



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. 121

REFERENCE: CLEAN CTO NO. WE23

1. Meeting Date and Time: April 6, 2011, 9:45 AM to 10:50 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).

Comments were solicited on the January 5, 2011 RAB meeting minutes. No comments were offered by those in attendance and the meeting minutes were approved as-is.

Action items from the January 5, 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 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.



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Off-Site Investigations

Ms. Michelle Rudnick (CRC Industries) provided a status update regarding recent developments with the CRC Industries site investigation/cleanup work. CRC is planning to install two extraction wells in the next week, then will perform 48 hour aquifer tests the following week. The next steps beyond that are to be determined based on the testing results. Mr. Dale asked if the work was being done with PADEP approval – Ms. Rudnick and Mr. Tom Buterbaugh (PADEP hydrogeologist) indicated that was the case. Mr. Dave Fennimore (Earth Data, representing Warminster Municipal Authority) asked if municipal well WMA-26 would be monitored as part of the testing process – Ms. Rudnick indicated that it would be. Mr. Fennimore then asked if there was a plan developed for the testing. Ms. Rudnick stated that there is no formal plan, but agreed to provide one upon Mr. Fennimore's subsequent request. Mr. Toby Kessler (Gilmore and Associates, representing Warminster Township) asked if CRC planned to monitor other offsite wells – Ms. Rudnick said that there are no plans to do so. Mr. Kessler also asked about the planned pumping rates for the tests – Ms. Rudnick did not have that information but stated that she would check into it.

WMA Update

Mr. Fennimore stated that there are no new updates regarding the status for water supply wells WMA-26 or WMA-13. He also indicated that WMA had not yet been reimbursed for the new air stripping unit on WMA-26 and asked for an update. Mr. Dale and Mr. Bob Lewandowski (BRAC PMO) indicated that the payment process was in the hands of the Department of Justice. Mr. Fennimore pointed out that it has been a year now since the work was initiated and stated that anything Mr. Dale or Mr. Lewandowski could do to expedite the process would be appreciated.

Navy Housing Transfer Update

Mr. Lewandowski updated the RAB on the status of the Navy housing areas along Jacksonville Road and in Shenandoah Woods. A re-submittal of the Land Use Authority's Reuse Plan that was originally rejected by the Housing and Urban Development Authority (HUD) is anticipated in May.



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Mr. Lewandowski also indicated that the Navy is moving ahead with resurveying of the housing for asbestos and lead-based paint, since the previous survey was completed in the 1990-1991 time frame. A representative number of housing units (approximately 50 out of 199) will be resurveyed.

Treatment Plant Operations

Mr. Pat Schauble (H&S Environmental, Navy contractor) provided an update on treatment plant operations (see handout in Attachment3). Some notable points covered included:

- The treatment plant operated at 76 gpm in March, with most flow coming from Area A and the remainder from Area C.
- VOC removal via pumping totaled approximately 8 lbs in March, with over 7 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 3+ years.

LTM Update

Mr. Jeff Orient (Tetra Tech, Navy contractor) gave a brief update of recent LTM activities (see handout in Attachment 4). Some notable points covered include:

- The Annual Performance Monitoring Report for FY 2010 was finalized in February.
- The draft Semiannual Performance Monitoring Report for FY 2011 (November 2010 round of sampling) will be out for review this week.
- The Navy is in the process of procuring an O&M Contractor, the award is anticipated in June.

Mr. Dale indicated that the O&M Contractor procurement is for a one year time period, with 4 additional annual options. Because of the procurement schedule, the spring 2011 annual round of sampling will be delayed somewhat.



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Miscellaneous Topics and Issues – Action Items

Mr. Orient provided an overview of the CERCLA Five-Year Review that is currently underway (see Attachment 4). Some notable points covered include:

- The review will cover Operable Units 1/1A/1B, 3, 4, 7, 9, and 10.
- A draft report submittal is anticipated in July 2011, with a final report scheduled for November 2011.

Mr. Orient asked Mr. Dennis Orenshaw (U.S. EPA RPM) whether vapor intrusion (VI) evaluations are required each time a Five Year Review is performed. Mr. Orenshaw indicated that it is required for each review, but the scope/detail can be reduced if conditions haven't changed significantly from the prior review. Mr. Lewandowski asked whether new VI guidance has been recently issued. Ms. Kathy Davies (U.S. EPA hydrogeologist) indicated that new guidance is being developed but has not yet been released. She suggested checking the EPA website for a 4-page summary of anticipated changes to the guidance, including moving away from using soil gas as a tool for evaluating VI. Mr. Kessler asked what was planned for the VI assessment – Mr. Dale indicated that the Navy is looking at the most recent shallow groundwater data available and will meet with and develop a path forward with EPA and DEP. Mr. Lewandowski stressed that signature of the document by November 2011 is required - Mr. Orenshaw noted that EPA attorneys will likely want to review it. Mr. Orient asked whether anyone at the RAB was interested in filling out a Five Year Review questionnaire to provide input – several RAB members volunteered to do so and the questionnaires were distributed.

Mr. Ron Sloto (USGS hydrogeologist) provided a brief update of the ongoing water level study that the USGS is performing in the northwestern portion of Area A (see Attachment 5). Eight wells are being monitored as shown on the figure provided. Water level recoveries from a one-day extraction system shutdown were evident in the data collected to date. The study is planned to run through the duration of the CRC extraction well installation/testing program.



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Mr. Fennimore brought up some significant concerns regarding CRC's upcoming extraction well installation testing activities and how they could impact the municipal authority's well WMA-26. He pointed out that the Navy had developed very detailed procedures and safeguards for the extraction well drilling/testing that was performed in Area A, and he is concerned that CRC is not going to the same level of planning or taking the same precautions. He pointed out the PADEP should be requiring this of CRC. Mr. Buterbaugh stated that there has been some planning, and Ms. Rudnick confirmed that their consultant (Langan) has developed an internal plan for the technical approach. Mr. Fennimore pointed out that the plan has not been shared with WMA (or other interested parties at the RAB). There was an extended follow-on discussion of the Navy procedures that were developed and their applicability for the upcoming CRC work. Mr. Orient volunteered to check his project files for the procedures and send out any pertinent information. He also briefly described some of the procedures that the Navy used (frequent monitoring of nearby wells, installation of a "sentry" extraction well before drilling near the source area, DNAPL screening/testing).

Mr. Fennimore expressed frustration that he has asked for details r.e. the planned work in the past and hasn't gotten any response. He endorsed the ongoing USGS work but felt that the CRC consultant should be at the RAB meeting to describe their approach and hear the concerns being voiced. Ms. Rudnick responded by saying that the drilling will be postponed and a meeting will be set up to go over the plans and ensure that everyone is comfortable with the planned approach.

Action Items that will be carried through to the next RAB 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.
- The USGS is to provide an update r.e. their Area A water level study.



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Next Meeting Date

The next RAB meeting date was set for October 12, 2011 at 9:30 AM in the WMA Board Room. The meeting was adjourned at approximately 10:50 AM.



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ATTACHMENT 1 ATTENDANCE LIST



FORMER NAVAL AIR WARFARE CENTER WARMINSTER

Restoration Advisory Board (RAB) Meeting Minutes

**ATTACHMENT 2
MEETING AGENDA**



AGENDA

FORMER NAWC WARMINSTER

Technical Subcommittee/Restoration Advisory Board (RAB) Meeting

Date: 06 APRIL 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 Wells #13 and #26 treatment upgrades
- **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**
 - Fall 2010 sampling round status
 - Plans for Spring 2011 performance monitoring
- **Miscellaneous Topics and Issues – Action Items**
 - Five-Year Review status
 - USGS water level study

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 were identified as a result of the January 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 treatment systems 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 Gibsón 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
6 April 2011

Presented by



Presentation Agenda

- GWTP Status
 - Plant Operation
 - VOC Removal Evaluation



GWTP Operation

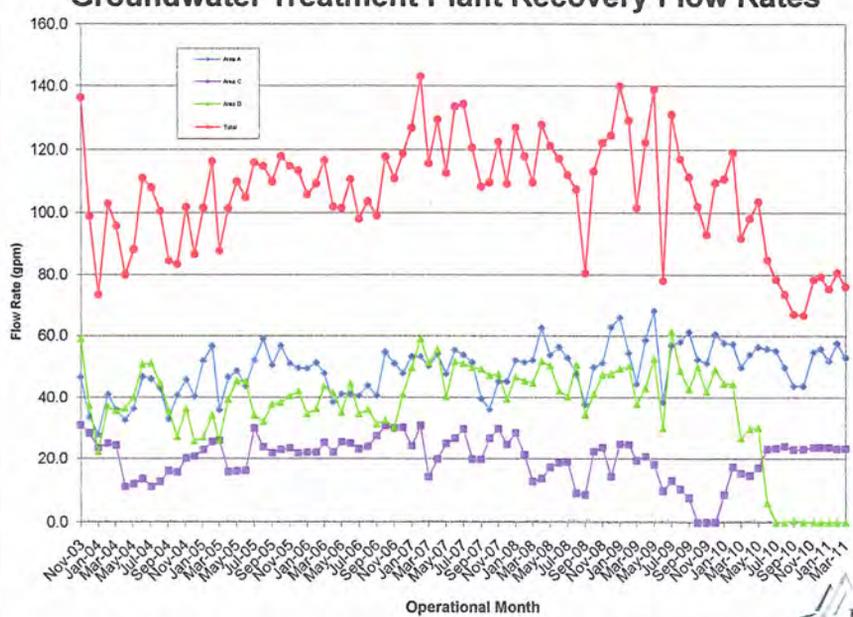
- Average flowrates for March 2011:
 - 53.0 gpm from Area A
 - 23.2 gpm from Area C
 - 0.0 gpm from Area D
 - 76.2 gpm overall

- 708,743,645 gallons treated through March 2011

- Previously operating Area D wells were turned off in March 2010 (D6, D7, and D8) and June 2010 (D1, D2, and D3 [delayed until C18 was repaired and back on-line]) and remain off per the TEG's recommendation.



Groundwater Treatment Plant Recovery Flow Rates



GWTP Operation (cont'd)

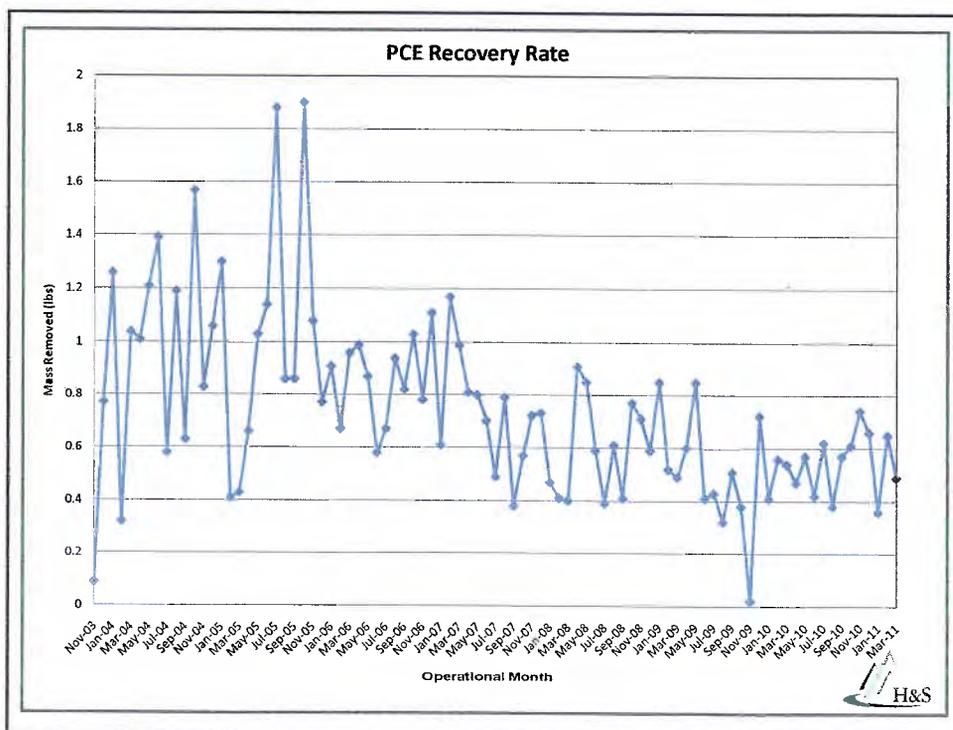
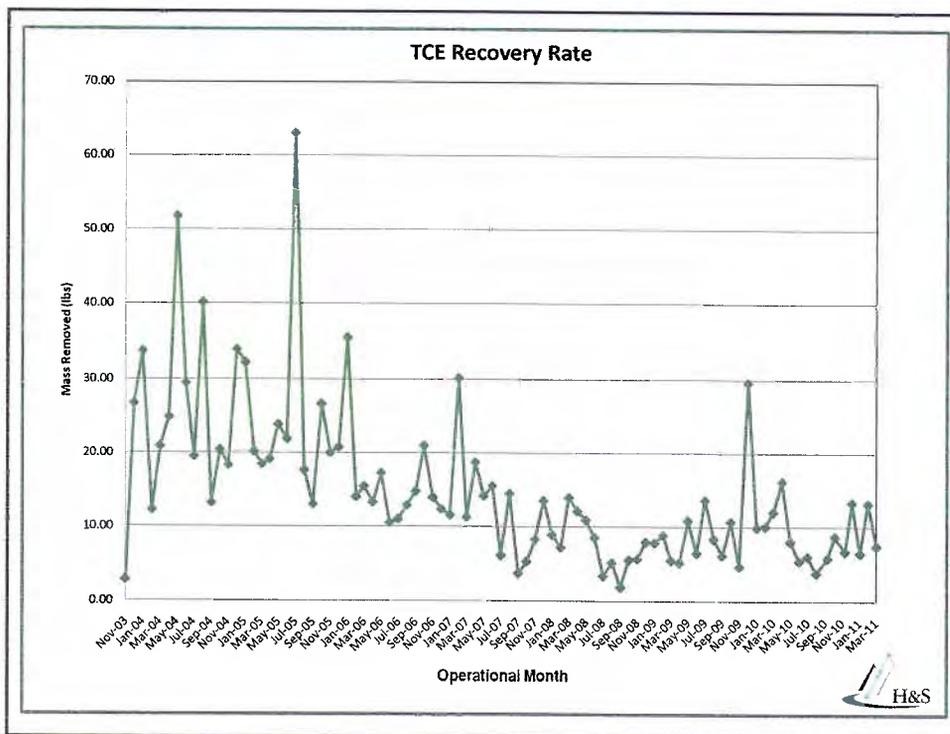
- Extraction well pumps and motors were replaced in EW-A4 in January 2011, EW-A7 in March 2011, and EW-A12 in April 2011.
- Air stripper pump P-21 was repaired in February 2011.
- Air stripper trays were pulled and cleaned in February 2011 to increase efficiency of the air stripper. Gaskets between the trays were found to be deteriorating and were replaced in March 2011.
- No other maintenance items of note were performed during this quarter.
- Upcoming maintenance activities include change-out of both LGAC and VGAC – removal and replacement of spent carbon in units.

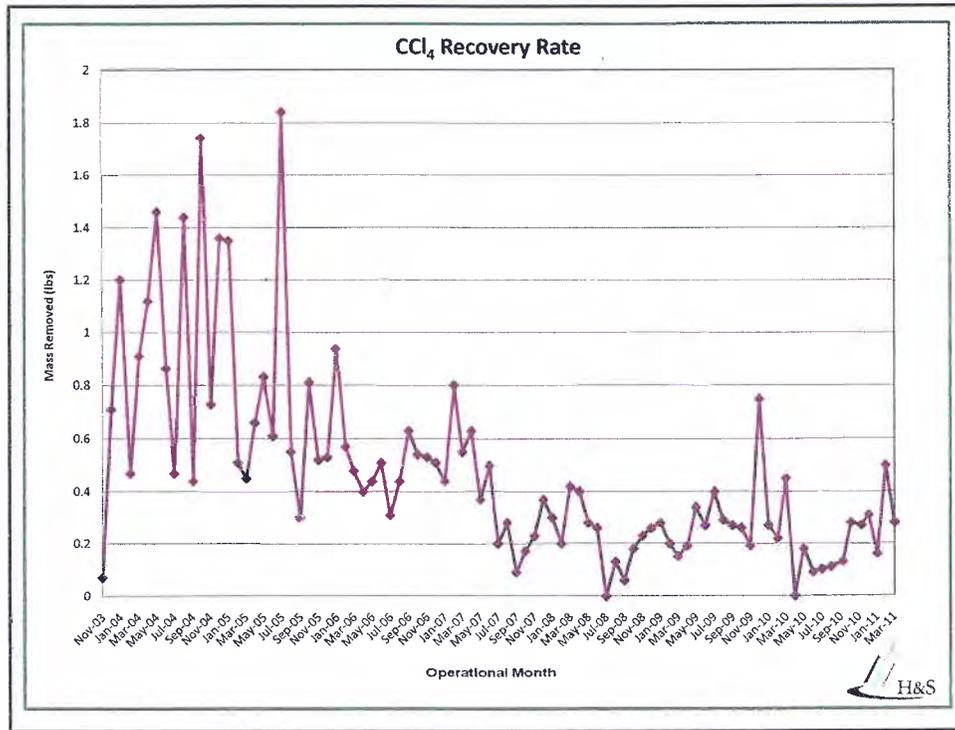


Mass Removal

- Cumulative dissolved-phase VOC recovery through March 2011 reporting period:
 - Trichloroethene (TCE) – 4,597.8 pounds (7.49 lbs in 3/11)
 - Tetrachloroethene (PCE) – 132.9 pounds (0.49 lbs in 3/11)
 - Carbon Tetrachloride (CCl₄) – 156.3 pounds (0.28 lbs in 3/11)
- Majority of VOC recovery is from Area A (7.49 lbs TCE, 0.38 lbs PCE, and 0.28 lbs CCl₄ in 3/11), with remainder of PCE recovery from Area C (0.11 lbs in 3/11).
- No recovery from Area D, as Area D extraction system is no longer in operation.









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ATTACHMENT 4 TETRA TECH PRESENTATION

NAWC Warminster LTM Notes

Final Annual Performance Monitoring Report for FY 2010 submitted February 26

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

Semi-annual round of sampling for FY 2011 performed in November 2010

- Area A: 24 wells sampled
- Area C: 11 wells sampled
- Area D: 9 wells sampled

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NAWC Warminster LTM Notes

Fall 2010 Semi-annual Performance Monitoring Report currently in Navy review

Draft semi-annual report release anticipated in April 2011

- Streamlined format for semi-annual report

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NAWC Warminster LTM Notes

The Navy is currently procuring a new LTM/O&M contractor – will take over extraction/treatment plant operation and LTM sampling.

- **Anticipated award by June 2011**

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NAWC Warminster CERCLA Five-Year Review

- **Required for sites with remedial actions selected under CERCLA §121 at which:**
 - Sites where the remedy, as documented in Record of Decision (ROD) does not allow for unlimited use and unrestricted exposure (UU/UE)
 - Sites where 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

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NAWC Warminster CERCLA Five-Year Review

- **Initial triggering date for five-year reviews is date when first remedial action begins that will leave hazardous substances, pollutants, or contaminants on site at levels that do not allow for UU/UE:**
 - At the former NAWC Warminster, the requirement was triggered by the start of remedial work at OU-1 (Area A)
 - After the first review, triggering date for subsequent reviews is signature date of previous Five-Year Review Report
 - This will be the third Five-Year Review for NAWC Warminster

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NAWC Warminster CERCLA Five-Year Review

- **Sites to be 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:

- Activity-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 in effect 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

- **Current Status/Schedule:**
- Draft Five-Year Review Report preparation underway
 - Currently updating prior Vapor Intrusion assessment as part of the process
- Draft report submittal targeted for July 2011
- Submittal of Final Five-Year Review Report by November 2011

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ATTACHMENT 5 USGS WATER LEVEL PRESENTATION

