



FORMER NAVAL AIR WARFARE CENTER WARMINSTER

Restoration Advisory Board (RAB) Meeting Minutes

FORMER NAVAL AIR WARFARE CENTER (NAWC) WARMINSTER MEETING MINUTES

RESTORATION ADVISORY BOARD (RAB) MEETING NO. 122

REFERENCE: CLEAN CTO NO. WE23

1. Meeting Date and Time: October 12, 2011, 9:35 AM to 10:30 AM
2. Location: Warminster Municipal Authority Board Room
3. Attendees: See Attachment 1 (attendance list)
4. Summary of Meeting Discussions: See below.

Administrative Update

Jeff Dale, the Navy's Remedial Project Manager (RPM) for the project working out of the Navy's Base Realignment and Closure Program Management Office (BRAC PMO) in Philadelphia, opened the meeting by welcoming the attendees and providing an agenda for the meeting (Attachment 2). Tim Sheehan (PADEP) introduced two new project personnel from PADEP, including Margaret Pollich (new PADEP project manager for the site) and Mike Penzone (hydrogeologist and new CRC project manager).

Comments were solicited on the April 2011 RAB meeting minutes. No comments were offered by those in attendance and the meeting minutes were approved as-is.



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Action items from the April 2011 RAB meeting were addressed as topics were brought up for discussion. The action items from the previous RAB meeting are summarized below:

- The Navy is to provide an update on groundwater extraction/treatment/monitoring activities.
- PADEP is to provide an update r.e. the status of the CRC Industries investigation.
- WMA/Earth Data is to provide an update of the municipal wells status.
- The Navy is to update the RAB on the progress of property transfers for the remaining Navy properties along Jacksonville Road and the Shenandoah Woods housing area.

Off-Site Investigations

Ms. Michelle Rudnick (CRC Industries) provided a status update regarding recent developments with the CRC Industries site investigation/cleanup work. CRC performed groundwater sampling in July, and is still performing periodic DNAPL checks in select wells (nothing found recently). The pump and treat system design and associated permit applications are currently underway, with a target date for completion of all of the design work of the end of October. Construction of the extraction/treatment system is anticipated to begin early in 2012. Mr. Toby Kessler (Gilmore and Associates, representing Warminster Township) asked if the permits would be sent to the Township for review. Ms. Rudnick indicated that the appropriate permits will be provided, and others would be available upon request.



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WMA Update

Mr. Dave Fennimore (Earth Data, representing Warminster Municipal Authority) stated that the Authority continues to pump WMA-26 and treat the water. Mr. Tim Hagey (WMA) stated that there was a recent spike in PCE concentrations – Mr. Fennimore

indicated that a sample from September 8 had 1.2 ppm PCE, while the PCE concentration in a follow-up sample collected two weeks later was approximately ½ of the earlier concentration. The effluent sample from the treatment system had a PCE concentration of 1.8 ppb. Mr. Hagey observed that the concentration spike was from around the time that the NAWC treatment system was temporarily offline. Mr. Pat Schauble (H&S Environmental) indicated that the plant was offline for repairs from August 26 through September 19. Mr. Bob Lewandowski (BRAC PMO) indicated that the treatment system had started acting up on August 21, requiring the temporary shutdown.

Navy Housing Transfer Update

Mr. Lewandowski updated the RAB on the status of the Navy housing areas along Jacksonville Road and in Shenandoah Woods. The lead-based paint and asbestos survey reports had been received at BRAC PMO the day before the RAB meeting – Mr. Lewandowski will review them, then they will be incorporated into the FOST document. The target date for the final FOST is the end of December. The Reuse Plan has been approved; it calls for most housing to be refurbished as lower-density housing, some will be used as a rehabilitation facility, and the Township also receives some land to use for flood control measures.



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Treatment Plant Operations/LTM Update

Mr. Pat Schauble (H&S Environmental, Navy contractor) provided an update on treatment plant operations and LTM activities (see handout in Attachment 3). Some notable points covered include:

- The treatment plant operated at an average rate of 68 gpm in September, with most flow coming from Area A and the remainder from Area C. Flow rates were somewhat below normal because of some system down-time.
- Activated carbon change-outs were performed in June.
- VOC removal via pumping totaled approximately 10 lbs in August, with over 9 lbs of TCE. Almost all the mass removal was from Area A wells.
- VOC recovery rates have stabilized and have been at similar levels for ~4 years.
- A semiannual round of groundwater sampling was performed in June, and another round is scheduled for November.

Mr. Fennimore asked what the schedule is for sampling of the groundwater treatment plant. Mr. Schauble indicated that it is usually performed the first week of each month – the early September sample was missed as the system was shut down, however a sample was collected upon system restart. The data is in the monthly report that should be going out in a week or two.

Miscellaneous Topics and Issues – Action Items

Mr. Jeff Orient (Tetra Tech, Navy contractor) gave a brief update of recently-completed LTM reporting, the Five Year Review Report, and the annual land use control



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inspections for 2011 (see handout in Attachment 4). Some notable points covered include:

- The Annual Performance Monitoring Report for FY 2010 was finalized in February.
- The Semiannual Performance Monitoring Report for FY 2011 (November 2010 round of sampling) was finalized in August.
- The draft Five Year Review Report was released in August; all of the remedies are currently protective and no issues were identified.
- The final Five Year Review Report is scheduled to be released in November.
- Annual land use control inspections will be performed in October.

Mr. Kessler asked how land use will be handled at OU-1A/Area A in the future. Mr. Dale indicated that the Navy will look at the LUCs to ensure that appropriate constraints are in place for any future construction activities and Mr. Lewandowski indicated that the Navy is checking the deeds to ensure that future land use is constrained appropriately and adequately.

Mr. Lewandowski brought up the idea of changing the meetings from RAB meetings to Technical Review Committee (TRC) meetings. Mr. Dale pointed out that given the current status of the former facility (post-ROD, property transferred), a change to a TRC designation may be appropriate, especially as they have recently been getting questions from upper-level Navy staff about why they are continuing to hold RAB meetings. The conversion to a TRC meeting would not change the format, content, schedule, or attendees. Mr. Dennis Orenshaw (EPA Remedial Project Manager) asked whether there was an established procedure for formally shutting down the RAB – Mr.



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Dale indicated that it is usually in the RAB charter, which the Navy is currently trying to locate. Mr. Orenshaw indicated that he was OK with changing the meeting designation, and no one else in the meeting voiced any objection.

Action Items that will be carried through to the upcoming TRC meeting include:

- The Navy is to provide an update on groundwater extraction/treatment/monitoring activities.
- PADEP/CRC is to provide an update r.e. the status of the CRC Industries investigation.
- WMA/Earth Data is to provide an update of the municipal wells treatment systems status.
- The Navy is to update the RAB on the progress of property transfers for the remaining Navy properties along Jacksonville Road and the Shenandoah Woods housing area.
- The Navy is to provide an update on the Five Year Review and LUC inspections.

Next Meeting Date

The next TRC meeting date was set for April 18, 2012 at 9:30 AM in the WMA Board Room. The meeting was adjourned at approximately 10:30 AM.



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ATTACHMENT 1 ATTENDANCE LIST

NAWC WARMINSTER
 TECHNICAL SUBCOMMITTEE/RAB MEETING
 DATE: 10/12/2011

NAME	AFFILIATION	PHONE	EMAIL
JEFF ORIENT	TETRA TECH MUS	412-921-8778	jeff.orient@tetratech.com
Ron S/oto	US Geological Survey	610-321-2434 x212	rsoto@usgs.gov
JEFF DALLÉ	US Navy	215-897-4914	Jeffrey.M.Dale@Navy.mil
Kathy Davies	US EPA	215-814-3315	davies.kathy@epa.gov
Mike Penzance	PADDP	484-250-5786	ipenzance@pa.gov
MARGARET POLCICH	PADDP	484-250-5731	MPolcich@pa.gov
LIM SHEEHAN	PADDP	484-250-5726	TSHEEHAN@PA.GOV
Patrick Schumbie	H&S Environmental	484-880-1896	PSchumbie@hsepd.com
Michelle Rudnick	CRC Industries Inc.	215-442-6224	mudnick@crcindustries.com
DEMUS ORENSHAW	U S EPA	215-814-3361	ORENSHAW.DEMUS@EPA.GOV
Bob Lewandowski	Navy BRAC PMO	215-897-4908	Robert.f.lewandowski@navy.mil
TIM HAGEY	WTMA	215-675-3301 x 201	timh@warminsterauthority.com
Toby Kessler	Gilmore & Assoc./waim.Twp	215-345-4330	+Kessler@gilmore-assoc.com
Carolyn Scalco	Battelle	215-504-5003	Scalco@battelle.org
ANDREW BOWERS	BATTELLE	215-504-5032	abowers@battelle.org
NORA KELLY	RAB - CO-CHAIR	215-675-1157	N. K.
Dave Fenimore	Earth Data N.E.	610-524-9466	dfeinmore@earthdataone.com



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Restoration Advisory Board (RAB) Meeting Minutes

ATTACHMENT 2 MEETING AGENDA



AGENDA

FORMER NAWC WARMINSTER

Technical Subcommittee/Restoration Advisory Board (RAB) Meeting

Date: 12 OCTOBER 2011

Time: 9:30 AM

Location: WMA Board Room, 415 Gibson Ave., Warminster, PA

- **Administrative Update**
 - Minutes of the Last Meeting
 - Review Action Items (see below)

- **Off-Site Investigations**
 - PADEP update on CRC Chemicals

- **WMA Update**
 - Status of Well #26

- **Navy Housing Transfer Update**
 - Status of property transfer activities along Jacksonville Road and Shenandoah Woods

- **Treatment Plant Operation**
 - Plant operating status
 - VOC removal evaluation

- **LTM Update**
 - Spring 2011 sampling round status
 - Plans for Fall 2011 performance monitoring

- **Miscellaneous Topics and Issues – Action Items**
 - Five-Year Review status
 - Annual Land Use Control Inspections status

Time and Location of Next Meeting: - Date to be determined (RAB switching to a semi-annual schedule after the April 2011 meeting).

- **Action Items**

The following action items have been identified as a result of the April 2011 meeting:

- PADEP is to provide an update r.e. the status of the CRC Industries investigation.
- WMA/Earth Data is to provide an update of the municipal wells status.
- The Navy will provide updates r.e. groundwater extraction, treatment, and monitoring activities.
- The Navy is to update the RAB on the progress of property transfers for the remaining Navy properties along Jacksonville Road and the Shenandoah Woods housing area.

Directions to the WMA Board Room:

From the former NAWC - Proceed to the intersection of Street and Jacksonville Rd. Turn west (right) onto Street Rd. Continue west to York Rd. Turn south (left) onto York Rd. Continue to Henry Ave. Turn west (right) onto Henry Ave. Follow directions as above to the WMA building.

From County Line Rd - Instead of turning north (right) onto Jacksonville, continue west on County Line to York Rd. Turn north (right) onto York Rd. Continue to Henry Ave. Turn west (left) onto Henry Ave. Continue to Gibson Ave. Turn right into the parking lot shared by the Warminster Township and WMA. The WMA building is located towards the rear.



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**ATTACHMENT 3
H & S PRESENTATION**

Restoration Advisory Board Meeting



NAWC Warminster
12 October 2011

Presented by



Presentation Agenda

- GWTP Status
 - Plant Operation
 - VOC Removal Evaluation
- LTM Update
 - Spring 2011 Sampling Round Status
 - Plans for Fall 2011 Sampling



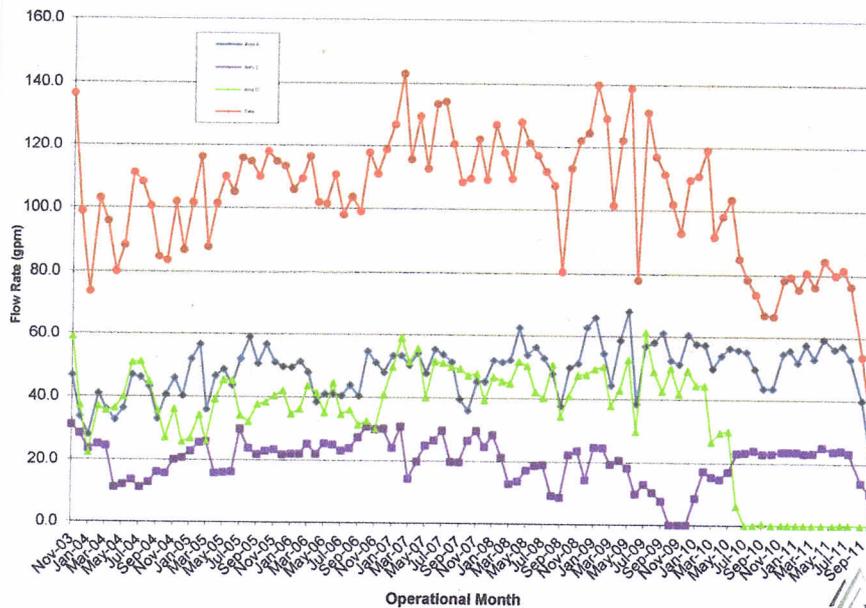
GWTP Operation

- Average flowrates for April - September 2011:
 - 48.1 gpm from Area A
 - 20.1 gpm from Area C
 - 0.0 gpm from Area D
 - 68.2 gpm overall
 - Average flowrates below normal in August and September 2011 due to system down-time.

- 726,672,502 gallons treated through September 2011.



Groundwater Treatment Plant Recovery Flow Rates



GWTP Operation (cont'd)

- Extraction well pumps and motors were replaced in EW-A5 in April 2011 and EW-A7 in August 2011. Circuit protector replaced in EW-A10 in August 2011.
- Malfunctioning extraction well pumps and motors removed from EW-C21, EW-D4, EW-D5, and EW-D6 in June 2011.
 - Pumps replaced in EW-D5 and EW-D6 to support future LTM events.
 - Pumps and risers removed from EW-C21 and EW-D4 staged in GWTP to clear wells for future sampling access.
- Carbon change-outs of LGAC (one 18,000-lb) and VGAC units (one 5,000-lb unit and two 1,500-lb units) performed in June 2011.



GWTP Operation (cont'd)

- GWTP and System repairs in August – September 2011 (Hurricane Irene):
 - 8/21/11 – System down due to multiple alarms resulting from instrumentation malfunction. Instrumentation contractor to the site to evaluate 8/24/11.
 - 8/26/11 – System shut down in preparation for hurricane.
 - 8/30/11 – Attempt to restart system post-hurricane unsuccessful. Damage to roof caused water damage to instrumentation cabinet / control panel in GWTP.
 - 9/2/11 and 9/8/11 – Roofing contractor on site to fix damage to roof and stop leaking.



GWTP Operation (cont'd)

- 9/6/11, 9/13/11, 9/19/11 – Instrumentation contractor onsite to continue repairs. Multiple connectors replaced, all issues addressed.
- 9/19/11 – System resumed operating normally.



Instrumentation cabinet (outside)



Instrumentation cabinet (inside) with communication connectors



GWTP Operation (cont'd)



Wet insulation above cabinet

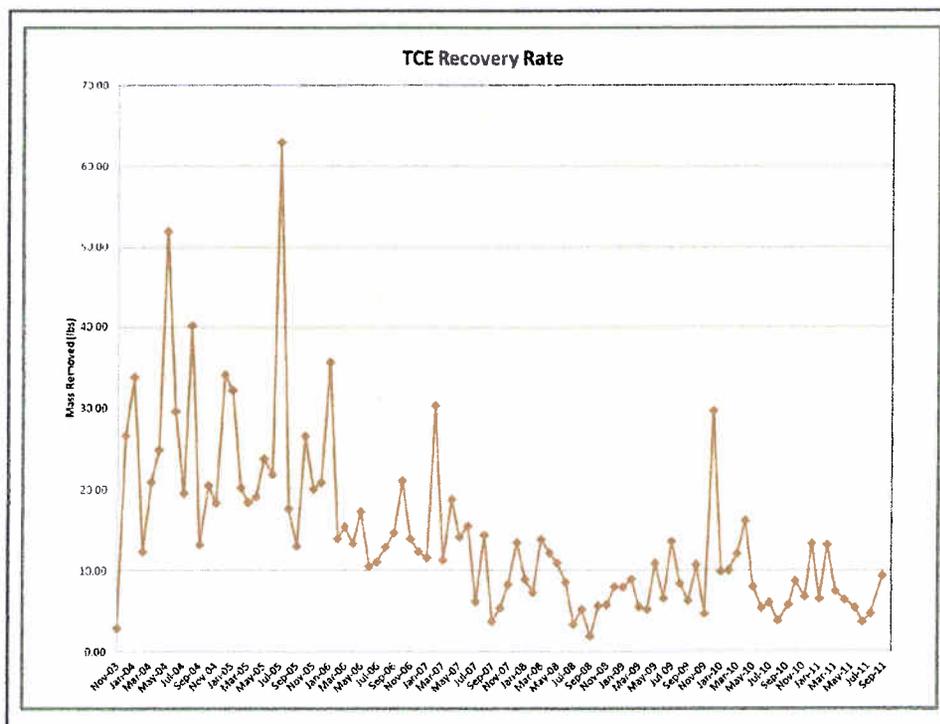


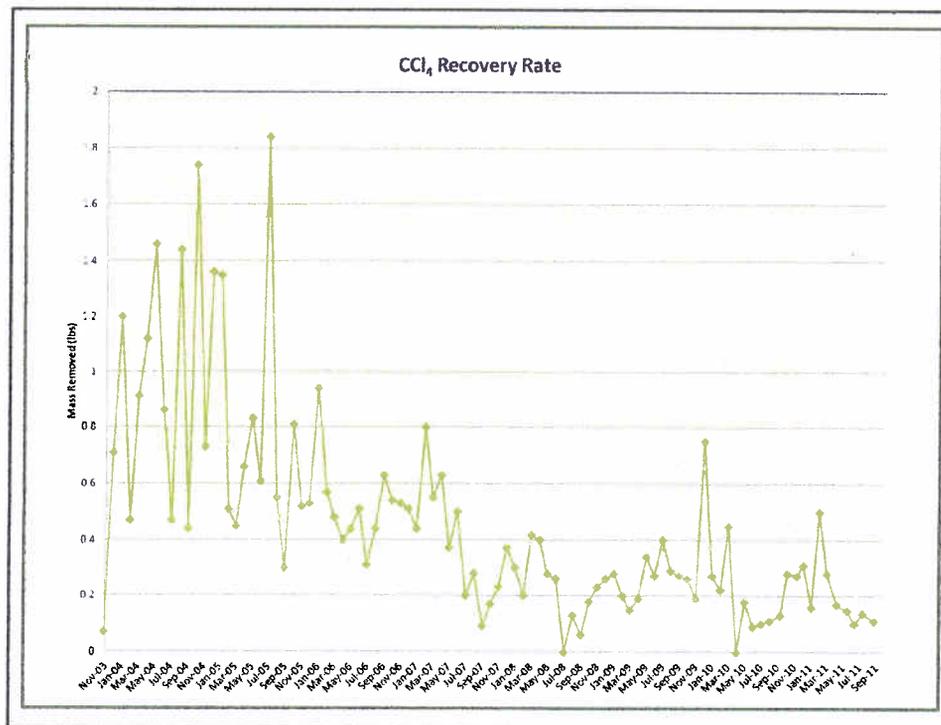
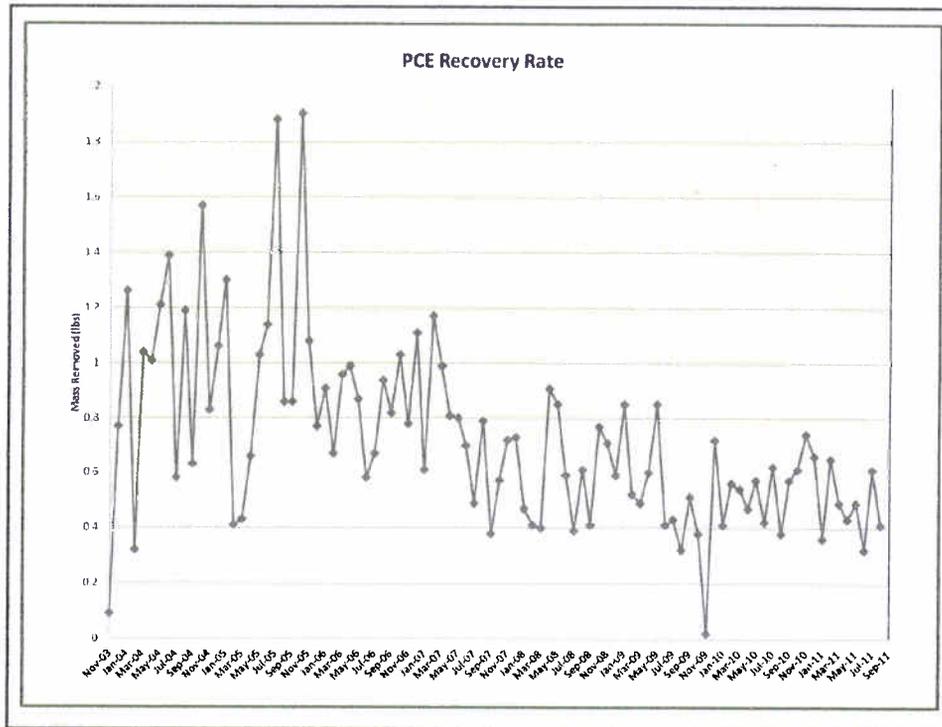
Tarp over cabinet



Mass Removal

- Cumulative dissolved-phase VOC recovery through August 2011 reporting period:
 - Trichloroethene (TCE) – 4,627.5 pounds (9.41 lbs in 8/11)
 - Tetrachloroethene (PCE) – 135.2 pounds (0.41 lbs in 8/11)
 - Carbon Tetrachloride (CCl₄) – 157.0 pounds (0.11 lbs in 8/11)
- Majority of VOC recovery is from Area A (9.41 lbs TCE, 0.32 lbs PCE, and 0.11 lbs CCl₄ in 8/11), with remainder of PCE recovery from Area C (0.09 lbs in 8/11).
- No recovery from Area D, as Area D extraction system is no longer in operation.





LTM Update

- Spring 2011 annual groundwater sampling performed in June 2011 (6/27/11 – 6/30/11) upon contract award:
 - Area A – 45 wells sampled, groundwater elevations from 66 wells
 - Area C – 12 wells sampled, groundwater elevations from 25 wells
 - Area D – 16 wells sampled, groundwater elevations from 37 wells
 - Draft LTM Report scheduled for October 2011

- Fall 2011 semi-annual groundwater sampling event scheduled for November 2011. LTM Report to follow.



LUC / SAP Update

- Annual Land Use Control (LUC) Inspection scheduled for November 2011. LUC Inspection Report to follow.

- Revision of Tetra Tech's 2010 SAP is in progress and is to be finalized prior to Fall 2011 sampling event.





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ATTACHMENT 4 TETRA TECH PRESENTATION

NAWC Warminster LTM Notes

Final Annual Performance Monitoring Report for FY 2010 (May/June 2010 round) submitted February 2011

- Comprehensive report, included trend analysis, performance monitoring objectives evaluations

Final Semi-annual Performance Monitoring Report for FY 2011 (November 2011 round) submitted August 2011

- Streamlined report format

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NAWC Warminster CERCLA Five-Year Review

- **Required for sites with remedial actions selected under CERCLA §121 at which:**
 - The remedy, as documented in Record of Decision (ROD) does not allow for unlimited use and unrestricted exposure (UU/UE)
 - The remedy is not yet complete
- **Purpose:** To evaluate the implementation and performance of a remedy to determine whether it is or will be protective of human health and the environment
- **This is the third Five-Year Review for NAWC Warminster**

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NAWC Warminster CERCLA Five-Year Review

- **Sites included in the Five-Year Review process:**
 - OU-1, 1A, and 1B: Interim/final remedies for Area A and Area B groundwater
 - OU-3: Area C groundwater
 - OU-4: Area D groundwater
 - OU-7: Sites 6 and 7 soil/wastes
 - OU-9: Area A soil, surface water, sediment
 - OU-10: Site 5 soil, surface water, sediment

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NAWC Warminster CERCLA Five-Year Review

Components of Five-Year Review:

- Base-wide introductory information
- Review of each site
 - To evaluate whether implementation and performance of remedy is protective of human health and the environment
- Base-wide protectiveness statement
- Information about next review

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NAWC Warminster CERCLA Five-Year Review

For Each Site:

- Introductory information
- Summary of remedial actions implemented per ROD
- Updated status on recommendations from last review
- Data review – summary of recent monitoring results
- Technical assessment
- Issues affecting current and future protectiveness
- Recommendations to address issues identified
- Protectiveness statement (overall conclusion about protectiveness)

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NAWC Warminster CERCLA Five-Year Review

Assessment of Remedy Protectiveness:

- **Is the remedy functioning as intended by ROD?**
 - Were components constructed as designed and are they working as intended (is progress in meeting cleanup goals generally as estimated in ROD?)
- **Any significant changes since last review that affect protectiveness of remedy?**
 - Assumptions in ROD
 - Regulatory requirements
 - Risk assessment methods
 - Site conditions
- **Any other information that could call into question protectiveness of remedy?**

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***NAWC Warminster
CERCLA Five-Year Review***

Protectiveness Statement:

- Is the remedy protective of human health and the environment?
- Have the intent and goals of the ROD been met or will they be met?

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***NAWC Warminster
CERCLA Five-Year Review***

Findings – OU-1A

- The remedy has been implemented as designed, is protective of human health and the environment, and is operating properly and successfully.
- No issues or deficiencies were identified.
- No current vapor intrusion issues, but additional vapor intrusion assessment is recommended to consider future land uses.

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NAWC Warminster CERCLA Five-Year Review

Findings – OU-3

- The remedy has been implemented as designed, is protective of human health and the environment, and is operating properly and successfully.
- No issues or deficiencies were identified.
- Additional vapor intrusion assessment is recommended.
- An ESD is recommended to document the cleanup level for PCE and remove thallium as a COC.

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NAWC Warminster CERCLA Five-Year Review

Findings – OU-4

- The remedy has been implemented as designed, is protective of human health and the environment, and is operating properly and successfully.
- No issues or deficiencies were identified.
- Additional vapor intrusion assessment is not necessary based on the results of the May 2011 evaluation.

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***NAWC Warminster
CERCLA Five-Year Review***

Findings – OU-7

- The remedy (excavation/capping) has been implemented as designed and is protective of human health and the environment.
- No issues or deficiencies were identified.

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***NAWC Warminster
CERCLA Five-Year Review***

Findings – OU-9

- The remedy (excavation/E&S controls) has been implemented as designed and is protective of human health and the environment.
- No issues or deficiencies were identified.

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NAWC Warminster CERCLA Five-Year Review

Findings – OU-10

- The remedy (sediment monitoring) has been implemented and is protective of human health and the environment.
- No issues were identified.
- All ROD requirements have been met and the site is acceptable for UU/UE, therefore no further Five-Year reviews are required for OU-10.

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NAWC Warminster CERCLA Five-Year Review

Basewide Protectiveness Statement:

- The remedies implemented are currently protective and upon completion will provide long-term protectiveness.
- The intents and goals of the RODs have been met or will be met.
- No issues were identified for any of the sites.

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NAWC Warminster CERCLA Five-Year Review

Current Status/Schedule:

- Draft Five-Year Review Report was submitted for regulatory review in August 2011
- Sign Final Five-Year Review Report in November 2011

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NAWC Warminster Annual Land Use Control Inspections

- **2011 Inspections targeted for October.**
- **Annual report targeted for January 2012.**

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