

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

November 19, 2015

Ms. Tracey Duncan
Federal Facility Agreement Manager
United States Department of Energy
Portsmouth/Paducah Project Site Office
5501 Hobbs Road
Kevil, KY 42053

RE: U.S. EPA Region 4 Additional Condition on the Agency's Approval of: **Remedial Investigation/Feasibility Study Report for CERCLA Waste Disposal Alternatives Evaluation at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky (DOE/LX/07-0244&D2, July 2013)**, EPA ID KY8890008982, McCracken County, KY

Dear Ms. Duncan,

In accordance with the Paducah Gaseous Diffusion Plant (PGDP) Federal Facility Agreement (FFA) Section XX. I. *Finalization of Documents*, the U.S. EPA Region 4 is issuing an additional Condition on the Agency's approval of the D2 Remedial Investigation/Feasibility Study (RI/FS) Report for CERCLA Waste Disposal Alternatives Evaluation at the PGDP. The Condition addresses the discharge of wastewater and effluent limits for radionuclides from a potential future on-site waste disposal facility (OSWDF) for CERCLA wastes from the Paducah Gaseous Diffusion Plant.

Background

The CERCLA Waste Disposal Alternatives D2 RI/FS has a very limited description of requirements associated with managing wastewater that is expected to be generated as part of the CERCLA OSWDF operations. The RI/FS assumes that a Leachate Treatment Facility will be constructed as an ancillary facility to support the CERCLA OSWDF. The Leachate Treatment Facility is expected to receive leachate, contact storm water from within the OSDWF, decontamination wastewater, and possibly other wastewaters associated with managing wastes, much of which could be contaminated with radionuclides. Importantly, the D2 RI/FS text on the Leachate Treatment Facility does not describe how radionuclide contaminated wastewater will be managed in order to be protective of human health and the environment. Also, the Appendix G ARARs table does not include specific Applicable or Relevant and Appropriate Requirements (ARARs) and/or To Be Considered (TBC) guidance for discharges of wastewaters with radionuclide contamination from this treatment facility. Consequently the EPA asserts that the remedy selection documents (including the FS) must include identification of ARARs/TBC and/or a sufficient level of detail in the FS text on how radioactively contaminated wastewaters will be managed (treated, discharged, and monitored) on-site in order to ensure protection of human health and the environment.

CONDITION

EPA is requiring that text in Section 5.4.2.8 *Support Facilities* and text in Appendix G Section G.2.7 *Action-Specific ARARs* be revised by the Department of Energy (DOE) to include:

(i) Additional language to better reflect that any wastewater generated (including, but not limited to, collected leachate, decontamination wastewater and contact water collected from areas within the landfill) requires treatment of any hazardous substance (including radionuclides) prior to discharge into surface water to ensure such discharge either meets ARARs/TBC or meets effluent limitations that are protective of human health and the environment.

(ii) Text must be added to the document that states that actual effluent limits for any radionuclide(s) discharged into surface water from the Leachate Treatment Facility will be established in accordance with ARARs, TBC guidance and/or EPA-approved risk methodologies and specified in the Record of Decision (ROD).

(iii) Such effluent limits for radionuclides must be within EPA's generally accepted risk range under CERCLA and such effluent limits must be derived in a manner consistent with the Commonwealth of Kentucky (KY) designated use classifications of the receiving surface water body.

- These limits may be technology-based and/or based upon ambient water quality equivalent levels derived using EPA and KY standard methodology used for calculating ambient water quality criteria (AWQC).
- Also, the Kentucky Pollutant Discharge Elimination System (KPDES) effluent regulations that are currently included in the Appendix G ARARs table for discharge of pollutants could be identified as 'relevant and appropriate' for the radionuclide-contaminated wastewater (these regulations are not 'applicable' due to the definition of 'pollutants') because such regulations are well-suited for this activity considering the factors for determining 'relevance and appropriateness' in 40 CFR 300.400(g)(2).

(iv) Consistent with a previous EPA Condition on the FS for the Burial Grounds Operable Unit Solid Waste Management Units 2, 3, 7, and 30, the EPA does not consider effluent limits that are based upon annual dose limits of 50 mrem/yr and 100 mrem/yr, (from the NRC regulation [10 CFR Part 20, Appendix B, 902 KAR 100:019 Section 44(7)(a)] and DOE Order 5400.5 respectively) to be protective of human health and the environment. The EPA final "Radiation Risk Assessment Guidance for CERCLA Sites: Q&A" guidance documents on cleanup of radionuclides at Superfund Sites (Office of Solid Waste and Emergency Response Memorandum 9285.6-20, June 2014), specifies that dose-based ARARs that do not equate to a 12 mrem/yr dose (or lower) should not be identified in a CERCLA response action as basis for a cleanup level. Accordingly, the NRC regulation and DOE Order should not be cited in the Appendix G ARARs/TBC table or referenced in the document text.

If you have any questions about this correspondence or the additional Condition, please do not hesitate to contact me (404.562.8547; Corkran.julie@epa.gov) or Jon Richards, the Region 4 Radiation Subject Matter Expert (404.562.8648; Richards.jon@epa.gov).

Sincerely,



Julie L. Corkran, Ph.D.
Federal Facility Agreement Manager
Superfund Division

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