



0052781

Department of Energy  
Richland Operations Office  
P.O. Box 550  
Richland, Washington 99352

JUN 03 1998

98-TPD-044

Mr. Michael A. Wilson, Manager  
Nuclear Waste Program  
State of Washington  
Department of Ecology  
P.O. Box 47600  
Olympia, Washington 98504-7600

RECEIVED  
MAR 27 2000  
EDMC

Dear Mr. Wilson:

**INTERIM STATUS REQUIREMENTS FOR THE PLUTONIUM FINISHING PLANT (PFP)  
TREATMENT AND STORAGE UNIT (TS-2-8)**

The Washington State Department of Ecology (Ecology) has advised the Richland Operations Office (RL) that continued immobilization of certain plutonium bearing materials by cementation (*i.e.*, the cementation line) must be done in compliance with the interim status requirements of Washington Administration Code 173-303-805. RL and Ecology have discussed these requirements with regard to how they apply to the cementation line and to the storage of mixed waste at PFP. With this in mind, RL and Ecology have toured PFP, conducted compliance inspections of the areas to be permitted, and reviewed training plans/operational procedures. This letter is written to record how PFP will meet all applicable interim status requirements.

On July 14, 1997, RL submitted a Notice of Intent (NOI) for expansion under interim status for the PFP TS-2-8. This NOI underwent a public comment period during which no comments were received. The interim status Part A permit application documentation requesting inclusion of this unit in the Hanford Facility Interim Status Part A permit is nearing completion and should be submitted to Ecology in August 1998.

As part of our ongoing technical discussions with Ecology, RL proposed a strategy that will ensure compliance with all applicable interim requirements. This strategy is documented in the enclosed White Paper, "Establishing Interim Status Standards for the Plutonium Finishing Plant Cementation Unit Gloveboxes." This strategy has been discussed with Ecology's Project Manager, Mr. Oliver Wang.

The PFP TS-2-8, once included in the Hanford Facility permit, will be operated in accordance with interim status requirements. The cementation line is not presently in operation and the exact date when operations will resume is not known at this time. In order to assure that we have satisfied your needs, we

JUN 03 1998

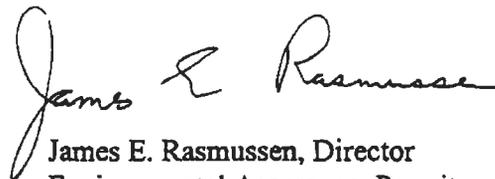
Michael A. Wilson  
98-TPD-044

- 2 -

would like to record agreement with Ecology on this subject in advance of any planned restart of the cementation line. Therefore, we request a prompt review of the enclosed strategy and a letter response, stating your concurrence with this strategy.

If you have any questions, please contact Larry D. Romine, PFP Program Manager, on (509) 376-4747.

Sincerely,



James E. Rasmussen, Director  
Environmental Assurance, Permits  
and Policy Division

TPD:LDR

Enclosure

cc w/encl:

Moses Jaraysi, Ecology  
Oliver Wang, Ecology  
Dennis Faulk, EPA  
L. J. Olguin, FDH  
F. R. Crawford, BWHC

## White Paper

Establishing Interim Status Standards for the Plutonium Finishing Plant  
Cementation Unit Glovebox1.0 BACKGROUND

The U.S. Department of Energy, Richland Operations Office (RL) has submitted a Notice of Intent (NOI) to the State of Washington Department of Ecology (Ecology) for expansion under interim status for the Hanford Facility Plutonium Finishing Plant (PFP) Treatment and Storage Unit. The NOI addresses the treatment and storage of mixed waste at PFP in support of plutonium disposition and facility transition efforts. Treatment and storage of mixed waste will occur in glovebox HA-20MB in Room 235B of the PFP 234-5Z Building. (Note that this is a reduction in scope from that which was reflected in the NOI.) Varying forms of mixed waste will be treated in HA-20MB using a cementation process. The cementation process will be performed by mixing a standard cement material with appropriate amounts of the mixed waste and water to form a slurry that will solidify into a chemically stable material. Containers of cemented material will be transferred from HA-20MB via a conveyor belt for load-out to a 55-gallon waste drum and transfer to the Central Waste Complex.

A Part A, Form 3, Dangerous Waste Permit Application is being prepared for the cementation unit. Process codes on the application will reflect permitting of the process as a miscellaneous treatment and storage unit. The miscellaneous process codes were chosen to apply to the glovebox process after review of potentially applicable interim status standards identified in 40 CFR 265 and WAC 173-303-400. The review of standards for containers, tanks, landfills, etc. indicated that the proposed process most closely resembles a container management activity.

2.0 USE AND MANAGEMENT OF CONTAINERS

Interim status standards for the use and management of containers are identified in 40 CFR 265.170 to 40 CFR 265.177, as summarized below.

- Condition of containers: Containers must be in good condition, or if leaking, transferred to a good container.
- Compatibility of waste with container: Containers must be compatible with waste.
- Management of containers: Containers must be closed, unless when adding or removing waste; container must not be managed in a manner causing it to rupture or leak.
- Inspections: Inspect at least weekly looking for leaks or deterioration.

- Special requirements for ignitable or reactive wastes: Containers must be located at least 50 feet from facility's property line<sup>1</sup>.
- Special requirements for incompatible wastes: Incompatible waste must not be placed in same container unless 40 CFR 265.17(b) is complied with. Hazardous waste must not be placed in unwashed container which previously held an incompatible waste unless 40 CFR 265.17(b) is complied with. Containers in storage must be separated from incompatibles or protected from them by a dike, berm, wall, or other device.

Operation of the proposed cementation process will meet all but one of these requirements; the proposed process will require treatment, and may require storage, in open containers, which would violate the closed container rule in 40 CFR 265.173. Therefore, the glovebox portion of the process will be permitted for miscellaneous treatment and storage.

Miscellaneous unit standards are identified in WAC 173-303-680. This chapter identifies general environmental performance standards that focus on protection of human health and the environment through prevention of releases from the permitted unit. The permittee and Ecology must reach agreement on the specific requirements that must be applied to a miscellaneous unit to ensure the standards are met. To comply with the miscellaneous unit standards, RL proposes the application of the following standards to the cementation unit: interim status container standards of 40 CFR 265.170 to 40 CFR 265.177, excluding the clause pertaining to keeping containers closed; and general interim status facility standards as outlined below.

### 3.0 GENERAL INTERIM STATUS FACILITY STANDARDS

Certain general requirements must be applied to the glovebox cementation process to ensure protection of human health and the environment and compliance with miscellaneous unit standards. The applicable general standards are noted below.

- General waste analysis: WAC 173-303-300(5), waste analysis plan.
- Security: WAC 173-303-310.
- General inspections: WAC 173-303-320(2), inspection schedule.
- Personnel training: WAC 173-303-330(2), written training plan.
- Preparedness and prevention: WAC 173-303-340.
- Contingency plan and emergency procedures: WAC 173-303-350(2), contingency plan.
- Emergencies: WAC 173-303-360.
- Facility recordkeeping: WAC 173-303-380(1), operating record.
- Facility reporting: WAC 173-303-390.

---

<sup>1</sup> The "facility's property line" is assumed to mean the Hanford Site boundary.

- Other general requirements: WAC 173-303-395(1), precautions for ignitable, reactive, or incompatible wastes.
- Identification of containers: WAC 173-303-630(3), label containers to identify major risks. If there is already a system to perform this function in accordance with federal regulations, then it will be adequate.
- Secondary containment: WAC 173-303-630(7).
- Closure: WAC 173-303-630(10), at closure all dangerous waste and dangerous waste residues must be removed from the containment system.

The proposed cementation process will comply with these requirements. However, the nature of the process requires that compliance with labeling requirements be attained by meeting the intent, rather than the letter, of the requirements. The application of labeling requirements is discussed in the following paragraphs.

### 3.1 Labeling Requirements

The items being processed in the cementation unit contain plutonium. Inventories (quantity, location) of plutonium throughout PFP, and the cementation unit, are very carefully tracked. Each plutonium-bearing item (container) that is sealed into the glovebox for processing is labeled with a tracking number and inventory information prior to seal-in. As the cementation process proceeds, plutonium-bearing material is transferred to different containers that carry new tracking numbers. At key transfer points, the transfer of plutonium inventory from one container to another is recorded on inventory sheets on the outside of the glovebox in accordance with plant procedure ZO-160-060, "Stabilization Cementation." It is important to note that all labeling and inventory tracking is performed outside the glovebox.

While the existing tracking/labeling process was not intended to provide conformance with major risk labeling requirements, it indicates the clear intention of RL to carefully monitor the inventory of material passing through the process. Like the tracking of plutonium inventory, the intent of major risk labeling requirements can also be met by using labels on the exterior of the glovebox (as opposed to labeling each container within).

Five categories of plutonium-bearing material have been identified as candidates for cementation. Each category of material being cemented will present different hazards. However, cementation will be performed on a category-by-category basis; i.e., all sand, slag, and crucible items will undergo cementation first, followed by all ash items, and so on through the five categories. Waste codes may also change as the items go from an uncemented state to a cemented state. However, the glovebox process is set up in a circular fashion such that uncemented items are located on one side of the glovebox, and cemented items on the other. Therefore, the intent of the major risk labeling requirements could be readily met by application of different labels to the outside of the two sides of the glovebox. The label on the side of the glovebox corresponding to uncemented items would reflect the major risks of uncemented items, and the label on the other

Enclosure

side of the glovebox would reflect the major risks of cemented items. As each of the five categories of plutonium-bearing materials is cemented, the major risk labels on the outside of the glovebox would be changed accordingly. Thus, the intent of the major risk labeling standard would be met, resulting in conformance with miscellaneous unit standards for protection of human health and the environment.

#### 4.0 SUMMARY

With regard to the cementation gloveboxes, application of interim status container standards of 40 CFR 265, Subpart I, other than the requirement to keep containers closed, will result in partial conformance to the miscellaneous unit standards. Application of other general requirements for interim status facilities (reporting, record-keeping, training, labeling, etc.), as agreed to by RL and Ecology, will result in complete conformance with the miscellaneous unit standards for protection of human health and the environment.