
Addendum 1 – Comments, Input, and Observations

August 15, 2012

Addendum 1 includes specific, detailed comments, input, and observations that will improve the permit's content and guidance to DOE. Much like a Sounding Board, this addendum is not a consensus product; instead, it represents an accumulation of the comments, input, and observations offered by individual Board members. The Board encourages Ecology to review, evaluate and respond to the following items for inclusion in the permit. Based on the Board's informal discussions with Ecology, it understands that Ecology will respond to these comments, inputs, and observations.

The following comments, inputs, and observations are organized using headings that mirror the structure of the Permit.

Definitions, abbreviations, and acronyms:

1. Include and clarify in the Definitions Section that piping and ancillary equipment that formed a component of/part of the tank systems (SSTs, DSTs, MUSTs, vaults, pits, valve boxes, etc.) as well as systems to which these disposed (cribs, trenches, etc.) are part of tank systems regulated under Dangerous Waste Regulations and subject to the WAC173-303-610 and WAC 173-303-640 tank closure process.

Attachments:

Hanford Emergency Management Plan:

1. Changes are needed to the Plan, applicable to many permitted units. See Addendum 2.
2. All permitted operating units should have Contingency Plans as required by WAC 173-303-350 and as designated in Appendix A, 'Crossover Matrix.' Include Contingency Plans in the unit-specific Permits.
3. Figure F1-1– inappropriately sets the public access limits.
4. Revise/include a Permit(s) condition(s) for Part III (operational) units to ensure the emergency plans include an assessment of various modes of systems failures and their impacts on the emergency plans (e.g. common, cascade, sequential, parallel and other modes; age-related failures through erosion, wear, corrosion, etc.).

Hanford Facility Personnel Training Program:

1. Ensure there is a safety-conscious work environment.

Parts I and II Conditions:

1. Revise the II. Y Condition to the 2010 II. Y condition which better retains Ecology's ability for RCRA oversight of corrective action on the Hanford site and retains public involvement/review opportunities of documents relating to Hanford site cleanup.

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2. Revise Part I and II Conditions to include oversight of groundwater for the Hanford site for all TSD units.
3. Revise Part I and II Conditions to include Performance Standards.
4. Revise Part I and II Conditions to include waste analysis/sampling analysis plan(s) criteria.

Part III: Operating Units:

Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facilities:

1. Identify in the Permit conditions the criteria for receiving new waste streams at ETF and whether or not the process includes a public participation process.
2. Include a Permit condition to require hazard identification and hazard mitigation in the Permit.
3. Include a Permit condition requiring the waste acceptance criteria to include identification of abnormal feed streams.
4. Take into consideration the uncertainty of characterization and volumes of waste streams primarily coming from WTP and going to ETF, ensure a robust and conservative waste acceptance criterion for ETF, and ensure that these criteria are reflected in the Permit conditions.

242-A Evaporator:

1. Include a Permit condition to ensure the 242-A Evaporator has necessary upgrades, including replacing equipment, to safely operate the additional campaigns to process WTP waste streams.
2. Include a Permit condition to address accumulation of organics in the facility's tanks.
3. Identify requirements for limiting volatile organics within the waste acceptance criteria condition.
4. Ensure Permit conditions address the dangers of ammonia, including flammability and corrosivity.

325 Hazardous Waste Treatment Units:

1. Include a Permit condition to ensure 325 facility has the necessary upgrades, including maintenance and replacement of equipment for safe operations (examples: plumbing, sumps, and associated piping to waste receiving tanks).
2. Include a Permit conditions to ensure the 325 Hazardous Waste Treatment Units identification of all waste codes for all waste processed in the facility.

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Central Waste Complex:

1. Modify the Permit condition (III.6.0.4.b) to reflect compliance with Building and Structural Specialty and Fire Code requirements and Secondary Containment volumes.
2. Include necessary Permit conditions to bring the Central Waste Complex into compliance (e.g., RCRA requires dams, berms, and containment be present that equal the content of the drums)
3. Revise/include Permit conditions requiring all waste stored at the CWC to be cataloged and properly labeled.
4. Revise/include Permit conditions requiring all wastes properly characterized to ensure that explosive or flammable chemicals are properly stored.
5. Include a Permit condition requiring all wastes to be tested, characterized and properly designated and removed for treatment on an accelerated schedule which is incorporated into the Permit's compliance schedule.
6. Include a Permit condition requiring all waste stored outdoors to be removed from the facility and properly stored or shipped offsite.
7. Include a Permit condition limiting acceptance of any new waste until proper characterization/designation/and needed treatment of the existing waste has been done.

Waste Receiving and Processing Facility (WRAP):

1. Modify the WRAP Permit condition (III.7.0.4.b) to reflect compliance with Building and Structural Specialty and Fire Code requirements and Secondary Containment volumes.
2. Include a Permit condition requiring characterization of all waste streams processed in the WRAP facility.
3. Include/revise a Permit condition to include the function of the WRAP facility is to package TRU waste for shipment to WIPP, and that mixed waste can have TRU components and be identified as mixed TRU waste or MTW.
4. Include a Permit condition or revise the WAP to include a detailed list/document of the criteria and the methodology for determination of the presence of liquids in the wastes.
5. Include/revise a Permit condition to include criteria on how to obtain representative samples from a drum containing multiple containers of waste which lack identified/associated process information.
6. Include/revise a Permit condition for the following concerns or revise the Sections B.1.1.1; B.1.1.1.2 ; B.1.1.1.2.2 ; B.2.1.3.1 ; B.2.1.1.3.1; B.2.1.3.3; B.7.3 (of the WRAP Facility Waste Analysis Plan:
 - a. Clarify the range of dangerous chemicals and the various methods of chemical screening.
 - b. Clarify how people on the evaluations committee determine what to sample and which sample methods to use.

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- c. Require the Permittee to clearly identify the range of dangerous chemicals and the various waste streams within the packages to be in compliance with the Dangerous Waste Regulations.
- d. Clearly identify who has the responsibility to designate the waste to certify that it meets LDR standards.
- e. Clarify that the “10% rule” should only be applied to where it is absolutely known that the material inside the drums is exactly the same.
- f. Clarify the representativeness of the drum sampling from a package on the top of a drum and the packages located near the bottom of the drum.
- g. Include treatment of peroxides, oxidizers, sulfides, cyanides, and halogenated organic carbon in addition to grouting.

222-S (Laboratory) Dangerous & Mixed Waste:

1. Include a Permit condition to ensure the 222-S identification of all waste codes for all waste processed in the facility.
2. Include a Permit condition to ensure 222-S facility has the necessary upgrades, including maintenance and replacement of equipment for safe operations (examples: plumbing, sumps, and associated piping to waste receiving tanks).

T-Plant Complex:

1. Modify the Permit condition (III.9.0.4.d) to reflect compliance with Building and Structural Specialty and Fire Code requirements and Secondary Containment volumes.

Waste Treatment and Immobilization Plant Unit:

1. Revise/include a Permit condition that defines the criteria and standards to be used to identify and evaluate chemical and radiological constituent hazards that could occur at the WTP facility. This could include writing a Permit condition requiring hazard analysis to be performed early in the process, rather than just prior to receipt of waste, to support necessary design change or mitigation.
2. Revise/include a Permit condition requiring response planning for criticality and natural phenomenon (e.g. Cascadia seismic events) that addresses both the direct and indirect effects from major events.
3. Revise/include a Permit condition requiring contingency planning for suffocating CO₂ release events from the cooling systems. Ecology should revise/include a Permit condition with specific actions to ensure that CO₂ fire extinguishers are not used on or near high voltage equipment, or in areas that are or may become “confined spaces”.
4. Revise/include a Permit condition requiring contingency planning for response to the damages and difficulties associated with volcanic events (e.g., Highly abrasive ash infiltration into operating spaces resulting secondarily in failure of exit safety equipment to perform).

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5. Revise the Emergency Management Plan to reflect and ensure compliance with new WTP conditions as described in the above advice points for the WTP facility. Ecology should revise Permit conditions requiring compliance with Waste Acceptance Criteria and Section 1 Introduction and Addendum B1 to more accurately reflect the NRC's provisional position on reclassification of ILAW waste as incidental to reprocessing. The NRC has yet to make a determination for Hanford.
6. Don't defer or delegate authority for RCRA actions to external processes and documents and to instead detail standards, requirements, methods and frequencies as permit conditions. Append all referenced versions of documents to the permit with active hyperlinks to the referenced section(s). Some referenced documents appear to be missing from the permit. Examples: Addendum B-1
 - a. Waste Treatment Plant Quality Assurance Project Plan for the Waste Analysis Plan, Rev. 0.;
 - b. 24590-WTP-RPT-MGT-04-001, Rev. 0, Regulatory Data Quality Objectives Optimization Report; and
 - c. RPT-W375LV-EN00002, as amended, Approach to Immobilized Hanford Tank Waste Land Disposal Restrictions Compliance
7. Update Permit conditions III.10.C.2.n.i through .iv to reflect current dates/future dates.
8. Revise/include a Permit condition to ensure that Tank Wastes are immobilized in a durable waste form with performance at least equivalent to glass for the entire waste form, and to ensure proper characterization of tank wastes. The Board supports vitrification of wastes and opposes alternate waste forms unless their performances can be shown to be at least "as good as glass" (including secondary waste streams - see HAB Advice #258).
9. Revise/include a Permit condition to ensure the facility's design is based on sound engineering principles and according to applicable regulations. Include a Permit condition to ensure all necessary testing or studies are performed well in advance of when data is needed for design and construction (see HAB Advice #258).
10. Revise/include a Permit condition to ensure WTP supporting facilities operate as intended throughout the operational life of the WTP facility while also performing their respective operations of support for other Hanford facilities (e.g. 242-A Evaporator).
11. Include/revise a Permit(s) condition(s) to require that all engineering drawings included in the permit be stamped by a registered professional engineer [WAC173-303-640].
12. Include/revise a Permit(s) condition(s) to require the Permittee(DOE) to demonstrate that the plant design is technically functional, especially in the case of technical issues identified by the Defense Nuclear Facility Safety Board and/or by Ecology staff related to:
 - a. Mixing (especially for non-Newtonian fluids)
 - b. Particle settling (especially for criticality control, but also for heavy metals – lead, chromium, nickel ...)
 - c. Hydrogen gas generation and deflagration

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- d. Erosion and corrosion.
13. Include/revise a Permit(s) condition(s) to ensure that plant systems and all facility vessel designs contain provisions to accomplish clean closure in accordance with WAC 173-303-610 & WAC 173-303-640.
14. Revise/include a Permit(s) condition(s) to ensure the emergency plans include an assessment of various modes of systems failures and their impacts on the emergency plans (e.g. common, cascade, sequential, parallel and other modes; age related failures through erosion, wear, corrosion, etc.).
15. Include/revise a Permit(s) condition(s) to require equivalent capabilities for each “train of equipment (e.g. Melter off-gas treatment system)” whenever/where ever multiple parallel trains exist in the facilities.

Integrated Disposal Facility:

1. Modify the waste acceptance criteria condition or include a Permit condition which ensures IDF only accepts wastes that have been vitrified or whose entire packages have performance equivalent to vitrification.
2. Delete all references to bulk vitrification in the IDF Permit.
3. Base the Risk Budget Tool evaluation on the sampling results of releases from the bottom of the trench, and not take credit for the soil column.
4. Include a Permit condition requiring submittal of a set of testing protocols to verify how waste will release from the waste packages in IDF.
5. Revise/include a Permit condition to ensure the process for creating the Risk Budget Tool & that this process considers the following parameters; the concentration of contaminants in the waste stream, the waste form leachability, whether or not the releases from that material will exceed groundwater or drinking water protection standards.
6. Include impacts from nearby waste sites/ trenches to bound cumulative impacts to groundwater in the model used in the Risk Budget Tool.

Double Shell Tank System and 204-AR:

1. Revise/include a Permit condition for sampling the DSTs to ensure tank wastes maintain their waste acceptance criteria chemistry.
2. Revise/include a Permit condition to address leaks from all waste transfer lines (including HIHT), diversion boxes, and other system components (including all ancillary equipment).
3. Revise/include a Permit condition to ensure that all waste which has escaped into the environment (including the Vadose Zone and outside the boundaries of Tank Farms) is identified, characterized such that the vertical and lateral extent of the contamination is identified, and that such releases are remediated in accordance with the Dangerous Waste Regulations under WAC 173-303-645.

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4. Ecology should use its authority under the Resource Conservation Recovery Act (RCRA) to better regulate and protect Hanford workers from exposure to chemical vapors at Hanford, specifically with reference to those chemical vapors emanating from the high-level nuclear waste stored in Hanford's underground radioactive waste tanks.

Waste Encapsulating Storage Facility (WESF):

1. Bring WESF into RCRA compliance by moving the capsules into dry cask storage and close the facility.
2. Include a Permit condition bounding the acceptance of additional waste at WESF, due to the fact that WESF is currently at capacity and cannot handle additional waste volume.

400 Area Waste Management Unit:

1. Draft a Permit condition preventing acceptance of offsite waste at the 400 Area using its authority under WAC 173-303-815(2).
2. Draft a Permit condition preventing acceptance of incompatible waste by their waste acceptance criteria.
3. Draft a Permit condition with dates for the removal of all sodium-bearing materials and subsequent clean closure.
4. Review and revise the Part A form to limit storage capacity to the currently stored volumes of sodium-bearing mixed waste currently stored in the facility.

Low-Level Burial Grounds Trenches 31 & 34:

1. Revise the Part A form to include all trenches as subject to Dangerous Waste Regulations until such time that characterization (including actively digging up waste to be able to conduct sampling) demonstrates it is not RCRA waste.
2. Include permit conditions for the management of retrievably stored waste.
3. Include/revise a Permit condition requiring monitoring of the entire 40 miles of unlined trenches. The monitoring system should include contaminants of concern associated with nearby operable units and the associated groundwater unit(s).
4. Revise/delete text in the Permit conditions supporting 'in-trench treatment or placement of liquids within landfill'.
5. Revise/delete text in Permit conditions supporting placement of [storing] containers in a landfill.
6. Include a Permit condition requiring a new Container Storage facility for LLBG wastes subject to WAC 1783-303-630 regulations.
7. Inform the Waste Analysis Plan & Sampling and Analysis Plan and criteria for waste acceptance at the LLBG by the results of the Risk Budget Tool.

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8. Utilize Ecology's omnibus authority under WAC 173-303-815 and revise/include a permit condition requiring on-going groundwater well evaluation and deepening of wells as the groundwater level drops.

Low-Level Burial Grounds Trenches 94:

1. Include a Permit condition identifying the groundwater protection standards that satisfy WAC 173-303-645(4), (5), (6), (7), (8), and (9).
2. Utilize its Omnibus Authority under WAC 173-303-815 and include a Permit condition requiring characterization of the vadose zone beneath the trench.
3. Revise the Inspection requirements to ensure that the Permittee can demonstrate its ability to maintain oversight of the trenches.
4. Revise/include a Permit condition to ensure that lead and mercury are included in the analyte list of Contaminants of Concern for the groundwater monitoring plan.
5. Revise/include a Permit condition requiring at a minimum, installation of four additional groundwater monitoring wells (two upstream and two downstream).
6. Utilize Ecology's Omnibus Authority under WAC 173-303-815 and revise/include a permit condition requiring on-going groundwater well evaluation and deepening of wells as the groundwater level drops.

Part IV: Corrective Action Units:

CA-1 Waste Management and CA-2 Groundwater Operable Unit:

1. It is inappropriate of Ecology to apply II.Y corrective action conditions to Closure and/or Post Closure Units in lieu of meeting the groundwater protection requirements of WAC 173-303-610.
2. It is inappropriate to prospectively accept CERCLA work via the II.Y conditions as satisfying the Dangerous Waste WAC 173-303-645 corrective action permit requirements.
3. Include a Permit(s) condition(s) requiring submittal to Ecology of RCRA groundwater monitoring requirements from all CERCLA documents for incorporation into the unit-specific Addenda housing the Groundwater Monitoring Plans. Ecology should require a crosswalk-table which identifies RCRA requirements in the CERCLA documents which are cited in the RCRA Permit and subject to WAC 173-303-830/840 process.
4. Until such time that Ecology has accepted the modeled results from the STOMP-1D code according to criteria in the Dangerous Waste Regulations, Ecology should require and incorporate unit-specific groundwater monitoring into the Permit(s) in compliance with WAC 173-303-610(2)(b)(i) requirements.
5. The statement that "Ecology, EPA, and DOE agree that past-practice authority may provide the most efficient means for addressing mixed waste groundwater contamination plumes originating from a combination of TSD and past-practice units" does not comply

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- with the Dangerous Wastes regulations [WAC 173-303]; does not provide for RCRA groundwater monitoring, nor does it provide for public involvement in important groundwater decisions.
6. Include/revise a Permit(s) condition(s) to ensure the Permittee complies with WAC 173-303 requirements to characterize the vertical and horizontal extent of contamination.
 7. While the Permit requires the Permittee to supply “a sufficient number of groundwater monitoring wells, and (to) add new wells as necessary to catch contaminants movement in the groundwater and identify compliance status,” the number of usable wells on the Central Plateau is rapidly decreasing due to the dropping Water Table. Ecology should revise/include a Permit(s) condition that requires a sufficient number of monitoring wells be sited according to subsurface studies that identify suitable thick intervals of wetted aquifer to support groundwater monitoring into the future.
 8. Revise/include a Permit(s) condition(s) in the Groundwater Monitoring Plan (s) to require identification of the number and location (and criteria for determining these) of groundwater and leaked waste monitoring wells.
 9. The vadose zone is not present in the Permit(s) groundwater monitoring plans. Ecology should include Permit(s) conditions providing for Ecology’s oversight of vadose zone characterization and remediation activities as an important segment of the overall Hanford clean-up schema.
 10. Utilize its Omnibus Authority under WAC 173-303-815 and include a Permit(s) condition(s) requiring characterization (i.e., physical sampling) and monitoring of the vadose zone beneath the Tank Farms and other mixed waste sites.
 11. Ecology is cautioned that the Central Plateau Water Table level decline is making “wet” monitoring wells much harder to find or sustain. Since the Permit states that “Wells that are no longer sampled due to water table decline (i.e., “dry groundwater monitoring wells”), and for which there is no future use, must be decommissioned,” Ecology should review/ include a Permit(s) condition(s) requiring evaluation of the utility of using these dry groundwater monitoring wells for use in sampling, using pore water geochemical sampling, radiological or geophysical methods prior to decommissioning.
 12. Include a Permit condition to ensure Ecology authority and oversight of all pump & treat systems including how groundwater monitoring wells are installed (WAC 173-160); utilized; and managed.

Part V: Closure Units: 1301-N Liquid Waste Disposal Facility, 216-A-29 Ditch, 216-A-36B Crib, 216-A-37-1 Crib, 216-S-10 Pond and Ditch, 216-B-63 Trench, 216-B-3 Pond
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These advice points are in general applicable to most of the Part V unit permits listed above and are stated once only. Additional information is found in the Addendum 2.

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1. Utilize the Closure Plans submitted in the Part B application and to write appropriate Closure Permit conditions to rectify any non-compliance with unit specific closure requirements under WAC 173-303.
2. Ensure the approved closure plan is consistent with unit-specific Dangerous Waste Regulations-WAC 173-303 (ex: Surface Impoundment regulations).
3. Include approved Closure Plans and/or Permit Conditions within the Permit(s) to ensure compliance with WAC 173-303-610 and unit specific closure requirements. Ecology should not presumptively approve plans that do not yet exist. There is a lack of requirements for submittal of closure plans in the new RCRA Permit(s). Reference to closure actions under non-existent CERCLA document violates DW closure regulation requirements to have these details in an approved Closure Plan. Required by WAC 173-303-610(3).
4. Include Ecology approved and Dangerous Waste WAC 173-303 compliant RCRA Groundwater Monitoring Plans as attachments to unit specific Permits within their Closure Plan Addendums.
5. All Addendums identified as “reserved” should include the WAC 173-303 required information in order to be in compliance with the regulations.
6. Require all unit-specific groundwater monitoring plans be consistent with Ecology Publication # 04-03-030, Guidelines for Preparing Quality Assurance Plans for Environmental Studies.
7. Include in each unit-specific Permit the full list of COCs as noted or identified in unit-associated draft RI/FS documents previously submitted to Ecology.
8. Require use of a methods-based approach in the unit-specific Sampling and Analysis Plans.
9. Require use of non-filtered sampling in the Sampling and Analysis. Ecology should require repairs and replacement of wells per WAC 173-160.
10. Require the unit-specific training plans are included directly within the Training Addenda.
11. Coordinate and incorporate RCRA inspection requirements for the unit-specific Permits with those for the associated CERCLA groundwater operable unit’s.
12. Ensure that all unit-specific Closure Schedules are compliant with the Dangerous Waste WAC 173-303-610 requirements or 173-303-815(3)(b)
13. Review and revise Part V (closing) Permits to ensure compliance with Land Disposal Restrictions (LDRs).
14. Review and revise Part V (closing) Permits to ensure that non-existent Part II conditions are not cited (e.g.1301-N).
15. All RCRA TSDs closure performance standards must use MTCA Method B cleanup levels.

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16. Permit(s) should include compliance schedules in accordance with WAC 173-303-610 closure regulations.
17. Include a Permit condition requiring submittal of all RD/RA work Plans to Ecology as subject to WAC 173-303-830/840 Permit modification process.

Single Shell Tank Unit:

1. Revise Permit condition V.4.B.3.f (e) [refers to releases to the soils and groundwater] to include identification of specific methodology to be used in determining how releases are identified as occurring and the process for compliance with WAC 173-303-640(4) requirements.
2. Revise/include a Permit condition to address leaks from all waste transfer lines (including HIHT), diversion boxes, and other system components (including all ancillary equipment).
3. Revise/include a Permit condition to ensure that all waste which has escaped into the environment (including the Vadose Zone and outside the boundaries of Tank Farms) is identified, characterized such that the vertical and lateral extent of the contamination is identified, and that such releases are remediated in accordance with the Dangerous Waste Regulations under WAC 173-303-645.
4. Revise Permit condition V.4.B.3.f (h) [refers to tank integrity assessment] to include identification of the process for selection of the methodology/criteria for determining tank integrity citing also WAC 173-303-640(2) regulations and identify the requirements necessary to be in compliance.
5. Revise Permit condition V.4.G.2.c.i [refers to closure Performance Standards] to include all specific criteria which must be met in order meet the required “Impracticability Demonstration.”
6. Revise the V.4.C Conditions [refers to SST Groundwater Monitoring] to reflect and cite WAC 173-303-645(11) [Corrective Action Program for release from regulated units] requirements.
7. Include a Permit condition requiring submittal of all TSAPs (Tank or Component Specific Sampling and Analysis Plans) subject to WAC 173-303-830/840 permit modification requirements.
8. Revise Permit condition V.4.B.3.g. (k) & (l) [refers to maps and descriptions of tanks/ancillary equipment/piping distribution] to include specific criteria which must be met in order to determine integrity status and retrieval status. [see previous comment regarding Tank Assessments]
9. The Milestone Schedule for closure of SST does not support WAC 173-303-610 or 173-340-360(4) requirements. Ecology should negotiate a more realistic Closure Compliance Schedule with DOE.

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10. Include/revise a Permit(s) condition(s) requiring the construction of new double shell tanks and emptying of the tanks known or suspected of leaking as expeditiously as possible.
11. Include/revise a Permit(s) condition(s) to require a priority basis when establishing plans for emptying tanks (i.e., the “Systems Plan”) and the alternatives considered shall require that the tanks be emptied in RCRA priority (i.e., First priority - known leaking tanks, second priority - suspected leaking tanks, third priority - non-compliant single shell tanks, finally all remaining tank wastes).
12. Include/revise a Permit(s) condition(s) to ensure the Permittee (DOE) complies with WAC 173-303 requirements to characterize the vertical and horizontal extent of SST sites contamination.
13. Utilize its Omnibus Authority under WAC 173-303-815 and include a Permit(s) condition(s) requiring characterization (i.e., physical sampling) and monitoring of the vadose zone beneath the SST Tank Farms and other mixed waste sites.
14. Include/revise a Permit(s) condition(s) to ensure better validating leak detection methodology and capability and to establish the criteria for what constitutes acceptable leak detection capability.
15. Include/revise a Permit(s) condition(s) requiring the pumping of water or waste out of “dry wells” and requiring annual (or more frequent) gamma logging of the dry wells to depths >55 feet past the first wetted zone in the soil, and to the full well depth in most cases, to improve early tank waste leak detection.
16. Include/revise a Permit condition(s) requiring the Permittee (DOE) to extend dry wells that do not extend to at least 60 feet and to utilize these wells to perform gamma logging and detection or leaks or extension of contaminate plumes.
17. Include a Permit(s) condition(s) requiring all changes to groundwater monitoring to be incorporated into the RCRA Permit(s) per the WAC 173-303-830/840 process.^[JV1]^[JV2]
18. Revise/include a Permit(s) condition(s) to require annual submittal of a schedule for closure of tanks to meet Milestones M-045-70 & M-62-45 requirements.
19. Utilize Ecology’s Omnibus authority under WAC 173-303-815 to include a Permit(s) condition(s) to require annual submittal of a budget report which identifies necessary increases in personnel, equipment, and costs to support compliance with Milestones M-045-70 & M-62-45 requirements.
20. Revise/include a Permit(s) condition(s) to ensure closure of the SST System and compliance with Performance Standards is subject to the WAC 173-303-830/840 process.
21. Revise/include a Permit(s) condition(s) to ensure there is a re-evaluation of the Post-Closure care period after 30 years with subsequent periodic reviews [decadal] throughout the post-closure period (WAC 173-303-610(7) and WAC 173-303-610(8)). The post closure period should be at least 10 half lives of any isotope that is a COC (if it's plutonium that would be 240,000 years) or as long as there are potential health risks from any non-radioactive COCs.

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22. Work closely with EPA Headquarters Region 10 RCRA staff to discuss what timeframes are acceptable for the State to allow for known or suspected leaking tanks to remain in that status pending development of treatment. The State should ensure they have written agreement with EPA about what is an acceptable time period to empty the known or suspected leaking tanks, and the non-compliant tanks.
23. Ecology should use its authority under the Resource Conservation Recovery Act (RCRA)¹ to better regulate and protect Hanford workers from exposure to chemical vapors at Hanford, specifically with reference to those chemical vapors emanating from the high-level nuclear waste stored in Hanford's underground radioactive waste tanks.
24. Ecology should revise/include a Permit(s) condition(s) to ensure IQRPE certifications to comply with WAC 173-303-640(2) requirements and include certification of the SST leak integrity.

241-CX Tank System:

1. Don't refer to closure actions in non-existent CERCLA documents [e.g. 200-IS-10U]. Dangerous Wastes closure regulations require these details in an approved Closure Plan.
2. Include a Permit condition(s) citing use of MTCA Method B values to meet the Performance Standards requirements.
3. Revise the cleanup of associated ancillary facilities. Partial closure of facilities is not allowed under WAC -610 or -640

Hexone Storage and Treatment Facility:

1. Revise the Permit to require RTD for the Hexone Storage Tanks and all associated ancillary equipment.

Nonradioactive Dangerous Waste Landfill:

1. WAC 173-303-650 requires details and a complete cover design to be in compliance with the Dangerous Waste regulations.
2. Include a Permit condition requiring submittal within 30days of permit issuance, of a complete cover/barrier design and attachment of this design into the RCRA Permit for NRDWL.
3. Write a Permit condition that requires DOE to identify the source of soils and materials to be used for the construction of a landfill cap.

¹ 42 U.S.C. § 6973(a)

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PUREX:

1. Write Permit conditions that requires secondary containment and leak detection and monitoring.
2. Write Permit conditions for characterization of the unidentified materials in the tunnels and their volumes.
3. Remove, treat, and dispose the materials in the PUREX tunnels as appropriate. Ecology should reconsider the reliance on water transport and electrical systems over a long period of time to maintain protections such as water doors.
4. Clean close the PUREX Tunnels.
5. Expand the contaminant of concern list to include lead.

Low-Level Burial Ground Closing Units (Green Islands):

1. Include Ecology approved RCRA groundwater monitoring plans as attachments to unit specific Permits within their closure plan addendums.
2. Include a Permit condition requiring characterization of all areas within the 1997 Part A boundary lines. (HAB Advice# 226) The assumption should be that it is all mixed waste until it is proven otherwise.

Part VI: Post-Closure Units:

300 Area Process Trenches:

1. It is inappropriate to prospectively accept CERCLA work via the II.Y conditions as satisfying the Dangerous Waste WAC 173-303-645/646 corrective action permit requirements while the remedy selected remains an unproven technology.
2. Include a Permit condition to ensure that natural attenuation is not “determined” by the Director of Ecology as meeting the corrective action Permit requirements of WAC 173-303-646.

183-H Solar Evaporation Basins:

1. Groundwater contamination and other issues associated with the evaporation basins suggest that they have not been closed appropriately under the regulations. Ecology should place this unit in Part V rather than Part VI and include Permit conditions to ensure compliance with WAC 173-303-610 and WAC 173-303-650.

1325-N Liquid Waste Disposal Facility:

1. Groundwater contamination and other issues associated with the facility suggest that they have not been closed appropriately under the regulations. Ecology should place this unit in Part V rather than Part VI and include Permit conditions to ensure compliance with WAC 173-303-610 and WAC 173-303-650.

Addendum 1 – Comments, Input, and Observations

August 15, 2012

1324-N Impoundment and 1324-NA Percolation Pond:

1. Groundwater contamination and other issues associated with the facility suggests that it has not been closed appropriately under the regulations. Ecology should place this unit in Part V rather than Part VI and include Permit conditions to ensure compliance with WAC 173-303-610 and WAC 173-303-650.

SEPA Determinations

1. Make the over-arching SEPA determination a Mitigated Determination of Non-Significance.
2. Utilize the SEPA checklists submitted with the Part B Applications and make Permit conditions to mitigate known impacts.
3. Withdraw its determination of non-significance regarding the current phase until it is known what all the Hanford Site mitigation plans will be.
4. Review all SEPA determinations for consistency with Washington State Dangerous Waste Permit Application; Part A Forms; the Unit-specific Permits; and the SEPA submitted with the Part B application of 9-2004.

Other

324 Building:

1. Add 324 Building to the Permit. Due to the B-Cell leak which requires extensive cleanup, this unit should be included in the Permit at the very least as a Part IV Corrective Action Unit.