (MSRE)**

Fiscal Year 2019 Topics

Future disposal for the Environmental Management generated waste:



Fiscal Year 2019 Topics

Proposed Environmental Management Disposal Facility (EMDF) for disposal of future EM waste:

Summary of EMDF Status:

- **DOE prepared a D2 Proposed Plan and submitted for regulatory review**
- **Proposed Plan is currently in formal dispute. TDEC, EPA and DOE are negotiating to resolve outstanding issues to allow DOE to submit the Proposed Plan for public review.**

Fiscal Year 2019 Topics

Proposed Environmental Management Disposal Facility (EMDF) for disposal of future EM waste:

Major issues to be resolved prior to the Record of Decision (ROD):

- **Site Suitability:** State has concerns over the suitability of the proposed site due to high groundwater levels. DOE is collecting data to evaluate.
- **Use of Underdrains:** Due to high groundwater, DOE may propose underdrains to permanently suppress the water table. Failure of the underdrains could allow groundwater into the waste and allow off-site migration of contaminants.

Fiscal Year 2019 Topics

Proposed Environmental Management Disposal Facility (EMDF) for disposal of future EM waste:

- **Mercury Disposal:** The State is particularly concerned about mercury disposal in EMDF because of its potential release into Bear Creek and threat to people who eat fish downstream. DOE and the State have yet to agree on details of mercury disposal in EMDF.
- **Waste Acceptance Criteria (WAC):** Limits on the type, volume, and concentration of radioactive wastes to be disposed of in EMDF has yet to be finalized.
- **Discharge Limits for Landfill Wastewater (leachate):** Plans for how landfill wastewater will be treated and discharged to Bear Creek have not been finalized.

Fiscal Year 2019 Topics

Processing and Disposition of Transuranic (TRU) waste :



ORR's transuranic (TRU) waste inventory is being processed onsite at the Transuranic Waste Processing Facility (TWPC). (DOE photo)

Fiscal Year 2019 Topics

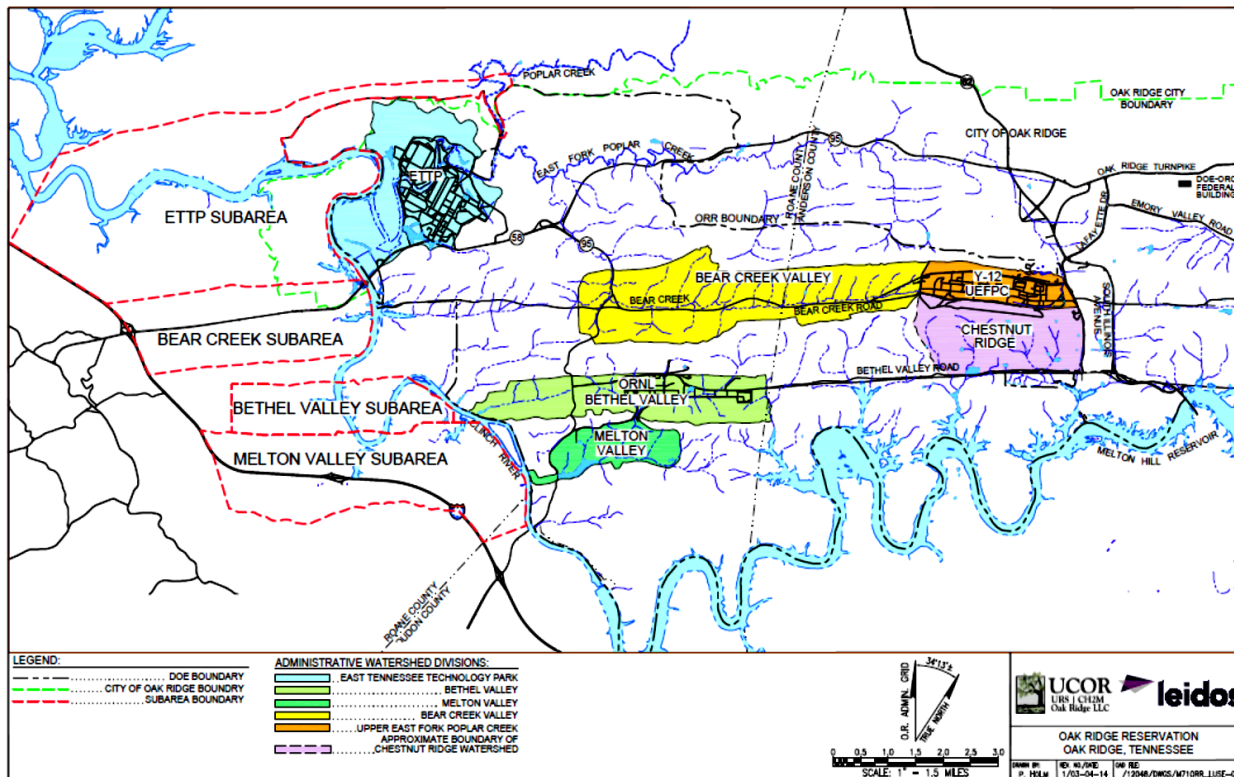
Processing and Disposition of Transuranic (TRU) waste:

- ❖ Though currently stable and safely stored, TRU Sludge stored in Melton Valley Storage Tanks represents one of the highest levels of risk to the public and the environment.
- ❖ The current target date just to complete the mock-up testing (pilot study) for the sludge processing is May 31, 2022, with the actual processing of the sludge even further out beyond 2022.
- ❖ DOE and TDEC are engaged in discussions to potentially accelerate this project. However, the successful design and construction of the sludge treatment facility requires a steady fiscal environment.
- ❖ Retrievably stored transuranic waste in Trench 13 needs to be excavated, processed, and disposed.

Fiscal Year 2019 Topics

Assessment of Groundwater :

An ORR Groundwater Strategy document was developed in 2014
by the DOE, EPA and TDEC.



Oak Ridge Reservation Groundwater Strategy map showing four subareas of groundwater study (Map courtesy of DOE)

The objectives of the ORR groundwater strategy were:

- ❖ to assess potential threats to off-site public health and the environment due to groundwater contamination from sources on the ORR, and
- ❖ to aid in selection of remedial actions.

Fiscal Year 2019 Topics

Assessment of Groundwater:

- Phase I of the Remedial Site Evaluation for offsite groundwater study was completed with recommendations for a Phase II.
- Scoping of Melton Valley/Bethel Valley off-site migration pathways.
- ETP Zone 1 and 2 groundwater plumes and strategy.

Fiscal Year 2019 Topics

Assessment of Groundwater :

TDEC continues to work with DOE and EPA to achieve a balanced approach to the remediation of the Oak Ridge Reservation.

Continued input from the SSAB on the ORR groundwater strategy and these projects will:

- maintain public awareness concerning the need to better understand and evaluate the nature and extent of ORR groundwater contamination.



Fiscal Year 2019 Topics

Mercury Remediation:

- ❖ Releases of mercury from the Y -12 National Security Complex continue to exceed State of Tennessee and EPA water quality criteria.
- ❖ TDEC and EPA approved Amendment to the Record of Decision for Phase I Interim Source Control Actions in the Upper East Fork Poplar Creek Characterization Area.
- ❖ This modification includes the construction and operation of a new water treatment facility at Outfall 200 to further reduce mercury discharges from the Y-12 National Security Complex to UEFPC surface water.

Fiscal Year 2019 Topics

Mercury Remediation:

- ❖ The Outfall 200 water treatment plant site preparation and construction is underway and will be operating prior to the commencement of the Decontamination and Decommissioning (D&D) of Beta 4, Alpha 5, and Alpha 4 to capture as much mercury discharge from those sites as possible.
- ❖ Disposal of mercury containing D&D debris (handling , treatment and disposal.
- ❖ Input from SSAB on this project and strategies for mercury waste management would increase public awareness of the nature of the mercury problem and the path forward for mercury remediation.

Fiscal Year 2019 Topics

Water Management

There are several projects around the ORR that involve water and wastewater management as a component of remedial action. Recent projects include:

- ETPP Zone 2 ROD ESD for wastewater from D&D and remedial actions,
- EMWMF landfill wastewater management
- EMDF proposed wastewater discharge standards

Fiscal Year 2019 Topics

Molten Salt Reactor Experiment (MSRE)

Current ROD calls for:

- melting and chemically treating the salt in the drain tank cell,
- separating the uranium from the salts,
- transferring the uranium to the U-235 repository at ORNL,
- packaging the residual salt, and placing the salt in interim storage at ORNL until arrangements are made for final disposition.

Fiscal Year 2019 Topics

Molten Salt Reactor Experiment (MSRE)

- DOE is currently assessing the feasibility of in-situ decommissioning for either permanent disposal or long term storage if protectiveness in the environment can be demonstrated.

Recoup of Challenges & Issues

Consistent annual funding required for the continuous and effective cleanup of the DOE Oak Ridge Reservation

- ❖ **Future disposal for the Environmental Management generated waste**
- ❖ **Processing and Disposition of Transuranic (TRU) waste – the highest levels of risk to the public and the environment**
- ❖ **Groundwater – need of more aggressive implementation of groundwater remedies and better understanding of complicated hydrogeology**
- ❖ **Mercury Remediation – prevention of releases during D&D activities, recovery/treatment/disposal**

Recoup of Challenges & Issues

- ❖ Water Management: Consistent strategy for the management, treatment and discharge of waste streams associated with remedial actions.
- ❖ Molten Salt Reactor Experiment (MSRE): Protective strategy to manage and close the MSRE.

Fiscal Year 2019 Topics

Questions?

Contact:

Kristof Czartoryski

TN Department of Environment & Conservation

Division of Remediation, Oak Ridge office

Kristof.Czartoryski@tn.gov

(865) 220-6580



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

August 7, 2018

Mr. Dennis Wilson, Chair
Oak Ridge Site Specific Advisory Board
Post Office Box 2001
Oak Ridge, Tennessee 37831

Dear Mr. Wilson:

This letter is in response to the June 6, 2018, Oak Ridge Site Specific Advisory Board's (ORSSAB) request to the U.S. Environmental Protection Agency for topics it should consider during its Fiscal Year 2019 planning activities. The issues identified below are those the EPA believes the ORSSAB should consider and to assist the Department of Energy, Oak Ridge Reservation (DOE-ORR) in its cleanup program under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the National Contingency Plan. These issues also are intended to identify areas where citizens can be informed and participate in meaningful engagement regarding DOE's cleanup program. These topics are not listed in any order of priority.

1. DOE Oak Ridge Reservation Proposed Environmental Management Disposal Facility (EMDF)

The DOE has submitted the draft report regarding the technical investigation results (Technical Memorandum 1) of the geologic characterization conducted at the Bear Creek, Site 7c location. This memorandum will be placed in the Administrative Record for the proposed Environmental Management EMDF and not added as an amendment to the Remedial Investigation/Feasibility Study. However, the Applicable, Relevant and Appropriate Requirements will be evaluated based on the information contained in the Technical Memorandum 1 and used to finalize the Record of Decision for the EMDF. The ORSSAB should carefully review and comment on the sufficiency and quality of the information contained in this memorandum because it will present the geological/geotechnical data in support for the selection of Site 7c.

Timeframe: 1st Quarter FY 2019

2. DOE Oak Ridge Reservation Groundwater Projects:

A. The DOE decided to not pursue last year's "Perimeter Site Project" (designed to address groundwater and surface water in areas with low levels of contamination across the ETTP). DOE has now focused on the K-31/K-33 site and underlying groundwater contamination. A Federal Facility Agreement Remedial Site Evaluation Report conveying recent sampling results and DOE's recommendation for moving forward is due in late FY 2018. The ORSSAB should review and comment as to the adequacy of the information contained in this report, including the location of monitoring wells, to determine if DOE's proposed path forward is consistent with the short-and long-term protection of human health and the environment for East Tennessee Technology Park. Also, the ORSSAB should evaluate and advise the DOE regarding the contaminated groundwater plumes in Zone 1, since over 600 acres have been approved for transfer by the EPA and the Tennessee Department of Environment and Conservation. The

potential for vapor intrusion and reducing the risk of exposure to contaminants, where new construction may occur, should be considered and is critical to moving groundwater cleanup in this area forward.

Timeframe: 1st Quarter 2019

B. The DOE plans to submit the Melton Valley-Bethel Valley Remedial Investigation Work Plan on September 30, 2018. This document is designed to identify the probable locations for two or more new sentinel monitoring wells designed to detect DOE contamination moving down Bethel Valley to the Clinch River. Presently, there are no monitoring wells near the Clinch River in Bethel Valley and these wells are important to establish that all existing groundwater contamination remains on the Reservation. The ORSSAB should review and comment on this work plan as to the adequacy of the proposed monitoring well locations and depth for the long-term protection of human health and the environment. The DOE currently plans to investigate groundwater contamination across Bethel Valley and reach a final clean-up decision by FY2037 so these sentinel wells are important and could assist in expediting cleanup of both Melton and Bethel Valleys.

Timeframe: 1st Quarter 2019

C. In 2008, the DOE Office of Engineering and Technology compiled information and produced a document (Groundwater Contamination and Treatment at Department of Energy Sites) that evaluated groundwater contamination and treatment possibilities across the complex. Since the extent of groundwater contamination problems are extensive, the identification of innovative technologies that may assist in reducing the contaminant load and migration of the plume(s) is critical to the CERCLA cleanup program. Additional plumes, although smaller in scale, have since been identified at ETTP since the 2008 document was produced. New technologies should be evaluated for implementation in DOE's cleanup program and the ORSSAB could assist by encouraging DOE to request funds to evaluate and apply these technologies at CERCLA sites on the Oak Ridge Reservation. Applying these innovative technologies may assist in advancing cleanup of this NPL site. Delaying final remedies (mostly due to contaminated groundwater) until the 2030 - 2040s and where the preceding decisions were interim actions by the addition of soil covers/caps, should be evaluated to reduce and contain further migration.

Timeframe: 2nd Quarter FY 2019

Thank you for the opportunity to provide input into the Fiscal Year ORSSAB planning activities. The efforts of this citizen organization serve the community and generations to come. If you have any questions regarding any of the issues stated above, please do not hesitate to contact me at (404) 562-8551.

Sincerely,

A handwritten signature in cursive script that reads "Constance A. Jones".

Constance A. Jones, EPA ORSSAB Liaison
Restoration and DOE Coordination Section
Restoration and Site Evaluation Branch
Superfund Division

cc: Jay Mullis, DOE
Kristof Czartoryski, TDEC
David Adler, DOE
Melissa Noe, DOE

DOE OAK RIDGE SITE SPECIFIC ADVISORY BOARD FISCAL YEAR 2019 PLANNING MEETING

EPA SUGGESTED TOPICS

Constance Jones, EPA Liaison



August 25, 2018

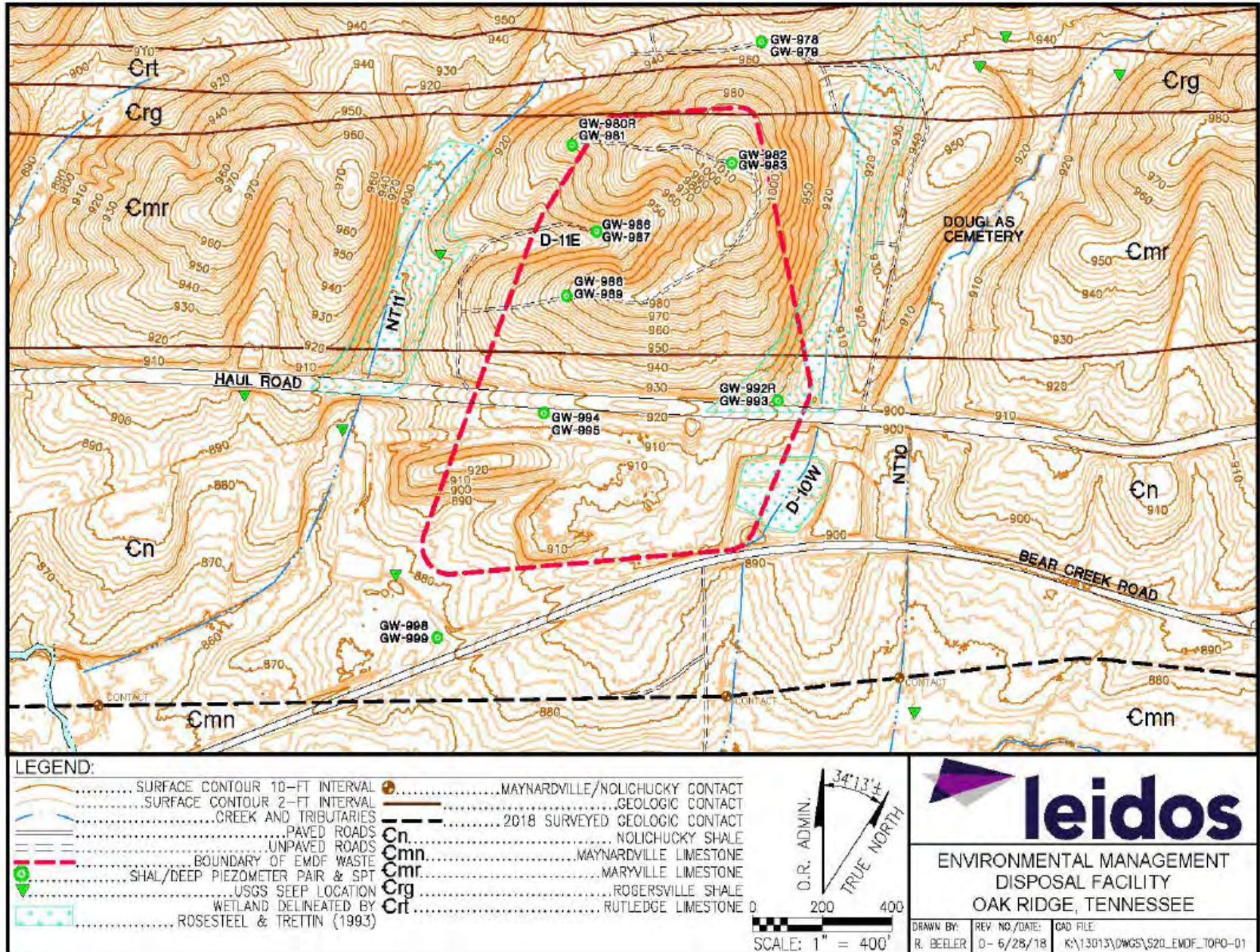
Issue 1: Proposed Environmental Management Disposal Facility (EMDF)

DOE draft report of technical investigation results are presented in Technical Memorandum 1 (TM 1). TM 1:

- ✓ Provides geologic characterization information conducted at Bear Creek, Site 7c; TM 1 has been reviewed by TDEC and EPA
- ✓ TM 1 will be placed in the Administrative Record but not as an amendment to the D5 Remedial Investigation/Feasibility Study (RI/FS)
- ✓ Applicable or Relevant and Appropriate Requirements (ARARs) are not yet final; referenced in the December 2017 EMDF Dispute Resolution Agreement
- ✓ Review and comment on the sufficiency and quality of the TM 1 data for the potential construction and operation



General Features of the Proposed Environmental Management Disposal Facility



Issue 2 A: ORR GROUNDWATER PROJECTS

DOE proposed the “Perimeter Site Project” in July 2017 to address groundwater and surface water with low-levels of contamination across ETTP

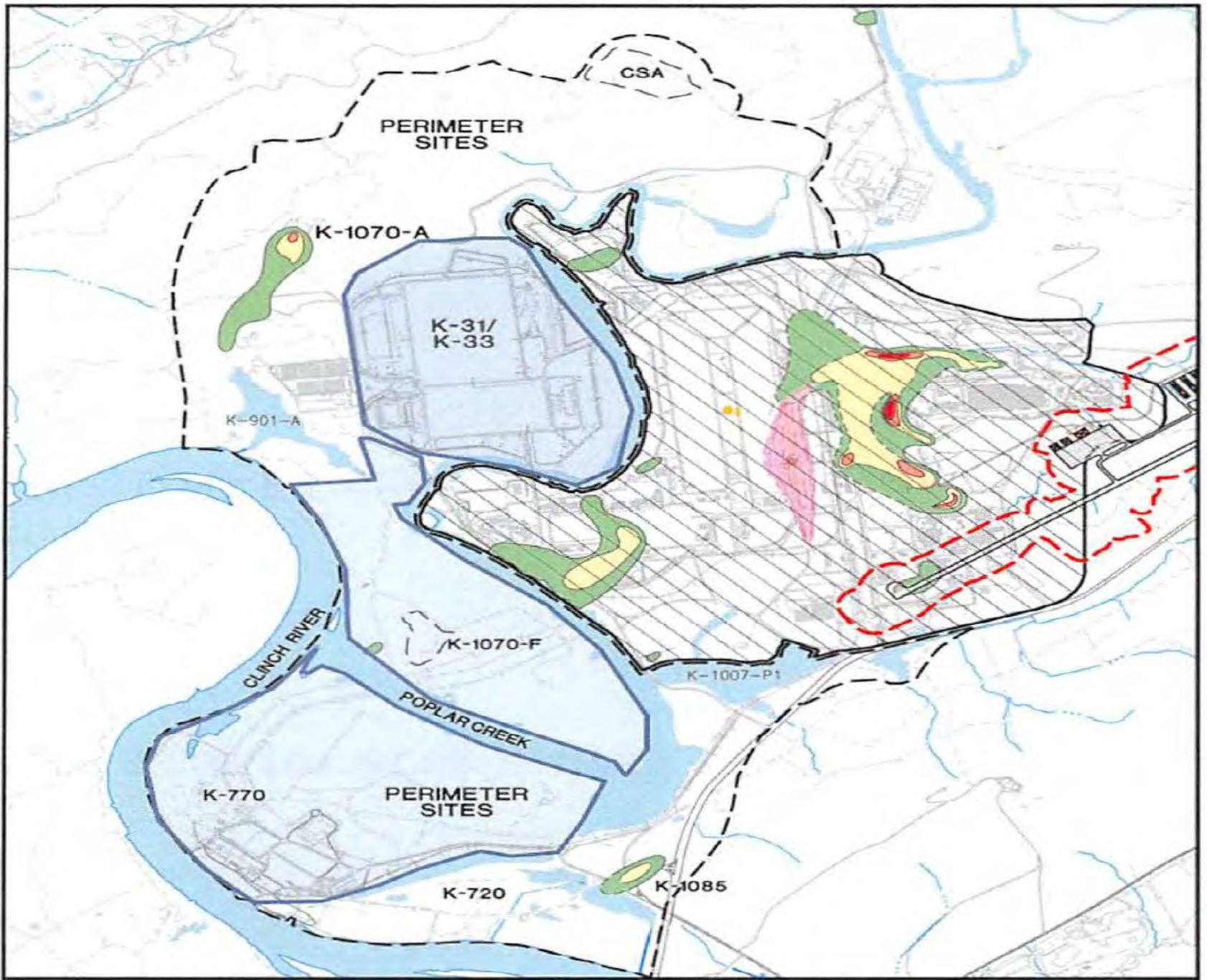
- ✓ Initial focus on K-31/K-33 Area; now on Main Plant Area (Zone 2)
- ✓ K-31/K-33 Remedial Site Evaluation Report is due in late FY 2018; review and comment on the adequacy of the information to include monitoring well locations
- ✓ DOE proposed three separate Records of Decision for the Perimeter Site Project
- ✓ Evaluate the K-31/K-33 path forward for consistency with achieving short-and long-term protection of human health and the environment



Issue 2 A: ORR GROUNDWATER PROJECTS (cont)

- ✓ Over 600 acres of ETTP property have been approved for DOE transfer under CERCLA § 120(h)
- ✓ Evaluate and provide advice on “all” contaminated plumes in Zone 1
- ✓ Concern for potential Vapor Intrusion in Zone 1 and transferred properties, especially where construction may occur
- ✓ EPA has provided comments on the DOE lack of focus to request adequate funding to implement and complete groundwater cleanup actions across the Reservation





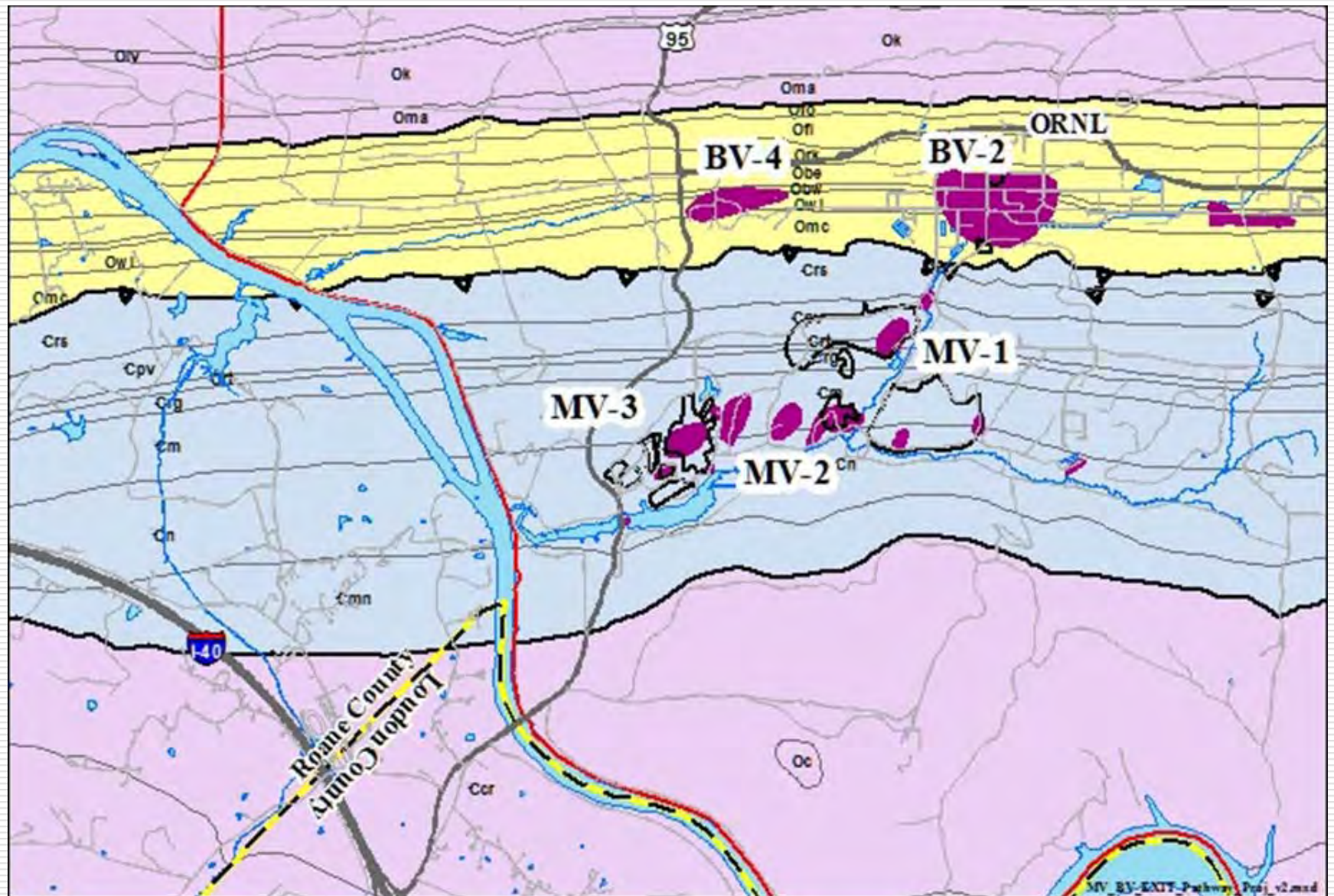
Issue 2 B: Melton Valley/Bethel Valley

A Remedial Investigation Work Plan is due September 30, 2018 to identify probable locations for two or more new sentinel monitoring wells.

- ✓ Currently, no monitoring wells exist near the Clinch River in Bethel Valley to evaluate whether existing groundwater remains on the Reservation
- ✓ Review the adequacy of the resulting work plan, proposed monitoring well locations and depths for long-term protection of human health and the environment
- ✓ Final cleanup of Bethel Valley is planned for FY 2023
- ✓ A well-defined path forward could assist in expediting cleanup of both valleys



Location of MV/BV Exit Point Pathway Plume Focus Derived from the DOE Groundwater Strategy Document



Issue 2 C: Evaluate Potential Groundwater Treatment Technologies

In 2008 the DOE Office of Engineering and Technology compiled information that evaluated contaminated groundwater and associated plumes across the complex.

- ✓ The groundwater contamination on the Reservation is extensive
- ✓ EPA recommended that DOE seek funds to address groundwater contamination in its FY 2020 budget request
- ✓ Recommend DOE to pursue funding to evaluate technologies to “actively” reduce the groundwater contaminant load and migration of plumes consistent with CERCLA, EPA groundwater policies



Summary of EPA Suggested FY 19 Topics

- ✓ EMDF site investigation data is critical to the regulatory review and decision-making process to approve the Record of Decision
- ✓ Evaluate ETTP groundwater plumes to complete remediation with a focus on the Zone 1 plumes; potential for vapor intrusion
- ✓ Evaluate Melton Valley/Bethel Valley Exit Pathway plumes, adequate well installation and monitoring for potential remedial action
- ✓ Recommend DOE to seek sufficient funds to reduce/contain plume migration and evaluate technologies for remediation under CERCLA and consistent with EPA groundwater policies and guidance





A Visual Guide to ORSSAB's Annual Planning



Example work plan: FY 2017 ORSSAB Work Plan/Schedule

Executive meeting	Monthly meeting	Site tour	EM/Stewardship meeting
-------------------	-----------------	-----------	------------------------

Date	Event	Topic	Presenter	Issue Group	Location
OCTOBER 2016					
Wed., 10/5	Executive	General business			DOEIC
Wed., 10/12	Monthly meeting	State of the Oak Ridge EM Program	Jay Mullis	Hemelright Trujillo Wilson	DOEIC
	Site tour	<i>(no site tour)</i>			
Wed., 10/26	EM/Stewardship	State of the Oak Ridge EM Program detailed discussion	McMillan/ Cain/Henry		DOEIC

NOVEMBER					
Wed., 11/2	Executive	General business			DOEIC
Wed., 11/9	Monthly meeting	Excess Contaminated Facilities	McMillan/ Henry	Beatty Ford Gonzalez Thomas Wilson	DOEIC
TBD	Site tour	On-site tour/Q&A	McMillan/ Henry		
Wed., 11/30	EM/Stewardship	Excess Contaminated Facilities detailed discussion	McMillan/ Henry		DOEIC

DECEMBER					
Wed., 12/7	Executive	<i>(No meeting)</i>			
Wed., 12/14	Monthly meeting	<i>(No meeting)</i>			
	Site tour	<i>(no site tour)</i>			
Wed., 12/28	EM/Stewardship	<i>(No meeting—due to holidays)</i>			

JANUARY 2017					
Wed., 1/4	Executive	General business			DOEIC
Wed., 1/11	Monthly meeting	Ongoing Groundwater Efforts	Mayton	Beatty Deaderick Price Sobek Trujillo	DOEIC
TBD	Site tour	On-site tour/Q&A	Mayton		
Wed., 1/25	EM/Stewardship	Ongoing Groundwater Efforts detailed discussion	Mayton		DOEIC

Date	Event	Topic	Presenter	Issue Group	Location
FEBRUARY					
Wed., 2/1	Executive	General business			DOEIC
Wed., 2/8	Monthly meeting	Waste Disposal Capacity	Henry	Bales Gonzalez Holden Paulus Thomas Trujillo	DOEIC
TBD	Site tour	On-site tour/Q&A	Henry		
Wed., 2/22	EM/Stewardship	Waste Disposal Capacity detailed discussion	Henry		

MARCH					
Wed., 3/1	Executive	<i>(Meeting canceled)</i>			DOEIC
Wed., 3/8	Monthly meeting	<i>(Meeting canceled)</i>			DOEIC
	Site tour	<i>(No site tour)</i>			
Wed., 3/22	EM/Stewardship	<i>(Meeting canceled)</i>			DOEIC

APRIL					
Wed., 4/5	Executive	<i>(Meeting canceled)</i>			DOEIC
Wed., 4/12	Monthly meeting	<i>(Meeting canceled)</i>			DOEIC
	Site tour	<i>(No site tour)</i>			
Wed., 4/12	Community Budget Workshop				DOE Bldg. 2714-G Conf. Room
Wed., 4/26	EM/Stewardship	FY19 Budget Formulation and Prioritization of Projects/Baseline detailed discussion & recommendation generation	Stokes/ Thompson	Hemelright Paulus Price Trujillo Wilson	DOEIC

MAY					
Wed., 5/3	Executive	General business			DOEIC
Wed., 5/10	Monthly meeting	Key Material Disposition Activities	McMillan/ DeMonia	Beatty Holden Swindler	DOEIC
	Site tour	<i>(No site tour)</i>			
Wed., 5/24	EM/Stewardship	Key Material Disposition Activities detailed discussion.	McMillan/ DeMonia		DOEIC

Date	Event	Topic	Presenter	Issue Group	Location
JUNE					
Wed., 6/7	Executive	Annual meeting planning			DOEIC
Wed., 6/14	Monthly meeting	Federal Advisory Committee Act	Borak (HQ)	<i>None required</i>	DOEIC
	Site tour	<i>(No site tour)</i>			
Wed., 6/28	EM/Stewardship	Discussion of FY19 budget priorities recommendation		Hemelright Paulus Price Trujillo Wilson	DOEIC

JULY					
Wed., 7/5	Executive	<i>(No meeting)</i>			DOEIC
	New member training & tour				
Wed., 7/12	Monthly meeting	(No ORSSAB monthly meeting due to new member training)			
	Site tour	<i>(No site tour)</i>			
Wed., 7/26	EM/Stewardship	<i>(No meeting)</i>			DOEIC

AUGUST					
Wed., 8/2	Executive	Annual meeting planning			DOEIC
Sat., 8/19	Annual meeting	FY 2017 review and planning for FY 2018			
Wed., 8/9	Monthly meeting	(No ORSSAB monthly meeting due to Annual meeting)			
	Site tour	<i>(No site tour)</i>			
Wed., 8/23	EM/Stewardship	<i>(No meeting)</i>			

SEPTEMBER					
Wed., 9/6	Executive	General business			DOEIC
Wed., 9/13	Monthly meeting	Current OREM Outreach Efforts and How They Are Communicated	Williams	Wilson	Olive Garden Restaurant, Knoxville
	Site tour	<i>(No site tour)</i>			
Wed., 9/27	EM/Stewardship	Current OREM Outreach Efforts and How They Are Communicated detailed discussion	Williams	Wilson	DOEIC

Board Mission & Accomplishments

*Detailed printouts of topics covered follow after this presentation in your packet.



Mission

- The Board's mission is to provide informed advice and recommendations concerning site-specific issues related to the DOE EM program.
- To provide unbiased evaluation and recommendations on DOE's 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.



The Recommendation Process

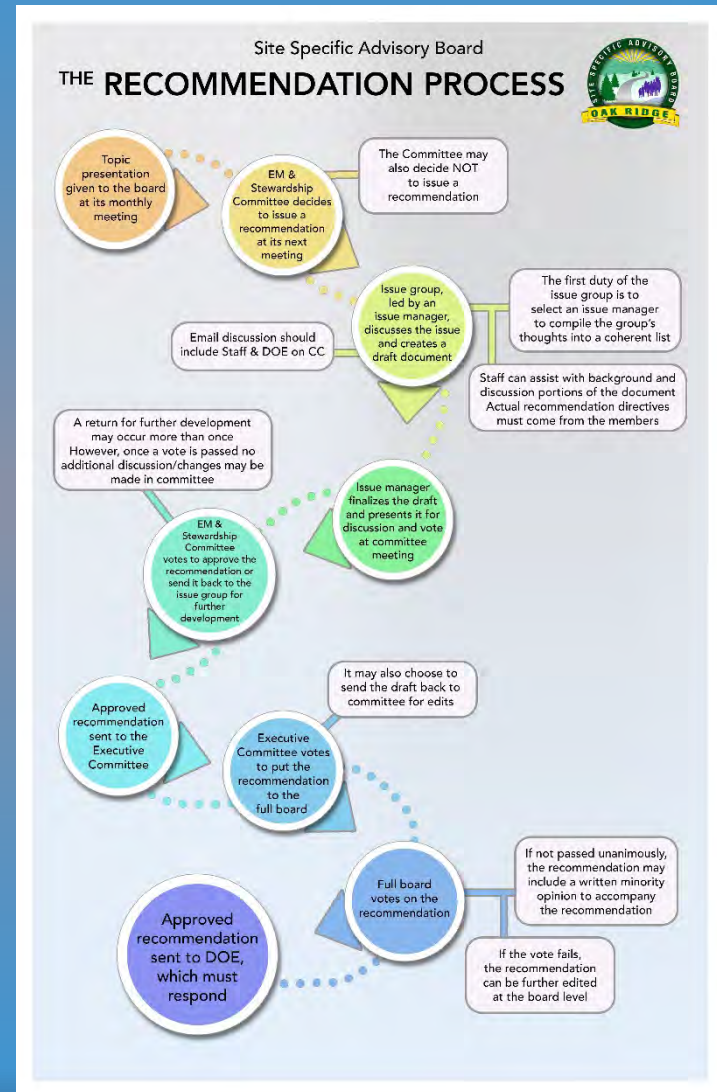
- Topic presentation given at the monthly board meeting.
- Additional discussion at EM/Stewardship Committee including a decision on making a recommendation.
- Issue Group elects an Issue Manager and compiles ideas for the recommendation.
- Manager finalizes the draft recommendation (with staff assistance) and presents to EM/Stewardship Committee for vote.
- If approved, recommendation sent for Executive Committee vote.
- If approved, recommendation sent for full board vote.
- If approved, recommendation sent to DOE, which must respond.



The Recommendation Process

Additional resources:

- New Recommendation Process Flow Chart developed to help guide issue groups, committees, and board discussions
- Staff and DDFO can provide additional clarification or answers to any questions



FY 2018 Accomplishments

- Drafted two recommendations to DOE:
 - Recommendations on the Proposed Environmental Management Disposal Facility
 - Recommendations on the FY 2020 Oak Ridge EM Budget Priorities
- Approved an EMSSAB Chairs recommendation Regarding the ECA Report on Waste Disposition



FY 2018 Accomplishments

- Took part in the **OREM Community Budget Workshop** in May to learn of Oak Ridge EM's cleanup priorities for FY 2020 and to gather background for a recommendation on budget priorities



FY 2018 Accomplishments

- Attended three other DOE events: The **October launch of the K-25 History Center at ETTP**; the **November Groundbreaking for the Mercury Treatment Facility at Y-12**; and the **August public meeting of the National Academies of Science**, which requested ORSSAB as a presenter



FY 2018 Accomplishments

- Completed a number of public outreach goals:
 - Issued **8** news releases, **4** *Advocate* newsletters, and the FY 2017 annual report, which was completely redesigned
 - Launched a new effort in Facebook advertising, which drove traffic to our website and contributed to recruitment; published numerous ads and online posts about SSAB meetings and new member recruitment
 - Redesigned the Outreach Presentation
 - Continued with broadcast of board meetings on local cable stations and postings on Facebook and YouTube.



FY 2018 Accomplishments

- Attended 7 national meetings and conferences:
 - **SSAB Chairs Meeting**, October 17-19, Hanford, WA
 - **2018 Waste Management Symposium**, March 18-22, Phoenix, AZ
 - **National Environmental Justice Conference**, April 25-27, Washington, DC



FY 2018 Accomplishments

- **SSAB Chairs Meeting, May 2-3, Roswell, NM**
- **RadWaste Summit, September 4-6, Henderson, NV**
- **SSAB Chairs Meeting, September 11, Alexandria, VA**
- **DOE National Cleanup Workshop, Sept. 12-13, Alexandria**



FY 2018 Accomplishments

- Members participated in three site tours:
 - **February:** Excess Contaminated Facilities at Y-12 and Oak Ridge National Laboratory
 - **April:** Oak Ridge Reservation waste disposal facilities and proposed siting for the Environmental Management Disposal Facility
 - **July:** New member tour of the Oak Ridge Reservation



Results of the 2018 Member Survey



FY 2018 Annual Planning Meeting

2018 Member Survey

Board Members Ready to Engage in Field Trips

- No clear preference for time of day for workday field trips
- If Saturday tours are necessary, morning trips are preferred

Board Members Ready to Engage on the Issues

- Most respondents interested or willing to serve as issue managers, particularly in areas of interest
- Others would like more opportunities to comment/recommend on projects that have significant community impact. Members also asked for additional clarification on board scopes, limits, where to focus attention, and how recommendations are used in the final decision
- Several responses asked for more leadership and a team effort in meeting for issue group discussions



2018 Member Survey

Board Members Ready to Be Social

- Majority would like to attend a board social event in December
- Majority would prefer a location in Oak Ridge

Board Members Ready for More Information

- Would like more up-front information about the presentation topics, such whether DOE is requesting a recommendation on the topic. If that's the case, would like as much specificity as possible regarding the focus of the recommendation
- Would like more historical context and explanations of buildings' national security impact

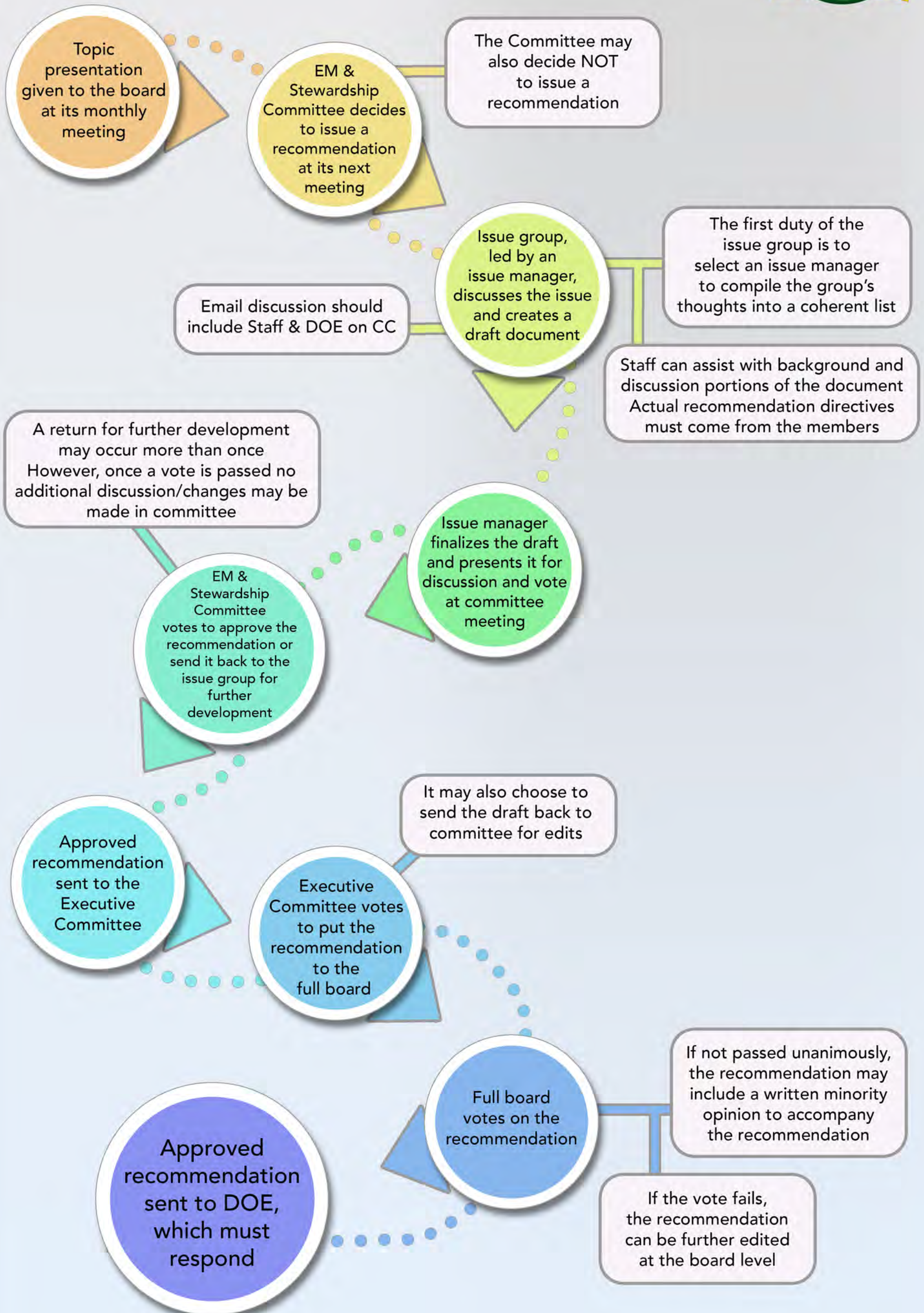


For more details about the survey, see the insert in your meeting binder.

FY 2018 Annual Planning Meeting



THE RECOMMENDATION PROCESS



The Recommendation Process

1. Topic presentation given to the board at its monthly meeting
2. EM & Stewardship Committee decides to issue a recommendation at its next meeting
 - a. The Committee may also decide NOT to issue a recommendation.
3. Issue group, led by an issue manager, discusses the issue and creates a draft document
 - a. The first duty of the issue group is to select an issue manager to facilitate the discussion & compile the group's thoughts into a coherent list.
 - b. Staff can assist with background and discussion portions of the document. Actual recommendation directives must come from the members.
4. Issue manager finalizes the draft and presents it for discussion and vote at committee meeting
5. EM & Stewardship Committee votes to approve the recommendation or send it back to the issue group for further development.
 - a. Returns for edits may happen more than once, but once a vote is passed there may be no further discussion or changes.
6. Approved recommendation sent to the Executive Committee
7. Executive Committee votes to put the recommendation to the full board
 - a. It may also choose to send the draft back to committee for edits
8. Full board discusses the recommendation; it may make some edits prior to a vote.
 - a. If not passed unanimously, the recommendation may include a written minority opinion to accompany the recommendation.
 - b. The board may request additional edits or return the recommendation to the committee level.
9. Approved recommendation sent to DOE, which must respond



OAK RIDGE SITE SPECIFIC ADVISORY BOARD 2018 ANNUAL PLANNING MEETING

FY 2018 ORSSAB Accomplishments

1. Drafted two recommendations to DOE:
 - Recommendations on the Proposed Environmental Management Disposal Facility
 - Recommendations on the FY 2020 Oak Ridge EM Budget Priorities
2. Approved an EMSSAB Chairs recommendation Regarding the ECA Report on Waste Disposition
3. Took part in the OREM Community Budget Workshop in May to learn of Oak Ridge EM's cleanup priorities for FY 2020 and to gather background for a recommendation on budget priorities
4. Attended three other DOE events: The October launch of the K-25 History Center at ETPP; the November Groundbreaking for the Mercury Treatment Facility at Y-12; and the August public meeting of the National Academies of Science, which requested ORSSAB as a presenter
5. Completed a number of public outreach goals:
 - Issued XX news releases, four *Advocate* newsletters, and the FY 2017 annual report, which was completely redesigned
 - Launched a new effort in Facebook advertising, which has driven traffic to our website and contributed to new member recruitment
 - Redesigned the Outreach Presentation
 - Continued with broadcast of board meetings on local cable stations and postings on Facebook and YouTube; Published numerous ads and online postings about the SSAB meetings and new member recruitment, which provided information to the community at large
6. Attended 7 national meetings and conferences:
 - SSAB Chairs Meeting, October 17-19, Hanford, WA
 - 2018 Waste Management Symposium, March 18-22, Phoenix, AZ
 - National Environmental Justice Conference, April 25-27, Washington, DC
 - SSAB Chairs Meeting, May 2-3, Roswell, NM
 - RadWaste Summit, September 4-6, Henderson, NV (*Pending*)
 - SSAB Chairs Meeting, September 11, Alexandria, VA (*Pending*)
 - DOE National Cleanup Workshop, Sept. 12-13, Alexandria, VA (*Pending*)
7. Members participated in three site tours:
 - February: Excess Contaminated Facilities at Y-12 and Oak Ridge National Laboratory
 - April: Oak Ridge Reservation waste disposal facilities and proposed siting for the Environmental Management Disposal Facility
 - July: New member tour of the Oak Ridge Reservation

Results of the 2018 ORSSAB Member Survey

Total # Respondents: 11 members

1. Field trips generally last a couple of hours.

a. Most tours are held M-F during business hours; would you prefer morning or afternoon tours?

- Member responses did not indicate a clear preference for either (3 – Morning, 3 – Afternoon, 4 – No preference indicated)

b. Occasionally Saturday tours are available; would you prefer morning or afternoon tours?

- Of the members that indicated they would be agreeable to Saturday tours, all preferred morning. Of all survey respondents, 2 would **not** be agreeable to Saturday tours and four did not indicate any preference (4 – Morning, 2 – Neither, 4 – No preference indicated)

2. Participation in issues is expected, but voluntary.

a. What would encourage you the most to become involved in one or two issue groups?

- While several question respondents said they were already interested, some suggested the opportunity to comment/recommend on projects that have significant impact for the Oak Ridge community would increase their interest. Others said they would be encouraged by enthusiasm from other/most board members for more of a team effort and group meetings for discussion.
- Additional suggestions included clarifying the board's scope, limits, and where the board should focus its attention and providing detail on how recommendations are used in the decision-making process.

b. Are you interested in being an Issue Manager and leading development of a recommendation?

- Most question respondents would be interested, or at least willing, to serve as an issue manager, particularly in an area of interest (Yes – 4, Maybe – 1, If needed – 2, No – 2)

c. Do you have any suggestions on how to encourage board members to become actively engaged in issues/recommendation development?

- Feed them
- Leadership, I feel the interest is driven from the dynamic of the group involved therefore interest builds and involvement grows.

3. In December, board members and guests may gather at a local restaurant for a social event.

a. Would you participate in a similar social event this year?

- Most respondents would participate in a similar social event in December (Yes – 8, No – 1, No reply – 2)

b. What locations would you suggest?

- Most respondents (5) prefer locations in Oak Ridge, and 2 prefer Knoxville locations. Restaurant suggestions included: Any steakhouse, Japanese restaurant or Italian restaurant; Lakeside Tavern in Knoxville; Connor's in Knoxville; and Calhoun's on the River in Oak Ridge.

4. Do you have any other input for the board? Examples:

a. What do you like / want more of at meetings?

- Interesting topics, plenty of questions, good start/stop times, and the board's level of professionalism
- Would like more hands-on
- Historical photos and explanation of the buildings' national security impact
- Would like more up-front information about the presentation topics, such whether DOE is requesting a recommendation on the topic. If that's the case, would like as much specificity as possible regarding the focus of the recommendation
- Efficient meetings, helpful fieldtrips and presentations; would like more information on how recommendations are used and more historical context given during orientation

b. What do you not like / want less of at meetings?

- Suggests less off-topic/out-of-scope discussion
- Would like less "just sitting and listening"

c. What is something we could change or add to our programs

- Allow members to gather information on their own
- Schedule meetings that are informational towards the end of the work plan year, and schedule meetings where DOEEM is requesting input (a recommendation needs to be developed) towards the beginning of the work plan year to give more time to developing recommendations
- Get input from board members for planning site visits



Many Voices Working for the Community

Oak Ridge Site Specific Advisory Board

Monthly Meeting of the Oak Ridge Site Specific Advisory Board

Unapproved June 13, 2018, Meeting Minutes

The Oak Ridge Site Specific Advisory Board (ORSSAB) held its monthly meeting on Wednesday, June 13, 2018, at the DOE Information Center, 1 Science.gov Way, Oak Ridge, beginning at 6 p.m. A video of the meeting was made and may be viewed by contacting ORSSAB support offices at (865) 241-4583 or (865) 241-4584. The presentation portion of the video is available on the board's YouTube site at www.youtube.com/user/ORSSAB/videos.

Members Present

Leon Baker
David Branch
Richard Burroughs
Martha Deaderick
Eddie Holden
Leon Shields
Bonnie Shoemaker
Fred Swindler
John Tapp
Dennis Wilson, Chair

Members Absent

Michelle Lohmann
Venita Thomas
Rudy Weigel
Kathryn Bales
Christopher Beatty
Belinda Price, Vice Chair
Ed Trujillo
Deni Sobek

Liaisons, Deputy Designated Federal Officer, and Alternates Present

Kristof Czartoryski, Tennessee Department of Environment and Conservation (TDEC)
Brian Henry, OREM's Y-12 Portfolio Federal Project Director.
Melyssa Noe, ORSSAB Alternate Deputy Designated Federal Officer (DDFO), Department of Energy, Oak Ridge Office of Environmental Management (DOE-OREM)

Others Present

Shelley Kimel, ORSSAB Support Office
Teresa Lamarche, ORSSAB Support Office
Olivia Fleenor, Oak Ridge High School

Nine members of the public were present.

Mr. Wilson reminded members there will be no July meeting. He also asked all members to RSVP to the August annual meeting on August 25, 2018 in Gatlinburg, TN.

Liaison Comments

Ms. Noe –welcomed a new student representative, Olivia Fleenor. She explained that the original topic for this meeting, groundwater, has been moved to October when David Adler will be available. She reminded members that it's important to participate in the annual meeting and to fill out and return the member survey.

Mr. Czartoryski – No comments.

Public Comment

Luther Gibson said that he is a former member of the board and wanted to share with the board some history, including the details of some former meetings. Particularly he noted the June 2012 meeting on Y-12 Cleanup. He

expressed concern that the ORSSAB website does not have a full list of materials charting its entire history. He asked that at least the board minutes and recommendations be found and posted. He asked if the board might not look into that. A full copy of his remarks is included (Attachment 1)

Mr. Wilson read aloud a comment from a member of the public (Attachment 2) regarding signage on East Fork Poplar Creek, which was emailed to the board. Mr. Czartoryski reported he previously addressed the comment via email with the individual, he said.

Presentation

Mr. Henry gave a presentation (Attachment 3) on the Outfall 200 Mercury Treatment Facility (MTF).

Mr. Henry began by showing members a map of Y-12 where MTF will be built. He explained that groundwater on the site flows from West to East, which informs where OREM chooses to clean up buildings to minimize groundwater contamination. MTF is sited at the portion of the site where water ultimately collects. There is a short-term goal to get mercury in water leaving the Y-12 plant to be below 200 parts per trillion (ppt). A long term goal is to lower that to less than 51 ppt.

MTF will address that goal as well as serve as a line of defense against additional mercury discharges caused by demolition of contaminated buildings. MTF will have two sections – a headworks site that will capture all water on the site and filter it for solids. There will also be a 2 million gallon storage tank to handle high water flow from storms or other excess rain. About half a mile away, the water treatment plant will be built to fully remove any contaminants. The first step will be to dechlorinate the water. The next step is to precipitate out harmful elements. The third step will remove those particles. Then flocculation(?) and then last step is filtration. This is very similar to the process used to create drinking water. Mr. Henry explained that safe concentrations of mercury in water are different depending on use: Recreational Use has the most stringent requirements at 51 parts per trillion.

Construction began in December 2017 on early site activities including earthmoving and removing abandoned utilities. Some existing facilities were also demolished. A separate contract is expected later this fall for actual building of the facility itself. He noted it's important to remove and prepare as much as possible prior to bringing in a construction crew due to the difficulties posed by security measures at Y-12.

Extensive excavation has been done of foundations from previous buildings on the site as well as some unexpected areas OREM discovered, such as a basement space. The current activity is building a secant wall to isolate the creek from future building and construction work.

The contract for construction requires completion within four years of the award. The facility is expected to be operational by 2024 or earlier, depending on funding availability. Based on the agreement with regulators, OREM will operate the facility for two years to make sure it is appropriately reducing the mercury. If the goal is not met, additional discussions will be had on how to accomplish the reduction.

After the presentation board members asked the following questions.

Mr. Swindler asked how OREM will dispose of contaminants removed from the water. Mr. Henry said the resulting material should be able to be disposed on the reservation landfill.

Mr. Burroughs asked what the current measure for mercury is at the labs. Mr. Henry said he thought they could detect as low as to 5 parts per trillion (ppt). Mr. Czartoryski confirmed that there are approved methods that can result in detection of mercury in water below the level of 51 ppt, which is the level required by the state for water approved for its strictest guidelines – those for recreational use. Mr. Henry clarified this statement by stating that not only mercury can be detected but also it can be quantified below this level. The Quantification Level (QL) is the minimum concentration at which we can be confident that the numerical result is accurate.

Subsequently Mr. Czartoryski provided this information: EPA approved Method 1631 Revision E in 2002. Method 1631E has a quantitation level of 0.5 ppt, making it 400 times more sensitive than older Methods 245.1 and 245.2. In addition to Methods 245.1, 245.2, and 1631E listed above, EPA approved Method 245.7 as well as modified versions of other EPA-approved methods on March 12, 2007. See 72 FR 11200. Method 245.7 has a quantitation level of 5.0 ppt, making it 40 times more sensitive than Methods 245.1 and 245.2.

Mr. Holden asked if getting the MTF operational will delay demolition of nearby buildings. Mr. Henry said the MTF was needed to be operational before any buildings are demolished. He reminded members that there is about 2-3 years of cleanup work required inside contaminated buildings prior to demolition.

Mr. Wilson asked how efficient the MTF would be. Mr. Henry said the theoretical number is an 84 percent reduction in mercury leaving Y-12. He referred members to a video on the facility created by OREM (<https://www.youtube.com/watch?v=RWQhLtafBT4>). Mr. Henry said after the facility was operational OREM would like to raise efficiency to in the 90 percent range for removal.

Ms. Shoemaker asked specifically what would happen to mercury removed from the water. Mr. Henry said it would be combined with other solids removed from the water into a sludge that would be dried and solidified. However, the mercury content would still be so low that it would be safe for it to go into the onsite landfill. Ms. Deaderick asked for clarification on the treatment of sludge. Mr. Henry said that after the sludge was dried, OREM would take samples and characterize it to make sure it met standards for disposal in the sanitary landfill. Mr. Tapp asked what those standards were. Mr. Henry said the Toxic Characteristic Leaching Procedure is used to identify if waste is hazardous or not hazardous. Basically, he said, contamination higher than 4 parts per million would undergo further testing to ensure no hazardous waste enters the sanitary landfill. Ms. Deaderick said she was astounded at the high level of mercury allowed in drinking water.

Mr. Baker asked what would happen to MTF after the two year testing period. Mr. Henry said those two years would be used to fine tune the facility's operations. After that OREM would look at changes that might need to be made or improvements that could be implemented. The plant, he said, was built to be modular so additional treatment can be implemented through modifications.

Ms. Shoemaker asked what would happen to mercury in facilities on the east end of Y-12. Mr. Henry said there is an existing mercury treatment system that addresses that facility.

Mr. Gibson asked if there was thermal treatment of the sludge. Mr. Henry said no. Mr. Gibson asked if the material testing will be done on a routine basis. Mr. Henry said yes, once the facility is operational the tests will be done regularly before disposal.

Motions

6/13/2018.1

Mr. Burroughs motioned to follow up on Mr. Gibson's request regarding the archives. Mr. Weigel seconded the motion. It passed unanimously.

6/13/2018.2

Mr. Burroughs motioned to approve the agenda. It was seconded and approved unanimously.

6/13/2018.3

Mr. Burroughs motioned to approve the April minutes. Mr. Baker moved to approve and Mr. Holden seconded. The motion was approved unanimously.

6/13/2018.4

Mr. Burroughs motioned to create a nominating committee for FY19 officers. Leon Baker, Fred Swindler, Bonnie Shoemaker and John Tapp asked to serve. Mr. Burroughs approved the motion and David Branch seconded. The motion was approved unanimously.

6/13/2018.5

Mr. Wilson motioned to approve the EMSSAB Chairs Recommendation (Attachment 4). Ms. Shoemaker moved to approve and Mr. Baker seconded. The motion was approved unanimously.

Mr. Wilson gave an overview of the recommendation and shared some of his experiences touring WIPP at the EMSSAB Chairs Meeting. Mr. Wilson directed members to the trip reports from himself, Ms. Price and Ms. Kimel to get additional details. Additionally, meeting minutes should be provided by headquarters in the near future.

Mr. Burroughs asked how changing the waste acceptance criteria could extend the life of WIPP. He also asked about mining activities. Mr. Wilson said, yes, if they change the waste criteria they can accept more waste. He noted that WIPP workers are mining the salt as they go due to the way salt shifts and collapses over time. However, the site is limited on the total amount of waste it can accept due to agreements set in place during the creation of WIPP. Mr. Burroughs clarified that salt flows. Mr. Burroughs asked how much additional space is available. Mr. Wilson said the salt deposits extend through several states, but DOE is not permitted to expand in those areas. The current site in New Mexico is the only permitted site.

Mr. Tapp asked if the shifting causes issues on the surface. Mr. Wilson said no, the mine is too far under the surface. Mr. Tapp asked what happens to salt removed from the mine. Mr. Wilson said it is stacked on the surface. It is clean and useable for other tasks.

Mr. Weigel asked why the airflow in the mine had been reduced. Mr. Wilson said additional filtration of the air slows the circulation. The extra filtration was implemented after the accident that caused the closure of the mine in previous years.

Alternate DDFO Report

Ms. Noe said there are no current recommendations to discuss, but she wanted to talk about new member packages. They were sent to headquarters in February, but have not had feedback. She suggested doing tours anyway for the potential new members. However, she noted it could pose a problem for the August annual meeting. Those six individuals would not be able to be reimbursed unless they were official members.

Committee Reports

EM & Stewardship – Mr. Swindler went over the May 23, 2018 EM and Stewardship Committee meeting. Karen Thompson in planning and baseline management answered questions on the FY2020 budget formulation. He noted that all action items had been addressed by email.

Executive – The committee met on June 6, 2018. Mr. Wilson noted that it was mostly a discussion on the annual planning meeting. Ms. Kimel asked members to send her their RSVPs for the event.

Mr. Wilson noted that work was ongoing on the public outreach presentation. He encouraged members to volunteer to do presentations or share ideas for where presentations could be made. He emphasized that it was also a very strong recruiting tool.

Open Discussion

Regarding the archives availability mentioned by Mr. Gibson, Ms. Noe said several years ago OREM had to move to a new website server. She said they worked to move everything over. She noted that while the ORSSAB site only has some of the minutes and other information currently, that all of those documents are indeed on the

DOE Information Center (DOEIC) website. She said maybe there was a problem with links on the website. She said she would follow up with website admins on this issue.

Mr. Tapp asked if ORSSAB documents could be indexed by topic. Ms. Noe said that could be done at the DOEIC website, but the ORSSAB listing was chronological. She said she would see if the DOEIC site could be linked to the ORSSAB site.

Announcements and Other Board Business

ORSSAB's next scheduled meeting will be the Annual Planning Meeting Saturday, August 25, 2018 from 9:00 a.m. – 2:30 p.m. at the Black Bear Inn in Gatlinburg.

Action Items

Open

1. Ms. Noe will investigate restoring access to older ORSSAB documents on the ORSSAB website.

Closed

2. Staff will send an email to board members to gauge their interest in giving presentations about the board to community groups. **Completed by email 2/15/2018**

Mr. Wilson adjourned the meeting at 7:15 p.m. Attachments (4) to these minutes are available upon request from the ORSSAB support office.

I certify that these minutes are an accurate account of the June 13, 2018, meeting of the Oak Ridge Site Specific Advisory Board.

Richard Burroughs, Secretary

Dennis Wilson, Chair
Oak Ridge Site Specific Advisory Board
DW/smk

DATE



**Oak Ridge Site Specific Advisory Board
Recommendation ###:
Recommendations on the FY 2020
Oak Ridge Environmental Management Program
Budget Priorities, Oak Ridge, Tennessee**

Background

Each year the U.S. Department of Energy (DOE) Environmental Management (EM) Program develops its budget request for the fiscal year two years beyond the current fiscal year (FY), incorporating budget 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 May 9, 2018, the Oak Ridge Environmental Management (OREM) program held its annual Community Budget Workshop to discuss the FY 2020 budget formulation process and provide the EM portfolio project directors with an opportunity to talk about priorities for their projects. The workshop provided content and discussions that the Oak Ridge Site Specific Advisory Board (ORSSAB) used to draft its recommendations.

Discussion

In creating its recommendations for the FY 2020 OREM budget, ORSSAB focused on general near-term and long-term cleanup priorities identified at the Community Budget Workshop:

- Complete ETPP cleanup
 - Complete all demolition and remedial action consistent with CERCLA agreements
 - Implement reindustrialization and historic preservation activities at ETPP
- Disposition ORNL uranium-233 inventory
 - Complete uranium-233 direct disposition campaign
 - Conduct down-blending operations and dispose of remaining uranium-233 inventory
- Disposition ORNL transuranic waste inventory
 - Complete disposition of transuranic debris waste
 - Begin construction of the Sludge Processing Facility
- Address Y-12 mercury contamination
 - Ensure proper planning for future mercury cleanup
 - Reduce mercury in surface water exiting Y-12
 - Begin addressing mercury-contaminated buildings

Project-specific objectives spelled out in the Community Budget Workshop provided additional details for discussions that took place at the May 23, 2018, EM & Stewardship Committee

meeting. The board referred to the OREM 10-year Program Plan FY 2014-2024, the DOE Plan for Deactivation and Decommissioning of Nonoperational Defense Nuclear Facilities, and the board's previous Recommendation 235: Recommendations on Groundwater Investigations at the U.S. Department of Energy Oak Ridge Reservation 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 FY2020. In addition, ORSSAB has identified four priorities for Oak Ridge Reservation cleanup and recommends that the FY 2020 OREM program budget request reflect adequate funding to keep these projects going. Also, when additional funds from suitable plus-ups and savings become available, we recommend that these funds be targeted for these projects.

1. Complete a groundwater model that would be usable and agreeable by all parties, within the 2020 Vision for ETTP.
2. Accelerate mercury cleanup in the most contaminated areas of East Fork Poplar Creek.
3. Complete technology selection and commence implementation phase for treatment of contaminated underground/groundwater plume under the footprint of building K-1401 at ETTP if feasible within the 2020 Vision.
4. Complete sampling, evaluation and report findings on groundwater contamination at the southwest side of ORNL bordering the Clinch River.

¹ All documents are available on www.energy.gov.



Oak Ridge Site Specific Advisory Board Recommendation ###: Recommendations on the Proposed Environmental Management Disposal Facility at the U.S. DOE Oak Ridge Reservation

Background

Much of the Manhattan Project legacy waste for which the Department of Energy (DOE) Oak Ridge Environmental Management (OREM) program is responsible falls under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 (also known as the Superfund Act), which is a federal law regulating the cleanup of designated sites contaminated with hazardous waste.

The DOE Oak Ridge Reservation (ORR) is home to three large industrial sites with numerous buildings, burial grounds, soils, and other contaminated assets for which OREM has responsibility. CERCLA wastes from OREM cleanup activities at these sites [the East Tennessee Technology Park (ETTP), Oak Ridge National Laboratory (ORNL), and the Y-12 National Security Complex (Y-12)] are in large part disposed of in an existing OREM landfill known as the Environmental Management Waste Management Facility (EMWMF) near Y-12.

EMWMF is a dedicated disposal facility in Bear Creek Valley that receives low-level radioactive waste, hazardous waste regulated under the Resource Conservation and Recovery Act of 1976 (CERCLA), waste regulated under the Toxic Substances Control Act of 1976, and mixed wastes generated from the cleanup programs at the ORR conducted under CERCLA. It is an engineered facility with six cells, a 2.18 million cubic yards capacity, and a 43-acre footprint, under final cover. EMWMF has been actively accepting ORR CERCLA waste since 2002, but its capacity to accept waste will be exhausted by approximately 2023.

In December 2010, DOE first announced that additional CERCLA waste disposal capacity on the ORR would be necessary because of the expansion of OREM scope in the years since the construction of EMWMF began. This need for additional capacity was initially primarily due to two factors: (1) the availability of American Recovery and Reinvestment Act funds that allowed OREM to accelerate clean-up projects within its scope at that time and (2) expansion of the OREM program in recent years to include the removal of outdated facilities at ORNL and Y-12. DOE estimates that additional capacity for approximately 2.2 million cubic yards of waste will be needed to complete ORR cleanup effort as set forth in the current plan.

The following alternatives were considered when evaluating waste disposal capacity for ORR:

- *No Action* — This alternative is a CERCLA requirement and is not expected to be selected.
- *Offsite Disposal* — This alternative would require the cross-country transport of waste to facilities in Utah and Nevada by truck and rail operations.
- *Hybrid Disposal* — This alternative would include a combination of a small onsite facility with additional offsite disposal at existing facilities.
- *Onsite Disposal* — This alternative is estimated to save \$800 million versus offsite disposal. Three options for onsite disposal are under consideration.

Onsite options require the selection of a new landfill location. The initial screening process for onsite alternatives resulted in three sites in Bear Creek Valley being the most viable. Factors included topography and hydrology, available capacity, and intended future land use of the sites.

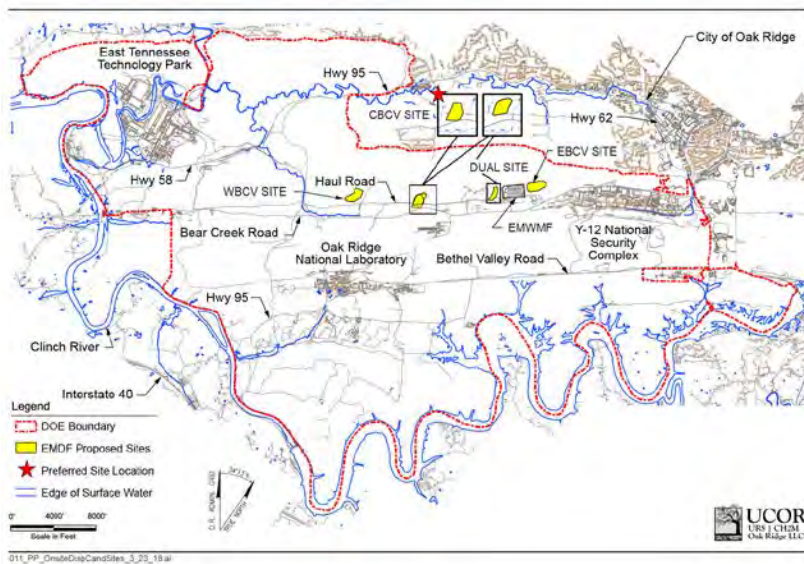


Figure 1 Proposed sites for EMDF

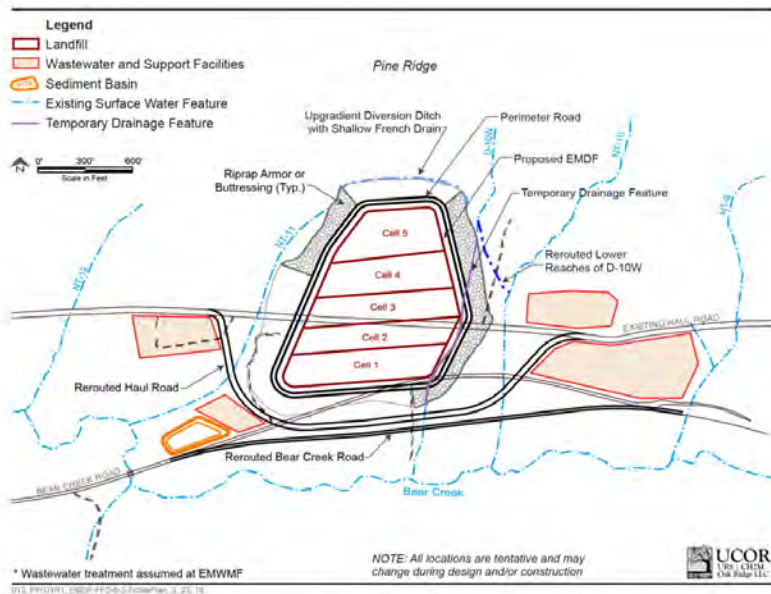


Figure 2 Concept design of the Central Bear Creek Valley Site

Discussion

The Oak Ridge Site Specific Advisory Board (ORSSAB) began discussing the need for additional CERCLA waste disposal capacity on the ORR at its December 2010 Environmental Management/Stewardship Committee meeting and has continued to follow developments and correspondence among the three agencies since that time.

- In June 2011, the board issued Recommendation 200: Recommendation on the Decision Process for Siting a Second CERCLA Waste Disposal Facility.² The recommendation suggested early involvement of state and local governments and area citizens in the process of selecting a site for an additional waste disposal facility. It asked DOE to carefully evaluate future disposal needs and lifecycle costs and look for ways to reduce its disposal needs. It also recommended that DOE commit to additional payments to the State of Tennessee for long-term post-closure stewardship if EMDF is built.

Development of a new disposal area, named the Environmental Management Disposal Facility (EMDF), has been proposed by DOE to the Tennessee Department of Environment and Conservation (TDEC) and the Environmental Protection Agency (EPA). The *Remedial Investigation/Feasibility Study for CERCLA Waste Disposal*, (DOE/OR/01-2535&D5), was prepared in 2012 to develop, screen, and evaluate alternatives for waste disposal against CERCLA criteria.¹ The report was first submitted to TDEC and EPA for review in September 2012. The latest version, which includes four site options/locations, was submitted in February 2017 and EPA and TDEC submitted comments to DOE. DOE is responding to these comments and currently conducting a field study at the identified preferred site, which includes groundwater, surface water, and soil sampling.

DOE, EPA, and TDEC are working together to issue a Proposed Plan that will be available to the public for input (currently estimated for summer 2018). Additional actions will need to be taken by the agencies, including final agreements and evaluation of the related studies, before a final record of decision (ROD) can be signed.

- In May 2014, ORSSAB issued Recommendation 223: Recommendations on Additional Waste Disposal Capacity on the Oak Ridge Reservation.² It asked DOE to continue planning for an additional onsite disposal facility that would have sufficient capacity to accept all appropriate future generated waste from DOE activities through cleanup of the ORR. It made general recommendations as to safety and siting, and it restated the board's position on long-term post-closure stewardship.
- In December 2016 ORSSAB issued Recommendation 233: Recommendations on the Proposed Environmental Management Disposal Facility at the U.S. DOE Oak Ridge Reservation.² It asked DOE to ensure a trust fund for long term-stewardship is established for EMDF similar to that for EMWMF. DOE responded that continuation of the concept of a trust fund for EMDF similar to that for EMWMF was contingent upon the state accepting such an agreement. DOE's response also said it would be responsible for long-term stewardship of the facility, either through establishment of a trust fund with the state or independently.
- In April 2018, DOE provided ORSSAB with an update on ongoing efforts to assure waste disposal capacity for ORR at its monthly board meeting and at its Environmental Management/Stewardship Committee meeting. The following recommendations were generated from discussions at those meetings.

Recommendations

ORSSAB supports onsite disposal of OREM CERCLA wastes that meet the onsite waste acceptance criteria. ORSSAB understands that in regards to stewardship the long-term stewardship agreement for EMWMF only included monitoring and maintenance and the state does not wish to participate in a similar agreement for EMDF. We wish to provide recommendations that have become relevant given the revisions of the remedial investigation/feasibility study and evolving discussions among DOE, TDEC, and EPA. In sum, our recommendations are as follows:

1. **Funding:** Ensure that funding is secured and prioritized to provide a reasonable period of overlap no less than two years operation of the proposed EMDF and the existing EMWMF given the fact that the EMWMF is currently at 75 percent capacity.
2. **Community Engagement:** Although communication with and to the community is part of the CERCLA process, emphasis should be placed on direct and iterative contact with the residential communities that are near the proposed EMDF site. Ideally, this should involve scheduled informational meetings with adjacent communities to ensure visibility regarding proposed plans, while allowing residents the opportunity to learn about the plans, and have their voice heard regarding their concerns. We recommend these meetings include the planning and status of the design and construction efforts and final timelines for completion of each critical phase. These informational meetings should be scheduled to take place as early as possible in the planning stages to adequately address community/public concerns and that meetings are scheduled in sufficient numbers, times and places to allow all interested parties to attend. Also, consideration should be given to publicizing dates, times and locations of the meetings to ensure the public is aware they are taking place.
3. **Expansion/Additional Capacity:** During the preparation of the Proposed Plan, the ROD and the conceptual and design phases of the EMDF, DOE should evaluate and ensure that the facility will allow for an additional capacity in case that the original capacity is not adequate.
4. **Monitoring:** Actual hydrologic conditions in the proximity of the proposed site for EMDF should be evaluated to mitigate or eliminate any deleterious effects later during construction and operation. Additionally, the evaluation process should include specific lessons learned from the current facility and results from on-going site investigation/sampling. The evaluation process should be completed before the design phase is finalized.

5. **Budget for Future Monitoring and Maintenance of the Completed Facility:** Funding should be allocated and prioritized for the post-construction phase that includes future monitoring and functioning of the facility for requirements stipulated in the ROD and other relevant documents.
 - a. Seek a mechanism for either DOE or a public-private partnership that would be responsible for the lifetime of the EDMF to provide scheduled periodic maintenance to avoid deterioration of the facility once the facility is at capacity.
 - b. Devise a monitoring and maintenance plan prior to closure of EMDF.

¹ Document available at the DOE Information Center, doeic.science.energy.gov.

² Document available at energy.gov/orssab.

Oak Ridge Site Specific Advisory Board

Annual Meeting

Saturday August 25, 2018

Nominating Committee Report

Committee Members:

Bonnie Shoemaker

Leon Baker

Fred Swindler

The nominating committee members were elected at the June 13, 2018 ORSSAB scheduled meeting.

The nominating committee met at 7:10 on June 27 after the Environmental Management and Stewardship Meeting. The committee then divided up the list of current board members as of June 2018 to be contacted. All existing board members as of June 2018 were contacted by the committee.

With no other expressed interest in sitting on the Executive Committee for this upcoming year, the following list of candidates is submitted for consideration:

- **Chair:**

Dennis Wilson – Dennis served as chair in 2018 and served as vice chair in 2017. He has been a member of the board since 2015.

Leon Shields – Leon has been a member of the board since 2017.

Ed Trujillo – Ed served as chair of the EM and Stewardship Committee in 2017 and was vice-chair of the committee in 2016. He has been a member of the board since 2015.

- **Vice-Chair:**

Bonnie Shoemaker – Bonnie has been a member of the board since 2017.

Michelle Lohmann – Michelle has been a member of the board since 2017.

- **Secretary:**

Richard Burroughs – Richard served as board secretary in 2018. He has been a member of the board since 2015.

Leon Baker – Leon has been a member of the board since 2015.

As a reminder, regarding the election of Executive Committee officers:

- Any member of the board can put themselves forward for an office during the meeting.
- Any member can nominate another board member during the meeting if they have that person's consent to do so.

Respectfully Submitted

Fred Swindler on behalf of the Nominating Committee

2018 Annual Meeting Evaluation

Your opinion about today's work is important and will assist us in improving future meetings.

	High			Low	
1. Overall, the event was well organized.	5	4	3	2	1
2. My expectations were met.	5	4	3	2	1
3. It was worth my time to attend this event.	5	4	3	2	1
4. Please rate the following:					
(a) Opportunity to interact with colleagues	5	4	3	2	1
(b) Facilitator support	5	4	3	2	1
(c) Facilities	5	4	3	2	1
(d) Materials	5	4	3	2	1

5. What new ideas are you taking away from today's meeting?

6. What is the top action you will take based on this meeting?

7. What, if any, change in the meeting would significantly improve the experience for you?

8. What were the best aspects of today's meetings?
