



August 15, 2019

August 2019 Citizens Advisory Board Meeting Agenda

Chair

Bill Murphy

Vice-Chair

Victoria Caldwell

Board Members

Don Barger
Phillip Brown
Cindy Butterbaugh
Judy Clayton
Nancy Duff
Celeste Emerson
David Homra
Fran Johnson
Mike Kemp
Shay Morgan
Patrick White
Carol Young

Jennifer Woodard
DOE DDFO

Buz Smith
DOE Federal Coordinator

Board Liaisons

Brian Begley
*Division of Waste
Management*

Julie Corkran
*Environmental Protection
Agency*

Mike Hardin
Fish and Wildlife Resources

Support Services

EHI Consultants, Inc.
Emerging Technology Center
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6:00pm

Call to order, introductions
Review of agenda

DOE Comments

-- 5 minutes

Federal Coordinator Comments

-- 5 minutes

Liaison Comments

-- 5 minutes

Presentation

-- 20 minutes

**Portsmouth/Paducah Project Office 2018 Plume
Map Update**

Administrative Issues

-- 20 minutes

- Subcommittee Recap
- Fall 2019 EM SSAB Chairs Meeting – October 28-30

Public Comments

-- 15 minutes

Final Comments

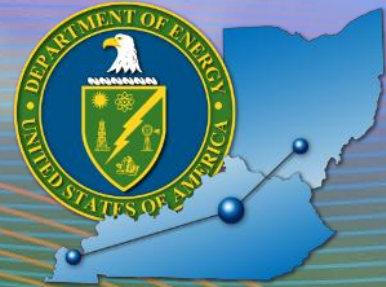
-- 10 minutes

Adjourn



U.S. DEPARTMENT OF
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MANAGEMENT**



Plume
Map
Update



U.S. DEPARTMENT OF
ENERGY

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MANAGEMENT**

Portsmouth/Paducah Project Office 2018 Plume Map Update

Presented by Jennifer Woodard
August 15, 2019



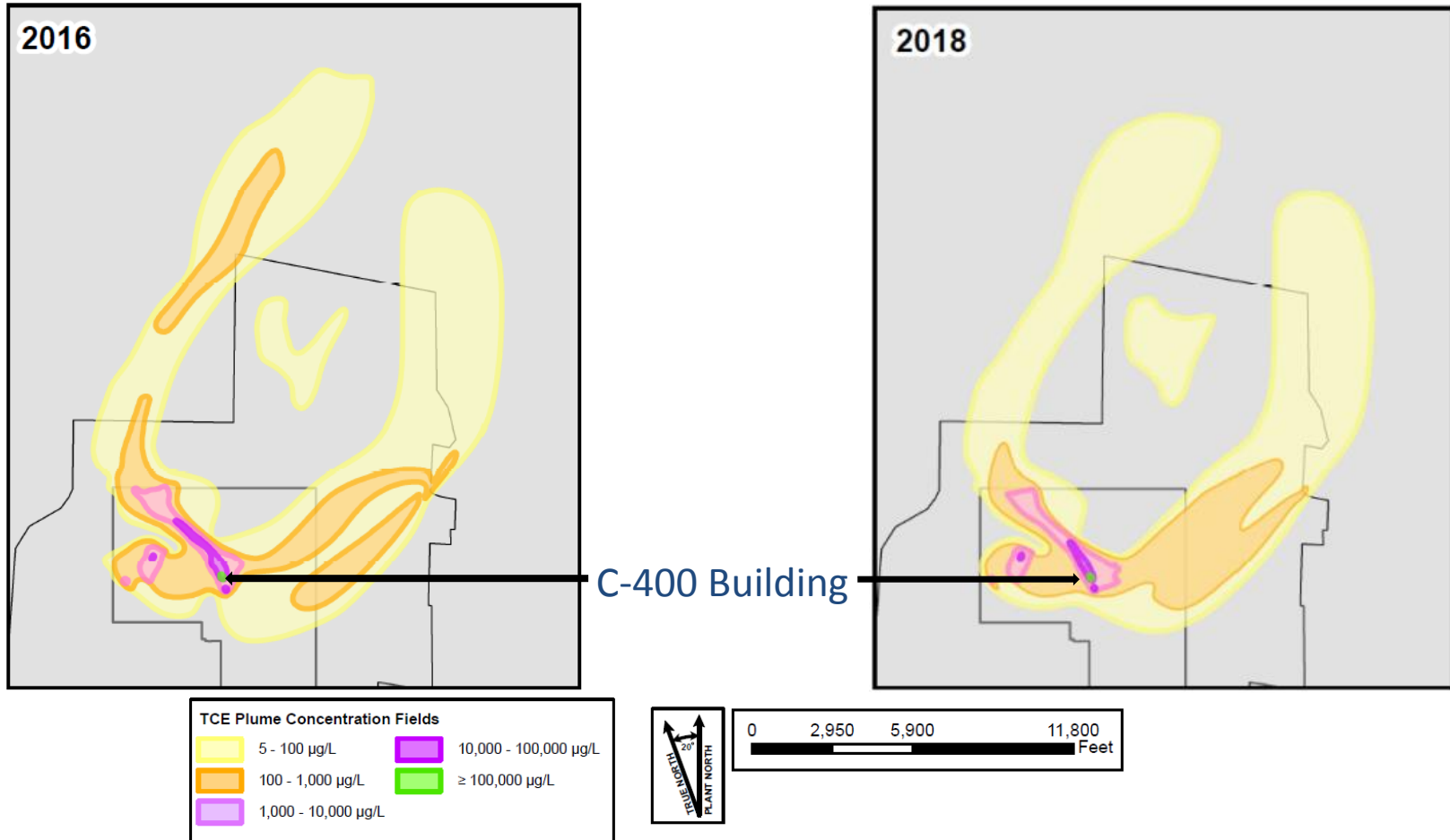
- Discuss the results of groundwater analysis for trichloroethene (TCE) and technetium-99 (Tc-99) for calendar years (CY) 2018 plume maps
- Compare current and past plume maps



- The facility was used to clean parts and equipment used in the enrichment process
- The cleaning solvent (TCE) leaked at the C-400 Facility
- C-400 processes, including Tc-99 recovery, led to releases of Tc-99 into the groundwater
- The C-400 Building is the primary source of TCE and Tc-99 contamination in the Regional Groundwater Aquifer (RGA)

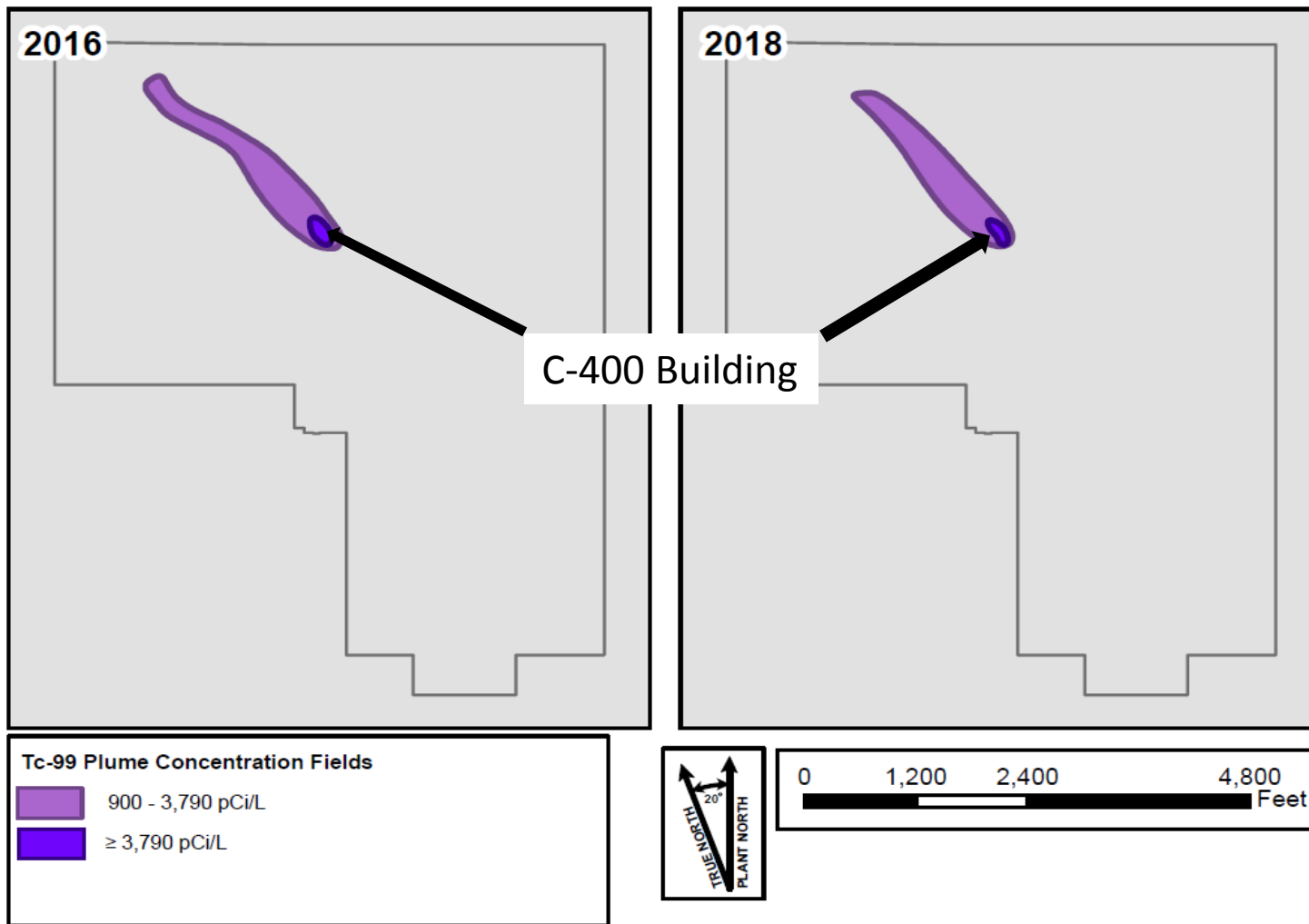


- Offsite contamination first detected in 1988
- Phase I Site Investigation data from 1991 was utilized for the first mapping of the plumes
- Plume map reports were prepared annually from 1999-2005, again in 2007, and biennially from 2010-2018
- Plumes became more defined throughout the years as additional wells were installed on and off DOE property.

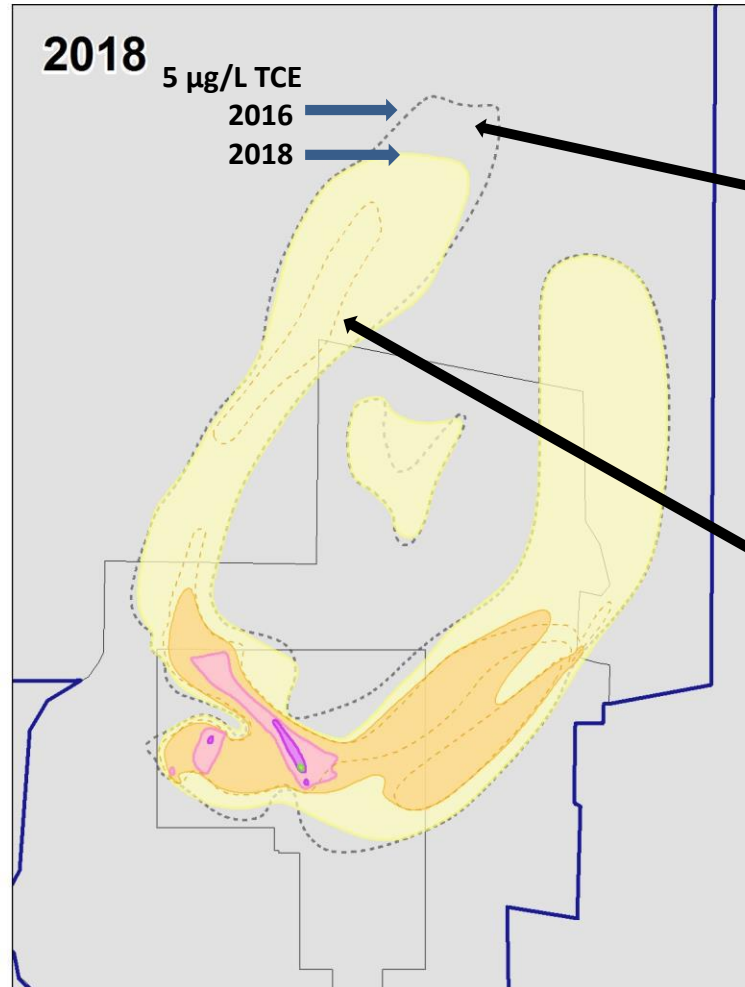


- 5 µg/L TCE = drinking water standard
- Reduction in the >100 µg/L area
- Reduction of dissolved phase TCE concentrations downstream of C-400

Comparison of Plume Maps – Tc-99

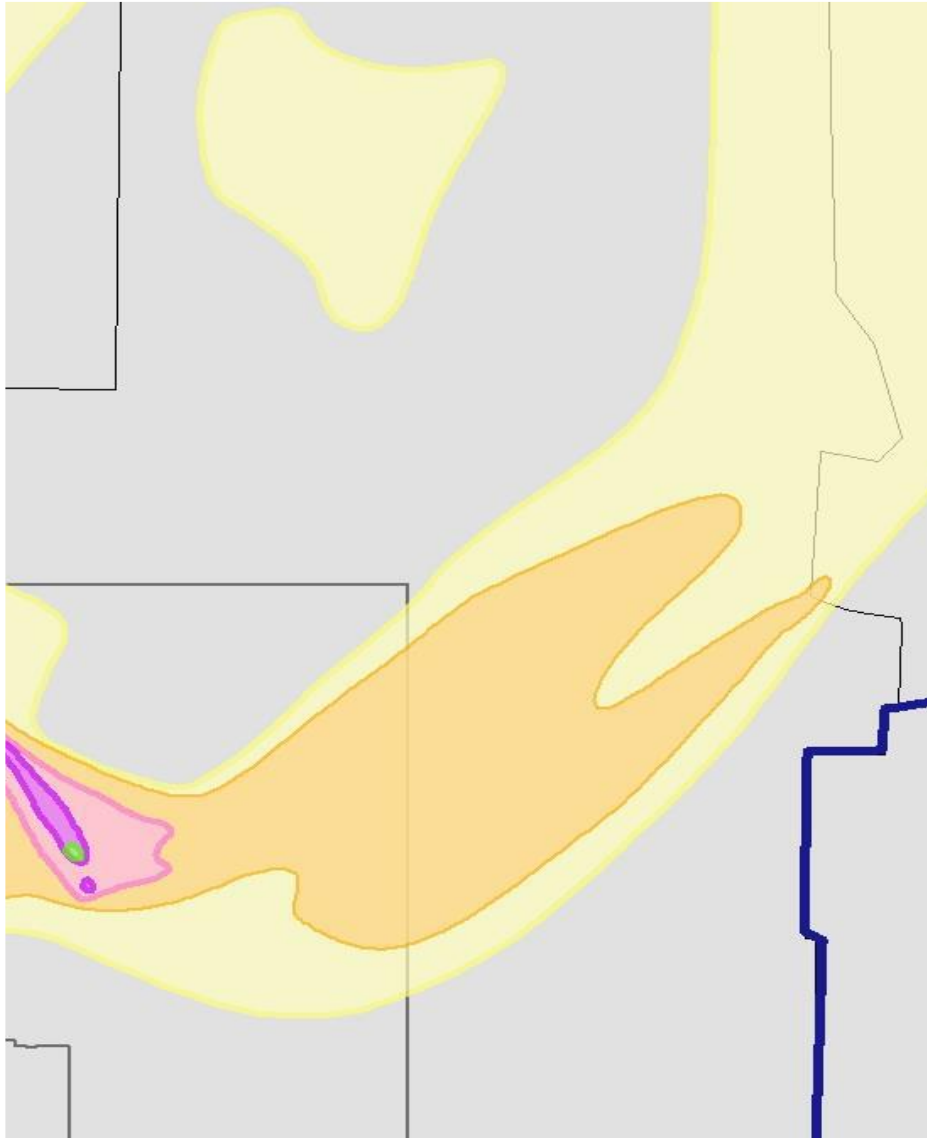


Diminishing plume of Tc-99



Reduction in
the overall TCE
plume

Decline of
TCE levels
in center



Two lobes
of higher TCE
concentration

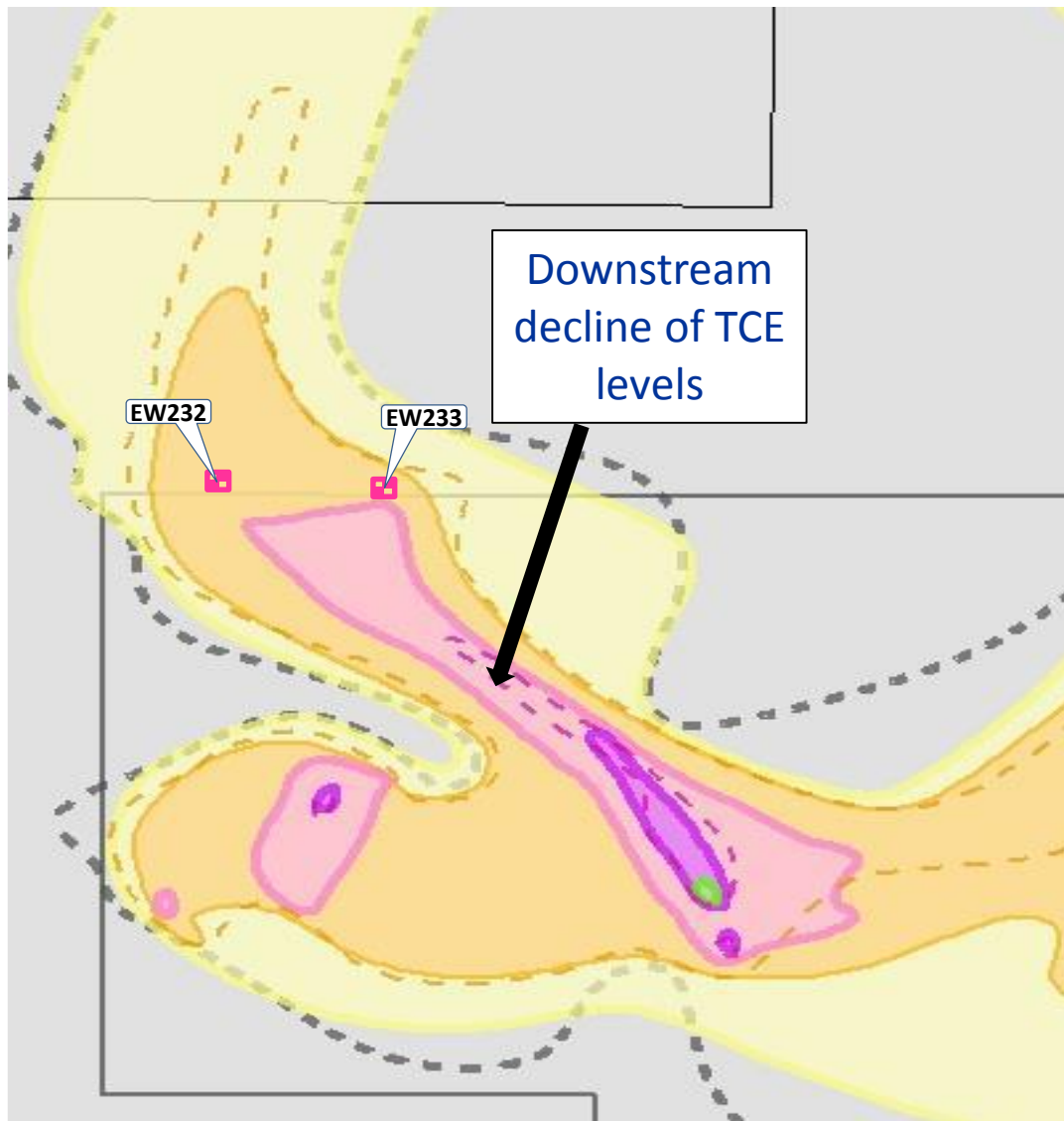




Table 1. PGDP Groundwater Plumes, CY 2016 vs CY 2018

Plume	Approximate Total Area	
	CY 2016	CY 2018
Trichloroethene		
Northwest	751 acres	662 acres
C-746-S&T Area	79 acres	102 acres★
Northeast	945 acres	892 acres
Southwest	100 acres	89 acres
Technetium-99		
Northwest	19 acres	18 acres

The approximate total areas are the area of the respective plume inside and outside the PGDP boundary and DOE property.

★ Re-interpretation of shape of C-746-S&T Area plume

Summary

- TCE continues to decline in the Northeast and Northwest Groundwater Plumes with a significant reduction in offsite TCE levels in the Northwest Plume
- Notable decrease in areas recording $>100 \mu\text{g/L}$
- Tc-99 plume is diminishing



PADUCAH GASEOUS DIFFUSION PLANT CITIZENS ADVISORY BOARD

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Paducah Gaseous Diffusion Plant Citizens Advisory Board Meeting Minutes August 15, 2019

The Citizens Advisory Board (CAB) met at the West Kentucky Community and Technical College in Paducah, Kentucky on Thursday, August 15th at 6:00 p.m.

Board members present: Bill Murphy, Mike Kemp, Victoria Caldwell, Fran Johnson, Shay Morgan, Celeste Emerson, Carol Young, Nancy Duff, Cindy Butterbaugh, Don Barger and Phil Brown.

Board Members absent: Patrick White, David Homra and Judy Clayton.

Board Liaisons and related regulatory agency employees: Brian Begley (on phone), Brian Lainhart, Chris Travis, Kentucky Division of Waste Management; Julie Corkran (on phone), Environmental Protection Agency (EPA).

DOE Deputy Designated Federal Official: Jennifer Woodard, DOE.

U.S. Department of Energy (DOE) related employees: Robert Edwards, Robert Smith, DOE; Steve Christmas, Four Rivers Nuclear Partnership, LLC (FRNP); Nathan Miller, Pro2Serve; Eric Roberts, Jim Ethridge, EHI Consultants (EHI).

Public: Mike Turnbow, Blake Summarell, and Ciara Saver.

Murphy called the meeting to order and called for introductions. He then turned the meeting over to **Edwards** for DOE comments. **Murphy** then asked for Liaison comments. **Begley (by phone)** provided comments from the Kentucky Division of Waste Management about the SWMU 211-A issue and their written comments on the project. **Corkran** (by phone) provided comments from EPA about the SWMU 211-A issue, also on EPA's written comments concerning 211-A. **Murphy** asked **Begley** and **Corkran** if they considered their comments positive concerning SWMU 211-A. **Begley** indicated that the comments were positive. **Corkran** agreed with **Begley's** response that the comments were positive.

Murphy then turned the meeting over to **Woodard** for a presentation on the updated contamination plume map for the Paducah site. **Roberts** asked why the levels of contamination were determined differently between trichlorethylene and technetium 99. **Woodard** said that it was the difference between one being a radiological contamination and the other being a chemical contamination.

Woodard asked for recommendations from the Board members on how to best present the message of plume reduction to the general public. **Murphy** suggested changing the color scales on the new map to show smaller increments and that would probably allow for clearer illustrations of concentration reductions over time. **Roberts** suggested forming a small committee to develop ideas on how to best present the information to the general public. **Murphy** asked the Board if any of the members had

mapping experience that might be helpful for the committee to make use of. **Roberts** said that the Board probably would be able to be able to get help from those types of folks working at the plant site. **Woodard** indicated that that was possible. **Butterbaugh** indicated that she thought the format of the information depends on, for one thing, the age of the audience. She said who the audience was would determine different messaging of the information. She added that the maps needed to be simple and not hard to understand.

Woodard said that she was asking for messaging of the change of the plume map from 2016 to 2018, and secondly, asking for ideas on how to best present the message of progress from 2018 on into the future.

Brown said that he would like to know where the plumes were to start with, and to present that as well.

Barger asked if the rain that the area had gotten since Spring affected the plume in some way. **Woodard** indicated that the information that the current maps were developed from was gathered in 2017 and 2018, so the rain this year does not affect them. **Barger** suggested using a “flip chart” to present the change in the plume. **Caldwell** suggested using video or animation to show the change in the plume. **Butterbaugh** asked if there was a budget for what the committee came up with. **Woodard** said that it would come out of the DOE budget, but she asked for different ideas to choose from.

Roberts asked for volunteers to serve on the committee to develop ways to present plume progress to the general public. **Butterbaugh** committed to serve as the committee chair. **Barger, Brown and Caldwell** volunteered to serve on the committee also. **Murphy** asked if there would be any restriction to put the information developed by the committee on the CAB web page. **Woodard** indicated that there was no restriction. **Johnson** asked of presenting the information in percentages was possible. **Kemp** suggested when using acreage in a presentation to not break the information down much.

Edwards asked for the new committee to consider the possibility of the lack of internet access for some members of the public, when developing ways to present information to the public. **Emerson** added that not everyone subscribes to the local newspaper.

Roberts commented that the hope is for the Board to become the subject matter experts for the community on information about work at the plant site and presenting that information to the public.

Murphy asked when the new committee would be expected to report their ideas to DOE. **Woodard** said it would be good for the committee to report within two to two and a half months. **Johnson** said that there were areas here that did not have internet service. **Murphy** suggested that the new committee present their recommendations during the October CAB Subcommittee meeting. **Butterbaugh** indicated that that was doable.


Smith asked for feedback on the recent Land Transfer/Footprint Reduction Subcommittee meeting. **Murphy** said that he learned about several issues concerning the land transfer process from the July meeting (Lessons Learned at Portsmouth), and thought it would help him understand the process once the Paducah site experiences the same thing.

Murphy announced the 2019 Fall EM SSAB Chairs meeting, which will be held in Idaho on October 28-30. He added that he may not be able to attend. **Murphy** reminded the group that a Top Issue would have to be developed for the meeting, but there was still time to do that. **Roberts** said that one of the main topics for the meeting would be shipping waste and transportation routes. **Murphy** added that the Nevada Board was concerned about transportation routes because one of the routes going to the Nevada disposal site goes through Las Vegas.

Caldwell asked the date of the Board meeting for September. **Roberts** indicated that the yearly Planning Session to present the Board Work Plan for the upcoming year was planned for September 19. **Butterbaugh** added that the October meeting would be on the seventeenth.

Murphy adjourned the meeting at 6:57 pm.

Approved by **William E. Murphy, Chair**



William E. Murphy