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By K. Mitchell at 10:56 am, Sep 23, 2015



Department of Energy

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AUG 04 2015

Mr. R. Bruce Scott, Commissioner
Kentucky Department for Environmental Protection
Division of Waste Management
200 Fair Oaks Lane, 2nd Floor
Frankfort, Kentucky 40601

PPPO-02-3079083-15

Ms. Heather McTeer Toney, Regional Administrator
U.S. Environmental Protection Agency, Region 4
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, Georgia 30303-8960

Dear Mr. Scott and Ms. Toney:

**PADUCAH FEDERAL FACILITY AGREEMENT – TRANSMITTAL OF THE
MEMORANDUM OF AGREEMENT FOR RESOLUTION OF FORMAL DISPUTE OF
THE EXPLANATION OF SIGNIFICANT DIFFERENCES AND REMEDIAL ACTION
WORK PLAN FOR THE NORTHEAST PLUME OPTIMIZATION**

Enclosed please find the signed Memorandum of Agreement for Resolution of Formal Dispute of the *Explanation of Significant Differences to the Record of Decision for the Interim Remedial Action of the Northeast Plume at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky* (DOE/LX/07-1291&D2), and *Remedial Action Work Plan for Optimization of the Northeast Plume Interim Remedial Action at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky* (DOE/LX/07-1280&D2). The Senior Executive Committee has successfully resolved the formal dispute and reached a unanimous decision.

It is important for the Federal Facility Agreement parties to find common ground and build a collaborative working relationship, so the Paducah cleanup can move forward. The U.S. Department of Energy appreciates your willingness and effort to reach an agreeable resolution of this matter and bring this dispute to closure in order to continue our progress on Northeast Plume optimization.

ENV 1.A-00934

If you have any questions or require additional information, please contact me at (859) 219-4001 or Jennifer Woodard of my staff at (270) 441-6820.

Sincerely,



William E. Murphie
Manager
Portsmouth/Paducah Project Office

Enclosure:

Memorandum of Agreement for Resolution

e-copy w/enclosure:

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MEMORANDUM OF AGREEMENT FOR RESOLUTION
of Formal Dispute of the Explanation of Significant Differences to the Record of Decision for
the Interim Remedial Action of the Northeast Plume at the Paducah Gaseous Diffusion Plant,
Paducah, Kentucky (DOE/LX/07-1291&D2), and Remedial Action Work Plan for Optimization
of the Northeast Plume Interim Remedial Action at the Paducah Gaseous Diffusion Plant,
Paducah, Kentucky (DOE/LX/07-1280&D2)

The undersigned agree that the Formal Dispute invoked by the U.S. Department of Energy (DOE) in the letter to the U.S. Environmental Protection Agency (EPA) and the Kentucky Department for Environmental Protection (KDEP), dated February 25, 2015, is hereby resolved and the Federal Facility Agreement (FFA) parties' agreement includes the conditions detailed below. The resolution documents the Parties' agreement that an optimization of the existing Northeast (NE) Plume Interim Action (namely relocation of the two extraction wells up-gradient and operation of two treatment units) is warranted to increase trichloroethylene (TCE) mass removal and to enhance control of NE Plume migration at the eastern edge of the PGDP industrial facility. The Parties have reached consensus that the optimized extraction wells installed under the NE Plume Explanation of Significant Differences (ESD) should not cause or contribute to the undesired migration of Technetium-99 (Tc-99) contamination from the source area(s) (e.g., C-400 Building and Northwest (NW) Plume) and that actions (as further described below) may be undertaken to prevent any undesirable expansion of Tc-99 and TCE within the NE Plume.

1. The NE Plume ESD and Remedial Action Work Plan (RAWP) will be revised to include language similar to that found in the 1995 IROD and Draft Final (D2) RAWP for the NE Plume stating that pumping at the optimized extraction wells may result in changes to groundwater flow direction that may impact contaminant (i.e. TCE and/or Tc-99) migration from source areas (e.g. C-400 Building). The NE Plume ESD and RAWP will state that the modified NE Plume interim remedial action will include installation (at a minimum) of five new RGA monitoring wells in a north-south transect approximately 600 feet east of C-400 Building (exact locations to be determined by the FFA parties as part of the finalization of the RAWP). These transect monitoring wells will be used to assess the impact of groundwater extraction wells on contaminant migration from source areas, including impacts to the groundwater divide east of C-400 Building.

2. The transect monitoring wells will be monitored for 4 consecutive quarters to establish baseline contaminant concentrations before the two newly relocated extraction wells begin operation. The anticipated contaminant concentrations of Tc-99 and TCE in the transect monitoring wells are expected to be no higher than 200 pCi/L and 600 ug/L, respectively. If baseline contaminant concentrations in any of the transect monitoring wells during the initial quarterly sampling are detected at twice the anticipated contaminant concentrations, then the FFA parties agree to temporarily suspend start-up of the extraction wells until the parties meet to evaluate the identified discrepancy, its potential impact on the NW Plume source actions and the planned NE Plume optimization project. The FFA parties will conduct an evaluation of the planned action and develop recommendations and a schedule for modifications of the optimized action to address the unanticipated contaminant concentrations. In the event the FFA parties

decide that significant changes to the scope of the action under the ESD are necessary to continue with the optimization, then DOE shall continue implementing the current NE Plume Interim Remedial Action (Interim ROD 1995) and shall propose modification to the Interim Remedial Action through another ESD and RAWP Addendum. The PGDP Site Management Plan will be updated to reflect establishment of any enforceable milestones under the FFA such as due dates for the aforementioned Primary documents.

3. Once the two optimized extraction wells are online, contaminant concentrations in samples from the transect wells will be collected on a quarterly basis and reported to EPA and KDEP. If contaminant concentrations in any transect well's quarterly samples are determined to be increasing and may double above the established baseline within a year of the quarterly samples showing an increase, then potential changes in groundwater flow or source impacts (e.g. rising contaminant concentrations in the NE Plume, source migration, etc.) will be further examined and the FFA parties will consider adjustments (e.g. adjusting extraction well pumping rates) for the optimized NE Plume interim action to minimize these potential impacts. These adjustments are considered within the scope of the optimization under the ESD.

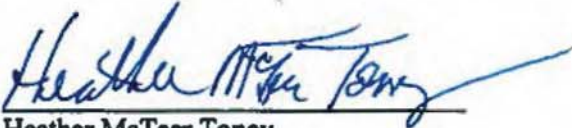
4. If the measures taken by the FFA parties (e.g. adjusting extraction well pumping rates) do not result in decreased or stabilized concentrations at the transect monitoring wells, or if such adjustments reduce the effectiveness of the optimized extraction wells or if Tc-99 concentrations continue to increase and are detected at twice their baseline concentration in any one (or more) of the transect wells for two consecutive quarters, then DOE must notify EPA and KDEP within 30 days of receiving sampling results or one of the other aforementioned conditions occurring. After EPA and KDEP have been notified, the FFA parties will discuss and evaluate options to address continued increase of groundwater concentrations and plume expansion. Within 1 year from the notification, DOE shall submit an ESD and RAWP Addendum as the Primary documents to undertake modification to the existing CERCLA Interim Remedial Action pursuant to the FFA to address the contaminated groundwater plume expansion and to prevent Tc-99 at levels above the MCL from further being pulled within the NE Plume.

The FFA parties will discuss whether to temporarily suspend operation of one or both of the extraction wells while determining the modifications to the CERCLA Interim Remedial Action to prevent further plume expansion. If FFA parties decide to implement a modification to the Interim Remedial Action to address the NE Plume contamination (including the expansion), then depending on the scope of the modifications it is possible that the FFA parties will decide to shut-down the optimized pump and treat system in part or in its entirety. If a determination is made to shut down the optimized pump and treat system either before a modification to the Interim Remedial Action or as part of a modification to the Interim Action, then DOE shall reinstate implementation of the NE Plume Interim Remedial Action (Interim ROD 1995). DOE shall keep the extraction wells associated with the NE Plume Interim Remedial Action in good working condition until the FFA parties agree the maintenance is no longer necessary.


5. The Nuclear Regulatory Commission regulation [10 CFR Part 20, Appendix B, 902 KAR 100:019 Section 44(7)(a)] specifying a facility-wide annual effluent limit of 60,000 pCi/L for discharges of Tc-99 into surface water that was included in the D2 NE Plume ESD ARARs table will not be included as an ARAR in the D2 (Rev.1) NE Plume ESD.

6. This dispute resolution agreement by the SEC (including the terms and conditions described above) resolves the formal dispute invoked by DOE and the EPA and Kentucky Conditions for approval of the NE Plume ESD and RAWP (Reference November 12, 2013 letter and November 13, 2013 letter respectively) are superseded by this dispute resolution agreement's terms and conditions. A D2 (Rev.1) NE Plume ESD and RAWP incorporating the terms and conditions of this SEC dispute resolution agreement will be submitted to EPA and KY for review/approval within 30 days of the date of the last FFA party signature on this agreement.

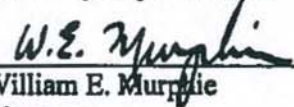
Nothing in this Memorandum of Agreement modifies the FFA Conditions (e.g. related to review and comment on Primary Documents, Extension Requests, and Dispute Resolution) except as specifically stated above. Failure to abide by the terms of this Agreement may result in one or more of the parties taking any action authorized under the FFA.


Heather McTeer Toney
Regional Administrator
U.S. Environmental Protection Agency, Region 4

JUL 31 2015
Date


R. Bruce Scott
Commissioner
Kentucky Department of Environmental Protection

7/30/15
Date


William E. Murphy
Manager
U.S. Department of Energy,
Portsmouth/Paducah Project Office

7/28/15
Date