



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

February 25, 2014

4WD-FFB

Rachel Blumenfeld
United States Department of Energy
Portsmouth/Paducah Project Site Office
P.O. Box 1410
Paducah, Kentucky 42002

RE: EPA Modification Request to the Remedial Design Work Plan for SWMUs 1, 211-A and 211-B Volatile Organic Compound Sources for the Southwest Groundwater Plume at the Paducah Gaseous Diffusion Plant, Paducah, KY (DOE/LX/07-1268&D2/R2)

Dear Ms. Blumenfeld,

In accordance with Section XIX, Additional Work, of the Paducah Gaseous Diffusion Plant Federal Facility Agreement, the U.S. Environmental Protection Agency (EPA) is requesting modification to the *Remedial Design Work Plan for SWMUs 1, 211-A and 211-B Volatile Organic Compound Sources for the Southwest Groundwater Plume at the Paducah Gaseous Diffusion Plant, Paducah, KY (DOE/LX/07-1268&D2/R2)* (RDWP). Modification of the RDWP is requested so that additional work may be conducted at SWMU 211-A and SWMU 211-B. Specifically EPA is requesting that groundwater data be collected from additional monitoring wells before SWMU 211-A and 211-B remedies are selected as defined in the *Record of Decision for SWMU 1, 211-A, 211-B, and Part of 102 Volatile Organic Compound Sources for the Southwest Groundwater Plume at the Paducah Gaseous Diffusion Plant, Paducah, KY (DOE/LX/07-0365&D2/R2)* (SWPS ROD). The remedial options for SWMU 211-A and SWMU 211-B are: Alternative 2 (long-term monitoring with interim land use controls (LUCs)) or Alternative 8 (enhanced *in-situ* bioremediation with interim LUCs).

On July 10, 2013 DOE submitted the *Final Characterization Notification for SWMU 211-A and SWMU 211-B at the Paducah Gaseous Diffusion Plant, Paducah, KY*

(Notification Letter). DOE's Notification Letter summarized data collected as part of the *Final Characterization Report for SWMU 211-A and SWMU 211-B Volatile Organic Compound Sources for the Southwest Groundwater Plume at the Paducah Gaseous Diffusion Plant, Paducah, KY (DOE/LX/07-1288&D2)* (FCR) which presented the results of the remedial design support investigation (RDSI). The RDSI plan is included as an appendix in the RDWP. Based on historical and RDSI data, DOE calculated a reduced volume and mass of chlorinated solvents present at SWMU 211 than was presented in the ROD, and as a result estimated a shortened time-frame for meeting the remedial goals. Based on the calculations, DOE recommended selection of Alternative 2, long-term monitoring with interim LUCs, as the final remedy for SWMUs 211-A and 211-B.

EPA stated in the January 13, 2014 response letter to DOE's Notification Letter that sources may be underestimated by sampling only soils which indicate concentrations at discrete points. Groundwater samples reflect cumulative impacts from source areas, and are necessary along with soil samples, for estimating contaminant volume and mass. Several UCRS monitoring wells were sampled as part of the investigation. However, the monitoring wells are located up-gradient and side-gradient rather than down-gradient of the source areas. No monitoring wells are located in the western portion of SWMU 211-A where high TCE concentrations were detected in soils. Only one well monitors RGA groundwater in the area of SWMU 211 (MW-203). Additional RGA monitoring wells should be installed at SWMU 211-A and 211-B so that an informed decision regarding the impact of the source areas to groundwater can be determined. This data can be used to refine the mass calculation and also determine source impact to RGA groundwater. The requested groundwater monitoring locations are necessary as part of the remedy regardless of which remedy is selected. As stated in the SWPS ROD, "Groundwater sampling and testing will be performed prior to, during, and following the remediation to determine how groundwater contaminant levels are changing and if the treatment is having an impact on the RGA groundwater concentration."

The additional work necessary to determine impact to groundwater before remedy selection is to install RGA monitoring wells at a minimum of 5 locations:

- one location upgradient of SWMU 211,
- one location in the high soil concentration area at SWMU 211-B,
- two locations at SWMU 211-A, one in each of the high soil concentration areas,
- one location down gradient (west-northwest) of the source areas at SWMU 211.

Vertical profiling of the RGA in the area of SWMU 211 should be completed to determine the depth interval(s) that should be monitored. It may be necessary to monitor more than one zone (upper, middle, and/or lower RGA) depending on results of the evaluation.

Contaminant concentration data collected from the wells can be used to establish baseline groundwater concentrations in the RGA down-gradient of the source areas before the remedy is selected. Evaluation of down-gradient and up-gradient groundwater data along with existing soil data can be utilized to determine whether chlorinated solvent sources are significant to warrant active remediation (Alternative 8) or that long-term monitoring with LUCs is sufficient

(Alternative 2). The additional groundwater data will support the basis for the final selected remedy.

If you have any questions or require additional information, please contact me at (404) 562-8513.

Sincerely,

Jennifer Tufts
Remedial Project Manager
Federal Facilities Branch

ec: Todd Mullins, KDWM – Frankfort, Todd.Mullins@ky.gov
David Dollins, DOE – Paducah, Dave.Dollins@lex.doe.gov
Jeff Carman, LATAKY – Kevil, Jeff.carman@lataky.com