



ENERGY AND ENVIRONMENT CABINET

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Governor

Department for Environmental Protection
Division of Waste Management
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Leonard K. Peters
Secretary

September 18, 2013

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

RE: Conditional Approval of the Remedial Action Work Plan for Optimization of the Northeast Plume Interim Remedial Action (DOE/LX/07-1280&D2)
Paducah Gaseous Diffusion Plant
Paducah, McCracken County, Kentucky
KY8-890-008-982

Ms. Blumenfeld:

The Kentucky Division of Waste Management (Division) received the D2 *Remedial Action Work Plan for Optimization of the Northeast Plume Interim Remedial Action*, dated August 18, 2013. The Division is conditionally approving this document, and conditions are included as an attachment. Please address these conditions in a revised version of the document.

If you have any questions or require additional information, please contact Brian Begley of my staff at (502) 564-6716, or e-mail at brian.begley@ky.gov.

Sincerely,

A handwritten signature in black ink that reads "April J. Webb".

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

AJW:tm:lww:bb

ec:

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DWM File: #1210-G; Graybar ARM20120005 (NE Plume RAWP)

Attachment: Kentucky Conditions

**Kentucky Division of Waste Management Conditions Pertaining to the
Remedial Action Work Plan for Optimization of the Northeast Plume Interim Remedial
Action**

Paducah Gaseous Diffusion Plant, Paducah, Kentucky

(DOE/LX/07-1280&D2)

September 18, 2013

General Conditions:

- 1) A conference call was held on September 5, 2013 to discuss a change in the location for EW235 due to installation impracticability. As a result of additional information (including groundwater modeling) and discussions during the conference call, both EPA and KDWM agreed with the proposal to move the physical location of EW235 approximately 340 feet to the northeast of the previously modeled location. Please update the RAWP to reflect this change where appropriate.
- 2) Clarification is required as to the meaning of the three sentences in the RAWP that reference the “contingency process treatment capacity” will occur when “concentrations of Tc-99 exceed release criteria.” Kentucky sought clarification a few weeks ago on the intent behind the concentrations associated with Tc-99 release criteria and was directed to Table 3 of the D2 NE Plume Optimization ESD which references $6E-5$ $\mu\text{Ci/ml}$ as a yearly average discharge limit for technetium-99. Kentucky does not consider an exceedence of the site wide yearly average discharge limit for Tc-99 to be an acceptable decision point at which to address the “contingency process treatment capacity.” Please change the language in the RAWP so as to remain consistent with past practices at the site (e.g., C-400 Phase IIa Tc-99 effluent discharge/treatment requirements) and recent changes to language in the ESD (see attached KY RHB Condition #1).
- 3) Appendix C of the D1 and D2 versions of the NE Plume Optimization RAWP both contained a July 26, 2012 groundwater modeling presentation relating to the design and evaluation of extraction wells associated with the NE Plume Optimization. Since the submittal of these documents, Kentucky has learned that an update to the July 26, 2012 presentation occurred on August 15, 2012. Furthermore, on September 5, 2013 another updated presentation concerning the NE Plume Optimization was presented to Kentucky and EPA. Please add these two presentations to Appendix C.

Specific Condition:

- 1) Section 7.9.1, pg. 27, 1st paragraph, last sentence:

The LDR treatment standard for TCE is above the contained-in level. Please change the word ‘below’ to ‘above.’

**Radiation Health Branch Conditions Pertaining to the
Remedial Action Work Plan for Optimization of the Northeast Plume Interim Remedial
Action**

Paducah Gaseous Diffusion Plant, Paducah, Kentucky

(DOE/LX/07-1280&D2)

September 18, 2013

General Condition:

- 1) Consistent with agreements made concerning the ESD for this project, please revise the document to remove the implication that the release of up to 60,000 pCi/l of Tc-99 is acceptable and add the text “For this project, there is a target treatment goal to achieve 900 pCi/L of Tc-99 from the ATU(s), if treatment becomes necessary.”

**Division for Air Quality Conditions Pertaining to the
Remedial Action Work Plan for Optimization of the Northeast Plume Interim Remedial
Action**

Paducah Gaseous Diffusion Plant, Paducah, Kentucky

(DOE/LX/07-1280&D2)

September 17, 2013

General Conditions:

- 1) Please submit the calculations used to convert the air model inputs from ppb to lb/hr with an explanation of any assumptions, especially those regarding control. The Division needs this in order to verify that the proper emission estimates were used in the model.
- 2) DOE must clarify with regards to their response to question 18 of the Division's D1 comments and their revisions to Appendix B, whether there is any control of the TCE stripped from the groundwater before it is actually released to the atmosphere. Independent calculations performed by the Division failed to duplicate the lb/hr emission numbers found on page B-7 of Appendix B. The Division's numbers were significantly higher than those presented in this document. This disconnect could be explained if DOE is assuming some removal/destruction of TCE prior to discharge to the atmosphere. Please confirm that the reported 99% efficiency relates solely to the transfer of TCE from groundwater to air and that this assumed efficiency is reflected in DOE's calculations (ppb to lb/hr). If this is not the case, then please discuss any control, permanent retention and/or destruction of the VOCs once they are stripped out of the water and how this will impact the amount of TCE actually released to the atmosphere. Please include any manufacturer's guarantees regarding what is released to atmosphere.