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

01-RCA-250

APR 17 2001

Mr. E. R. Skinnarland  
Waste Management Section Manager  
State of Washington,  
Department of Ecology  
1315 West Fourth Avenue  
Kennewick, Washington 99336

RECEIVED  
MAY 16 2001

EDMC

Dear Mr. Skinnarland:

COMPLETION OF CORRECTIVE MEASURE NUMBER THREE OF THE JUNE 12, 2000, STATE OF WASHINGTON DEPARTMENT OF ECOLOGY (ECOLOGY), NOTICE OF CORRECTION, DOCKET NUMBER 00NWPKW-1204

On June 12, 2000, Ecology issued the "Notice of Correction from August 8, 1999, Dangerous Waste Compliance Inspection of the Waste Encapsulation Storage Facility (WESF), 200 East Area of Hanford—Docket Number 00NWPKW1204." Subsequent to this letter, several meetings took place to determine the appropriate actions to resolve Corrective Measure Three. On March 9, 2001, Ecology offered an alternate proposal to resolve Corrective Measure Three in an electronic mail message from K. A. Conaway, Ecology, to J. G. Granger, B. Oldfield, and F. M. Simmons, Fluor Hanford, Inc. (FHI), titled "WESF Corrective Measure 3." With this letter, the U.S. Department of Energy, Richland Operations Office (RL) and FHI accepts the Ecology proposal and is submitting the inspection program for your approval. A detailed description of the inspection program is described in the enclosure. Please review the enclosure and, if acceptable, respond in writing to close out Corrective Measure Three.

Should you have any questions, please contact E. M. Mattlin, Regulatory Compliance and Analysis Division, on (509) 376-2385 or S. K. Moy, Waste Management Division, on (509) 376-8372.

Joel Hebdon, Director  
Regulatory Compliance and Analysis Division  
DOE Richland Operations Office

Richard H. Gurske, Director  
Environment and Regulation  
Fluor Hanford, Inc.

Enclosure

cc: See page 2

## CORRECTIVE MEASURE THREE

### Background:

On June 12, 2000, Ecology's Notice of Correction cited the following alleged violation number three:

WAC 173-303-320, General Inspection and WAC 173-303-630, Use and Management of Containers

The USDOE and FH fail to meet the requirements of WAC 173-303-320(2) (c), and 40 CFR 265.170, Subpart 1. Weekly inspections of the Cesium and Strontium container storage areas do not meet the requirements of WAC 173-303-630(6).

*The inspection program is insufficient in identifying container deterioration. Container condition at the WESF is difficult to ensure, due to the radiological hazards of the waste. WESF performs an inner capsule movement test/clunk test annually, conducts daily/per shift pool cell surveillance and on-line Beta monitoring for container condition and deterioration. Throughout the inspection, Ecology was given different representations of how WESF ensures good container condition. As a result, Ecology has determined that the current constituents are inadequate to meet WAC 173-303-320(2)(c). Due to the nature of capsule storage, and the stated impracticality of weekly clunk tests, the annual clunk test should be done to support monitoring.*

The corresponding Corrective Measure Three in the June 12, 2000, letter stated:

WAC 173-303-320, General Inspection

Within ninety days (90) of receipt of this letter, the USDOE and FH shall submit a container inspection program for approval. This inspection program shall include the following provisions: annual inner capsule movement test, also known as the clunk test, as part of the WESF inspection program. This annual clunk test will satisfy the required weekly inspections for monitoring container condition and deterioration until a better method is developed. On or before November 15, 2000, USDOE and FH shall submit a report for the technology needed to rapidly identify and remove a leaking capsule. This report must include cost of development of the technology, identification of vendors contacted for developing such technology and data quality requirements for such technology. This report must be updated and submitted to Ecology by April 15, 2001, with subsequent updates submitted to Ecology every six (6) months thereafter until such technology is developed and deployed.

After several meetings between Ecology, RL, and FH where discussions took place on the inspection program, Ecology offered an alternate proposal to resolve Corrective Measure Three in an electronic mail message from K. A. Conaway, Ecology, to J. G. Granger, B. Oldfield, and F. M. Simmons, FH, titled "WESF Corrective Measure 3" dated March 9, 2001 that stated:

"For the corrective measure three of the Notice of Correction from August 8, 1999, Dangerous Waste Compliance Inspection of the Waste Encapsulation Storage Facility (WESF), Docket # 00NWPKW-1204, dated June 12, 2000, Ecology will consider the measure complete with the agreement of the container inspection program including the following:

- \* Annual Clunk Test
- \* Beta Monitoring of Pool cells including Pool Cell Surveillance Data Sheet
- \* Inspection logs for daily, weekly, etc.
- \* Annual Inspection of WESF (outside building and pool cell area)

If USDOE agrees with this, Ecology will not require the technology reports that were requested in the corrective measure three. If USDOE agrees with this, please document in a letter the container inspection program and submit this to Ecology for approval. Once Ecology has approved corrective measure three, Ecology will send USDOE confirmation and a close out letter for this Notice of Correction. Please send your letter by April 19, 2001. Please let me know if you have questions."

This proposal was based on the following guiding principles and regulatory requirements agreed to at the February 9, 2001 meeting.

- WESF is permitted as S99 (under interim status) and will transition to X99 (under final status)
- WESF is protective of human health and the environment based on current configuration
- Both Ecology and RL want a smooth transition from interim status to final status
- Both Ecology and RL want to permit WESF without cost impacts.
- Guidance exists for permitting an X99 waste management unit (final rule dated December 10, 1987, 52 FR 46946)
- Permitting requirements are based on WAC 173-303-680(2)
- Requirements based on environmental performance standards after evaluating protection of human health and the environment

During the meeting on February 9, 2001, the PUREX Storage Tunnels, a Hanford Facility final status TSD unit was cited as an example of a waste management unit that already meets the requirements of WAC 173-303-680.

When looking at meeting the requirements in WAC 173-303-680(2), the Ecology permit writer must evaluate possible releases of dangerous waste or dangerous waste constituents from the unit giving consideration the following pathways:

- a) ground water or subsurface environment,
- b) surface water, wetlands, on the soil surface, or
- c) air

Fluor Hanford (FH) and U.S. Department of Energy, Richland Operations Office (RL) accept Ecology's March 9, 2001 proposal as it was discussed in the March 22, 2001 TPA Project Manager meeting, relating to the scope of the annual clunk test. The WESF inspection program will consist of three inspection elements:

- Annual Clunk Test
- Daily Beta Monitoring of Pool cells including Pool Cell Surveillance Data Sheet
- Annual Inspection of WESF (outside building and pool cell area).

Each of these three elements will comply with the provisions in WAC 173-303-320(2) and (3) during the periods of interim status, as required by WAC 173-303-680(3) for final status units. Compliance under interim status will be based on WAC 173-303-400(3)(a)(i). The "Inspection logs for daily, weekly, etc" component will be met for each element through compliance with WAC 173-303-320(2)(d).

#### WESF Inspection Program Description:

The following is a description of each of the agreed elements of the inspection program for the mixed waste stored at WESF.

- Annual Clunk Test.

Ecology has stated the annual clunk test will be included as part of the inspection program. As agreed to in a meeting at WESF and in the March 22, 2001 TPA Project Managers meeting, the annual clunk test only applies to the standard cesium capsules.

The scope of the annual clunk test is to physically shake each of the standard cesium capsules underwater to verify movement of the inner capsule. The clunk test is a best management practice and will continue. Nevertheless, if FH identifies a better means of inspection or recommends discontinuing the test, and RL approves of the method, we would approach Ecology in seeking this change.

- Daily Monitoring of Pool Cells

The deionized cooling water in the pool cells is continuously monitored for the presence of cesium and/or strontium. The beta monitor system is periodically inspected to verify instrumentation readings are within the proper limits. A data sheet is maintained listing the date and time of the inspection along with the signature of the operator performing the inspection.

- Inspection Logs

WAC-173-303-320(1) requires this inspection be performed on a schedule to identify problems in time to correct them before they harm human health or the environment. Inspections will be performed on working days (not including holidays, weekends, or back shifts) and will become part of the operating record to comply with WAC-173-303-320(1).

- Annual inspection of WESF (outside building and pool cell area).

Per WAC 173-303-320(1), the owner or operator must conduct these inspections on a schedule to identify problems in time to correct them before they harm human health or the environment. An inspection of WESF will be completed annually to comply with WAC 173-303-320. This inspection will include a walkdown of the outside of 225B, with emphasis on the pool cell portion of the facility. Deterioration (i.e. subsidence around the foundation, unusual settling or major cracks in the structure) of the facility that may cause, or could lead to, the release of the dangerous waste constituents in the capsules to the environment, or a threat to human health, will be listed on the data sheet.

Mr. E. R. Skinnarland  
01-RCA-250

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cc w/encl:

R. Gay, CTUIR

Administrative Records, H6-08

F. Jamison, Ecology

R. W. Wilson, Ecology

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R. H. Gurske, FHI

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