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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
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November 8, 2018 18-NWP-176

Jan Bovier, Tank Closure Program Manager
Tank Farms Programs Division
Office of River Protection
United States Department of Energy
PO Box 450, MSIN: H6-60
Richland, Washington 99352

Re: Structure of the Appendix I Performance Assessment (IPA) for Waste Management Area (WMA) A/AX

References: See page 2

Dear Jan Bovier:

The Department of Ecology (Ecology) requests that we start discussions regarding the format and the content of the IPA for WMA A-AX. Enclosed is the proposed outline that we feel covers the elements that should be contained in an IPA.

We urge the United States Department of Energy (USDOE) to include these elements within a single document to meet the requirements of the *Tri-Party Agreement* (TPA), rather than in a series of documents. Ecology found that the WMA C series of documents resulted in both redundancies and omissions of required information that would be avoided with a single document.

This request is to cover all of the Washington Administrative Code 173-303 and the United States Environmental Program Agency (USEPA) requirements in a single document. This would also include the necessary radionuclide performance evaluations, including methodology, assumptions and results needed to address both USDOE and USEPA requirements. We acknowledge that this will address the performance assessment requirements in USDOE Order 435.1 (Reference 1).

Finally, we request a qualitative discussion about up-gradient sources of contamination that may impact groundwater at the WMAs in this and all future IPAs. This will help us determine if performance standards at the WMAs need to be adjusted to prevent further degradation of groundwater by the WMAs. In the interim, for WMA-C Ecology will use the *Tank Closure and Waste Management Environmental Impact Statement* (Reference 2) cumulative impact analysis information for this purpose.

To support the integration of closure and cleanup activities on the Central Plateau from WMAs and other sources, Ecology will propose a TPA Milestone to model all sources of groundwater contamination on the Central Plateau, incorporating the information from the WMA IPAs. This Central Plateau model will include the WMA IPAs and incorporate new Central Plateau information as it is acquired.

If you have any questions or concerns, please contact me at jeff.lyon@ecy.wa.gov or (509) 372-7914, or Beth Rochette, Toxicologist, at beth.rochette@ecy.wa.gov or (509) 372-7922.

Sincerely,

Jeffery J. Lyon
Tank Systems Operation & Closure Project Manager
Nuclear Waste Program

br/aa
Enclosure

References:

1. Document DOE O 435.1, July 9, 2001, "Radioactive Waste Management"
2. Document DOE/EIS-0391, dated December 5, 2012, "Final Tank Closure and Waste Management Environmental Impact Statement Hanford Site, Richland, Washington"

cc electronic w/enc:
David Einan, EPA
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Doug Shoop, USDOE
Brian Vance, USDOE
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Environmental Portal
Hanford Facility Operating Record
MSA Correspondence
USDOE-ORP Correspondence Control
WRPS Correspondence Control

cc w/enc:
Susan Leckband, HAB
Administrative Record
NWP Central File

cc w/o enc:
Matt Johnson, CTUIR
Jack Bell, NPT
Rose Longoria, YN

Ecology's WMA A-AX IPA Proposed Annotated Outline: Draft for Discussion

1. Introduction
    a. General Approach-the document covers both radionuclides and non-radionuclides
    b. Regulatory Context
    c. General facility description
    d. Safety
    e. Land use and institutional control assumptions
    f. WMA A-AX history and closure
    g. Previous PA work
    h. Summary of key assumptions
2. Regulatory Assessment Context and Performance Standards
    a. RCRA
    b. USDOE Orders
    c. CERCLA
    d. AEA
    e. Others that are appropriate
3. Site and Facility Characteristics
    a. Subsurface geology
    b. Infrastructure
4. Source Terms
    a. Contaminants in Tanks
    b. Contaminants in Ancillary equipment including pipelines
    c. Contaminants in Soils/Vadose Zone (including past tank leaks, ancillary equipment leaks and planned/unplanned releases)
    d. Contaminants in Groundwater
    e. All sources of information, including all phases of the RCRA Facility Investigation and tank farm Leak Assessment Reports
5. Conceptual Site Model
6. Mathematical model description, and methodology verification and validation
7. Fate and Transport Results
    a. Through soils/vadose zone (including an analysis of past tank leaks, ancillary equipment leaks and planned/unplanned releases)
    b. From tank residuals
    c. From ancillary equipment
    d. Predicted flux of the contaminants

8. Predicted groundwater concentrations and activity over time for all constituents of concern
    a. WMA A-AX sources combined, from 2020 onward
    b. Up-gradient sources (based on existing information and eventually the cumulative analysis) from 2020 onward
9. Uncertainty and sensitivity analyses for groundwater predictions
    a. Model
    b. Parameter
10. Baseline risk assessment for human and ecological receptors
    a. Human Health (all pathways including groundwater)
    b. Ecological (terrestrial and aquatic receptors)
    c. Protection of groundwater, surface water, and sediment
    d. Uncertainty analysis for human and ecological risk assessment (source terms, exposure, effects, risk characterization)
11. Inadvertent intruder analysis for chemicals and radionuclides
    a. Intrusion into UPRs and all vadose zone contamination
    b. Intrusion into pipelines and ancillary equipment
    c. Intrusion into tank residuals
12. RCRA closure assessment and use of results
    a. Range of sensitivity analyses
    b. Future documentation
    c. Decisions for final waste residuals left
    d. Use of corrective measures
13. Quality Assurance including controlled software use and model documentation