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DEPARTMENT OF ECOLOGY

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February 24, 2000

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U.S. Department of Energy
P.O. Box 550, MSIN: A5-15
Richland, Washington 99352

Mr. William D. Adair
Fluor Daniel Hanford, Inc.
P.O. Box 1000
Richland, Washington 99352

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Re: *Establishing Interim Status Standards for the Plutonium Finishing Plant
Cementation Unit Glovebox*

Dear Messrs. Rasmussen and Adair:

References:

- (1) Letter, Mr. James E. Rasmussen, the United States Department of Energy (USDOE), to Mr. Mike Wilson, Washington State Department of Ecology (Ecology), "Interim Status Requirements for the Plutonium Finishing Plant (PFP) Treatment and Storage Unit (TS-2-8)," dated June 3, 1998.
- (2) Letter, Mr. Shri Mohan, Ecology, to Mr. James E. Rasmussen, the USDOE, and Mr. William D. Adair, Fluor Daniel Hanford, Inc., "RCRA Requirements for Immobilization of Mixed Waste at the Plutonium Finishing Treatment Plant," dated September 22, 1999.
- (3) Letter, Mr. James E. Rasmussen, the USDOE, to Mr. Mike Wilson, Ecology, "Interim Status Compliance at the Plutonium Finishing Plant (PFP) Treatment Unit (T-2-8)," dated January 13, 2000.
- (4) Letter, Mr. Mike Wilson, Ecology, to Mr. James E. Rasmussen, the USDOE, "Resource Conservation and Recovery Act of 1976 (RCRA) Requirements for Immobilization of Mixed Waste at the Plutonium Finishing Plant (PFP) Treatment Unit," dated January 28, 2000.

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The purpose of this letter is to communicate Ecology's comments on the USDOE's white paper entitled "Establishing Interim Status Standards for the Plutonium Finishing Plant Cementation Unit Glovebox," dated June 3, 1998 (Reference 1). In addition, Ecology will comment on the updated table entitled "Interim Status Standards Applicable to PFP Treatment Unit," attached to the USDOE letter from Mr. James E. Rasmussen to Mr. Mike Wilson, dated January 13, 2000 (Reference 3). To eliminate confusion, Ecology will refer to the table when responding to the listing of proposed applicable interim status requirements. Ecology will refer to the white paper when responding to the open container issue and labeling alternative.

PFP is currently authorized to treat mixed waste under interim status in an "Other - T04" treatment unit in accordance with the Part A, Form 3, for the PFP Treatment Unit (Rev. 0, 12/23/98), the approval of which was granted on September 22, 1999 (Reference 2). As such, all applicable interim status requirements associated with treatment must be met. Interim status regulations are detailed in the Washington State Dangerous Waste Regulations, Washington Administrative Code (WAC) 173-303-400, and by reference in the Federal Resource Conservation and Recovery Act Regulations, 40 Code of Federal Regulations (CFR) Part 265. Ecology's response to the white paper and table is divided into three parts. The first part details a discussion on Treatment Storage and Disposal (TSD) unit specific interim status requirements; the second, a discussion on general interim status requirements; and the third, a discussion on the proposed container identification alternative.

TSD Unit Specific Interim Status Requirements

In the white paper, the USDOE states it believes the cementation treatment process most closely resembles a container management activity, and has proposed to permit glovebox HA-20MB, located in Room 235B of the PFP 234-5Z building, under interim status as a miscellaneous treatment and storage unit. The logic for this proposal is based on the need to keep containers open during the cementation treatment process, and possibly during storage, which will all occur within the glovebox. Federal regulations require waste handlers to keep containers closed except when adding or removing waste (40 CFR 265.173(a)).

In consideration of this proposal, the table indicates the following State and Federal requirements for use and management of containers, and miscellaneous units, will be met:

- Identification of containers (WAC 173-303-630(3))
- Environmental performance standards (WAC 173-303-680(2))¹
- Monitoring, analysis, inspection response, reporting, and corrective action (WAC 173-303-680(3))¹
- Postclosure care (WAC 173-303-680(4))¹
- Condition of containers (40 CFR 265.171)
- Compatibility of waste with container (40 CFR 265.172)
- Management of containers (40 CFR 265.173(b))
- Inspections (40 CFR 265.174)
- Special requirements for ignitable or reactive waste (40 CFR 265.176)

The table also identifies the following State and Federal requirements with which the USDOE is unable to comply, or believes are not applicable to the PFP Treatment Unit:

- Containment (WAC 173-303-630(7))
- Management of containers (40 CFR 265.173(a))
- Special requirements for incompatible waste (40 CFR 265.177)
- Air emission standards (40 CFR 265.178)

As discussed in Ecology's letter from Mr. Mike Wilson to Mr. James E. Rasmussen, dated January 28, 2000 (Reference 4), current State and Federal regulations do not provide interim status requirements for miscellaneous units, and as such, Ecology has reviewed requirements from other units for applicability (e.g. tanks, containers, containment buildings).

Ecology is in agreement that the described treatment and storage processes resemble a container management activity, and as such, require the PFP Treatment Unit meet all applicable interim status requirements for use and management of containers in 40 CFR 265 Subpart I, WAC 173-303-630(3) and WAC 173-303-630(7). Ecology does not concur with the USDOE's indication that requirements in 40 CFR 265.177, "special requirements for incompatible wastes," are not applicable. All owners/operators who

¹ The Washington Administrative Code regulatory requirements identified are final status requirements for miscellaneous units.

manage hazardous wastes in containers (regardless of whether the wastes and/or materials are incompatible) are subject to these requirements.

In addition, it is Ecology's understanding that part of the treatment process will include adding water to a powdered form of the waste in an effort to react the calcium in the waste. Appendix V in Part 265 lists examples of incompatible wastes and materials; water and calcium are listed as incompatible materials in Groups 3-A and 3-B respectively. Ecology understands the treatment process requires this step. It is allowed as long as treatment operations within the PFP Treatment Unit comply with the requirements of 40 CFR 265.177 and, by reference, 40 CFR 265.17(b). In accordance with 40 CFR 265.17(b), the mixture or commingling of these incompatible wastes and materials is allowed, but must be conducted in such a way that it does not:

- generate extreme heat or pressure, fire or explosion, or violent reaction;
- produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health;
- produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions;
- damage the structural integrity of the device or facility containing the waste; or
- through other like means, threaten human health or the environment.

After evaluating the PFP Treatment Unit Part A, Form 3, (Rev. 0, 12/23/98) treatment process and waste descriptions, Ecology believes the air emission requirements in 40 CFR 265.178, and by reference in 40 CFR 265 Subparts AA, BB, and CC, are not applicable at this time. This belief is based on the following:

- The PFP Treatment Unit does not include process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations that manage hazardous wastes with organic concentrations of at least 10 parts per million by weight (40 CFR 265.1030(b)).
- The PFP Treatment Unit does not include equipment that contains, or comes in contact with, hazardous wastes with organic concentrations of at least 10 percent by weight (40 CFR 265.1050(b)).
- The PFP Treatment Unit is a waste management unit that is used solely for the management of radioactive mixed waste in accordance with all applicable regulations under the authority of the Atomic Energy Act and the Nuclear Waste Policy Act (40 CFR 265.1080(b)(6)).

Any change in the treatment process or change in the types of waste to be treated will require revisiting this requirement to determine applicability.

In addition to the above requirements, because the treatment process occurs in open containers where there is a high potential for dust generation, splattering and spills, Ecology has determined the glovebox, must meet interim status requirements for container storage areas as detailed in WAC 173-303-630(7), and the following additional conditions:

- The glovebox must be designed and operated in a manner that will prevent any intentional or unintentional spilling, leaking, pouring, emitting, emptying, discharging, injecting, pumping, escaping, leaching, dumping, or disposing of dangerous wastes, or dangerous constituents, as defined in WAC 173-303-646(1)(c) into any air, land, water, or ground water;
- The glovebox must be designed and constructed of materials of sufficient structural strength to prevent collapse or failure. The design and materials of the glovebox must be able to support itself, the waste contents, and any equipment that operates within the glovebox;
- The glovebox must be totally enclosed and operated in accordance with applicable Clean Air Act regulations;
- All surfaces of the glovebox that come in contact (or that have the potential to come into contact) with hazardous wastes, must be chemically compatible with those wastes;
- Incompatible hazardous wastes or treatment reagents must not be placed in the glovebox if they could cause the glovebox structure to leak, corrode, or otherwise fail;
- Open containers must remain inside the confines of the glovebox;
- Containers outside the confines of the glovebox must be closed at all times, except when adding or removing waste in accordance with 40 CFR 265.173(a).

General Interim Status Requirements

In addition to discussing TSD unit specific requirements, the white paper and table also address general interim status requirements applicable to the PFP Treatment Unit. As noted in the introduction, to eliminate confusion, Ecology will respond to the USDOE's table for the listing of proposed applicable interim status requirements.

The USDOE has proposed meeting several of the general interim status requirements; however, the interim status requirements not listed or partially listed in the proposal are not accompanied by an explanation/justification.

Ecology can only consider current applicability of interim status requirements when accompanied by an explanation/justification, and if necessary, alternative proposal(s) for meeting the requirement. As such, the following interim status requirements are not listed in the table:

- General requirements for dangerous waste management facilities (WAC 173-303-280);
- Notice of intent requirements (WAC 173-303-281)²;
- Siting criteria requirements (WAC 173-303-282)²;
- Required notices (WAC 173-303-290);
- General waste analysis (WAC 173-303-300(1)-(4)³, 300(6))
- General inspection requirements (WAC 173-303-320(1), -320(30));
- Personnel training requirements (WAC 173-303-330(1), -330(3));
- Contingency plan and emergency procedures requirements (WAC 173-303-350(1), -350(3-5));
- Superfund Amendments and Reauthorization Act Title III coordination requirements (WAC 173-303-355);
- Manifest system requirements (WAC 173-303-370);
- Facility recordkeeping requirements (WAC 173-303-380(2)⁴, -3809(3));
- Interim status permits requirements (WAC 173-303-805);
- Financial requirements (40 CFR 265 Subpart H).

Please note, interim status land disposal restrictions requirements are contained in WAC 173-303-140, and by reference in 40 CFR 268 (the table lacks the State citation). Also, although corrective action requirements are listed generally at the top of the table, the citation is missing from the specific listing. Interim status corrective action requirements are contained in WAC 173-303-646, and are applicable to the PFP treatment unit.

² The USDOE has met the Notice of Intent and Siting Criteria requirements of WAC 173-303-281 and -282 for the PFP Treatment Unit through submittal of the "Notice of Intent for Expansion Under Interim Status, Hanford Facility Plutonium Finishing Plant Treatment and Storage Unit, Richland, WA" dated July 1997. Please note any additional proposals for expansion of the PFP Treatment Unit will again trigger these requirements.

³ The USDOE table lists WAC 173-303-300(5), Waste Analysis Plan, which includes WAC 173-303-300(1)-(4) by reference.

⁴ The USODE table lists WAC 173-303-380(1), Operating Record, which includes WAC 173-303-380(2) by reference.

In order to respond adequately to general interim status requirements the USDOE feels are not applicable to the PFP Treatment Unit, Ecology will need additional information providing an explanation/justification. Once this information is received, it will be possible to determine current applicability of those requirements.

Proposed Container Identification Alternative

The interim status container identification requirements are identified in WAC 173-303-630(3). In summary, the owner-operator must label containers in a manner that adequately identifies the major risk(s) associated with the contents of the containers for employees, emergency response personnel, and the public. To meet these requirements, in the white paper, the USDOE proposes labeling the exterior of the glovebox. The accompanying information explains there are five categories of plutonium-bearing material that have been identified for cementation, and each category will present different hazards. The cementation of one category will be completed, before moving to a different category. The white paper states the waste codes and hazards associated with each category may change as the material moves through the cementation process, going from an uncemented state to a cemented state. The glovebox process is set up in a circular fashion, with the cemented items located on one side of the glovebox and uncemented items located on the other side. The USDOE proposes to meet major risk labeling requirements by applying different labels to the outside of the two sides of the glovebox. The label on the side of the glovebox corresponding to uncemented items will reflect the major risks of uncemented items, and the label on the other side of the glovebox will reflect the major risks of cemented items. The major risk labels on the outside of the glovebox will be changed, depending on the category of plutonium-bearing materials being treated.

This proposal for identifying containers located inside the glovebox is accepted. Please note that once treatment for each container of waste has been completed, the 90-day clock for the newly generated waste has begun, subjecting those wastes to WAC 173-303 generator and accumulation requirements, which includes by reference container identification requirements in WAC 173-303-630(3).

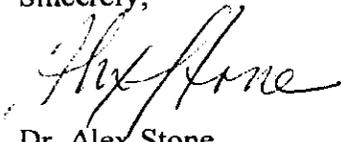
Ecology notes that our records do not show any interim status capacity for storage at PFP. If dangerous or mixed wastes are currently being stored at PFP, the USDOE and its contractor are at risk of enforcement for illegal storage. As noted in the Ecology letter from Mr. Mike Wilson, to Mr. James E. Rasmussen, dated January 28, 2000 (Reference 4), Ecology strongly advises that, as soon as possible, you work with us to resolve any issues associated with storage of wastes at PFP.

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Ecology anticipates many of the questions surrounding permitting of the PFP Treatment Unit will be resolved with submittal of the USDOE Final Facility Permit Application for the PFP Treatment Unit in accordance with WAC 173-303-805 (5)(i), scheduled for October 31, 2000.

If you have any questions, or if I can be of further assistance, please feel free to call me at (509) 736-3018. You may also direct questions to Oliver Wang, the Unit Manager for PFP, at (509) 736-3040.

Sincerely,



Dr. Alex Stone
Transition Project Manager
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AS:ld

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