



ENERGY AND ENVIRONMENT CABINET

Steven L. Beshear
Governor

Department for Environmental Protection
Division of Waste Management
200 Fair Oaks, 2nd Floor
Frankfort, Kentucky 40601-1190
www.kentucky.gov

Leonard K. Peters
Secretary

December 16, 2013

Ms. Rachel Blumenfeld
US Department of Energy
Portsmouth/Paducah Project Site Office
PO Box 1410
Paducah, Kentucky 42002

RE: Submittal of Comments to the Five-Year Review of Remedial Actions at the Paducah Gaseous Diffusion Plant (DOE/LX/07-1289&D1)
Paducah Gaseous Diffusion Plant
Paducah, McCracken County, Kentucky
KY8-890-008-982

Ms. Blumenfeld:

The Kentucky Division of Waste Management (Division) is in receipt of the *Five-Year Review of Remedial Actions at the Paducah Gaseous Diffusion Plant*, dated August 29, 2013. The Division has completed its review of the subject document and is hereby submitting comments as an attachment. Please address these comments in a D2 version of the document.

If you have any questions or require additional information, please contact Mike Guffey at (502) 564-6716, or e-mail at mike.guffey@ky.gov.

Sincerely,



April J. Webb, P.E., Manager
Hazardous Waste Branch

AJW:tm:lww:mg

ec: Jennifer Tufts, US EPA - Region 4; Tufts.Jennifer@epa.gov
Jon Richards, US EPA – Region 4; Richards.jon@epa.gov
William E. Murphie, DOE – Paducah; William.murphie@lex.doe.gov
Jennifer Woodard, DOE – Paducah; Jennifer.Woodard@lex.doe.gov
Rich Bonczek, DOE – Lexington; Rich.Bonczek@lex.doe.gov
Lisa Santoro, DOE – Paducah; lisa.santoro@lex.doe.gov
Kim Crenshaw, DOE – Paducah; kim.crenshaw@lex.doe.gov
Mark Duff, LATAKY – Kevil; mark.duff@lataky.com
Myrna Redfield, LATAKY – Kevil; Myrna.Redfield@lataky.com
John Wesley Morgan, LATAKY – Kevil; John.Morgan@lataky.com
Jana White, LATAKY – Kevil; jana.white@lataky.com
Darla Bowen, LATAKY – Kevil; darla.bowen@lataky.com
Jessica Lemus, LATAKY – Kevil; Jessica.lemus@lataky.com
Tracey Duncan, P2S – Paducah; tracey.duncan@lex.doe.gov
Rebecca Wren, P2S – Paducah; Rebecca.Wren@lex.doe.gov
Christa Dailey, P2S – Paducah; christa.dailey@lex.doe.gov
Bethany Jones, P2S – Paducah; Bethany.jones@lex.doe.gov
Jim Ethridge, CAB – Paducah; jim@pgdpcab.org
Matt McKinley, CHFS – Frankfort; matthewW.mckinley@ky.gov
Stephanie Brock, CHFS – Frankfort; StephanieC.Brock@ky.gov
Nathan Garner, CHFS – Frankfort; Nathan.garner@ky.gov
Todd Mullins, KDWM – Frankfort; Todd.Mullins@ky.gov
Jeff Gibson, KDWM – Frankfort; Jeffrey.Gibson@ky.gov
Gaye Brewer, KDWM – Paducah; gaye.brewer@ky.gov
Leo Williamson, KDWM – Frankfort; Leo.Williamson@ky.gov

Attachment: Kentucky Comments

DWM File: #730, Graybar ARM20130008 (2013 Five-Year Review Report)

**Kentucky Division of Waste Management Comments Pertaining to the
Five-Year Review of Remedial Actions at the Paducah Gaseous Diffusion Plant
Paducah Gaseous Diffusion Plant, Paducah, Kentucky**

DOE/LX/07-1289&D1

November 7, 2013

General Comment:

Per EPA Guidance (A Guide to Preparing Superfund Proposed Plans, Records of Decisions,...), Interim Action Decisions should be documented as follows: *This interim action is protective of human health and the environment in the short term and is intended to provide adequate protection until a final ROD is signed:...* Protectiveness, not so-qualified, cannot be claimed prior to a final decision. Revise the document accordingly.

Specific Comments:

1. Executive Summary; Pg. xx-xxivi; Protectiveness Statements:

Since the Operable Units are all Interim Remedial Actions to be addressed later by Final Actions, protectiveness in the short term, in some cases in conjunction with other actions (e.g. NW Plume and Water Policy) would be appropriate. Determinations of protectiveness in the long term would be based on achievement of final cleanup goals and compliance with any and all ARARS for the associated final action (e.g. Dissolved Phase Plumes). Kentucky views any assumption and/or discussion otherwise as pre-decisional. Revise all Protectiveness Statements accordingly.

2. Executive Summary; Pg. xx-xxivi; Protectiveness Statements:

Interim Remedial Actions (and their protectiveness in the short term) should be presented with reference to a forthcoming and corresponding final action:

<u>Interim Remedial</u>	<u>Final Decision</u>
GWOU: NW Plume	Dissolved Phase Plumes OU
GWOU: NE Plume	Dissolved Phase Plumes OU
GWOU: Water Policy	Dissolved Phase Plumes OU
GWOU: C-400	C-400 Residuals
SWOU: N-S DD Source Control	SWOU
SWOU: N-S DD Sections 1&2	SWOU
SWOU: ICM	SWOU
SWOU: On-Site Sediment	SWOU
BGOU: C-749 (SWMU 2)	BGOU (SWMUs 2&3) Final Action

Alternatively, please move the protectiveness statements to the individual chapters where the context of final action (final cleanup levels, ARARs) is properly discussed.

3. Executive Summary; Pg. xxi; GWOU, Water Policy Protectiveness Statement:

This statement is incorrect as the Water Policy does not “prohibit” anything. There is no legally enforceable mechanism to prohibit anyone living in the Water Policy box from using their well water. Suggest using the words “protect against” instead of the word “prohibit.”

4. Executive Summary; Pg. xxi; GWOU, Sitewide Protectiveness Statement:

This statement should be removed from the report since the site has not reached construction completion. See Exhibit 4-7 of EPA 5 YR guidance.

5. Section 3.2, Pg. 3-4, 3rd Paragraph:

The paragraph refers to groundwater-bearing zones at the PGDP, but fails to mention the Terrace Gravel Flow System. This should not be discounted, since it affects seep discharges from the K-Landfill. Please add a reference to the Terrace Gravel Flow System to the paragraph.

6. Section 5, Pg. 5-1, 4th Paragraph:

The paragraph refers to Figure 5.2 which is a comparison of the Northwest Plume as interpreted in 1994 and 2010. Kentucky suggests that a map slightly more recent than the 1994 interpretation is used, since the interpretation presented does not depict the plume centroid as extending as far north as the north well field. Otherwise, the reader will not understand why extraction wells were originally placed this far north. It is also suggested that the 2012 plume interpretation replace the 2010 version which is now known to incorrectly depict a lack of TCE concentrations greater than 100 ppb between the northwest corner fence line and MW 454. There is, at present, no evidence to suggest that TCE concentrations between the northwest corner fence line and MW 454 are less than 100 ppb.

7. Section 5.2, Pg. 5-5, Bullet #3:

The bullet fails to note that the NWPGS also includes activated carbon treatment units. This should be noted within the bullet.

8. Section 5.4, Pg. 5-7, 1st Paragraph; Pg. 5-9, 2nd Paragraph & Pg. 5-15 2nd Paragraph:

It is certainly true that contaminant concentrations in the northwest plume have dropped from historic levels. However, DOE needs to be careful that the text does not lead the reader to believe that contaminant concentrations have declined since the start-up of the new extraction wells. Some of the wells have decreased (MW 489 and MW 490), while some have increased (MW 491 and MW 492). In most, contaminant concentrations have remained relatively constant. Please revise the text in the locations noted to clarify this issue.

9. Section 5.4, Pg. 5-15, 2nd Paragraph:

This paragraph would seem to imply that operation of the newly optimized extraction wells has had an effect at the northern extent of the high concentration portion of the plume and that TCE concentrations to the north have decreased as a result. While it is agreed that there has perhaps been some decline in TCE levels at MW 490 over a three-year period, in general there appears to have been little change. Given that it would take about four years (assuming a 3 ft/day groundwater velocity) for effects due to pumping at the southern extraction well field to be seen this far downgradient, it seems premature to assign credit for downgradient changes to the new extraction well field. It is suggested that the text be modified accordingly to reflect this reality.

10. Section 6.4, Pg. 6-6, 3rd Paragraph:

The second sentence fails to identify what was used to characterize the Northeast Plume centroid. Was this the Membrane Interface Probe? Please correct.

11. Section 6.4, Pg. 6-6, 4th Paragraph:

The first sentence states that the intent of the Northeast Plume IRA is to control the high concentration core of the Northeast Plume (1,000 µg/l and greater of TCE). Although this language can be found in the Northeast Plume IRA ROD, Kentucky interprets it differently than does DOE. Kentucky agrees that the intent of the interim action is to control the high concentration core of the plume and agrees that in 1997, the core contained 1,000 µg/l or greater of TCE. However, Kentucky interprets the goal of the IRA to be maintaining control of the high concentration core regardless of whether it remains at 1,000 µg/l or greater of TCE. No change to the document is required.

12. Section 6.4.1, Pg. 6-9, 1st Paragraph:

It is agreed that in general, the objectives of the NE Plume IRA are being achieved. However, the objective, as viewed by Kentucky, is to control the high concentration area of the plume. A second core of the plume is presented on the 2010 plume map. This core, while still onsite, is not being controlled by the current pump-and-treat system. This is one justification for optimizing the system by installing two new extraction wells, one for each core. The text should reflect that the remedy is being modified in order to insure that the objective continues to be achieved.

13. Section 10.1, Pg. 10-1, 6th Paragraph:

The remedy for SWMUs 211A and 211B will either include or exclude *in situ* bioremediation. Groundwater monitoring would be a part of the remedy regardless of whether *in situ* bio is used, as will institutional controls. This should be reflected in the paragraph.

14. Section 12.4, Pg.12-4, last paragraph:

Kentucky does not recognize any utility to the residual risk evaluation beyond a check of protectiveness in the short-term. Potentially unanswered questions with regard to nature

and extent of groundwater source contamination (see Section 2.4 of the Decision Summary in Interim Record of Decision) and attainment of final cleanup levels (RAOs) will need to be addressed in final decision documents.

15. Section 12.4, Pg.12-6, 6th Paragraph:

The text suggests that LUCs are no longer are needed for sections 1 and 2 of the N-S DD as long as land use remains industrial. Are not LUCs, in some form, required to *insure* that land use remains industrial? Please delete the confusing language.

16. Section 3.4.1, Figures 13.3-13.5, Pgs. 3-8 through 3-10:

Units are missing from the vertical axis of all figures. Please add units.

17. Appendix B, Pg. B-3, N-S DD Sections 1 and 2:

The text in the right-hand column at the bottom of the page states, “A request for modification of the N-S DD LUCIP for removal of institutional controls is recommended.” Yet, as is explained elsewhere in the document, this is not what is ultimately being sought. Instead, DOE intends to request less frequent inspections. There is a disconnect between what is stated here and what is actually being requested. The document should be unambiguous as to what is being requested.

(End of KDWM Comments)