

**SAFETY AND COMPLIANCE INSPECTION**

<p>1. LICENSEE</p> <p>Battelle Memorial Institute West Jefferson site Columbus, OH</p> <p>REPORT NUMBER(S) 2003-003</p>	<p>2. REGIONAL OFFICE</p> <p>REGION III US NUCLEAR REGULATORY COMMISSION 801 WARRENVILLE ROAD LISLE IL 60532-4351</p>	
<p>3. DOCKET NUMBER(S)</p> <p>070-00008</p>	<p>4. LICENSE NUMBER(S)</p> <p>SUM-0007</p>	<p>5. DATE(S) OF INSPECTION</p> <p>6/16-20/03</p>

**LICENSEE:**  
The inspection was an examination of the activities conducted under your license as they relate to radiation safety and to compliance with the Nuclear Regulatory Commission (NRC) rules and regulations and the conditions of your license. The inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observations by the inspector. The inspection findings are as follows:

- 1. Based on the inspection findings, no violations were identified.
- 2. The violation(s), specifically described to you by the inspector as non-cited violations, are not being cited because they were self-identified, non-repetitive, and corrective action was or is being taken, and the remaining criteria in the NRC Enforcement Policy, NUREG-1600, to exercise discretion, were satisfied. \_\_\_\_\_ non-cited violation(s) were discussed involving the following requirement(s): \_\_\_\_\_
- 3. During this inspection certain of your activities, as described below and/or attached, were in violation of NRC requirements and are being cited. This form is a NOTICE OF VIOLATION, which is required to be posted in accordance with 10 CFR 19.11.

LC 12; Referring to Procedure WA-OP-007 Rev. 1; From October 2002  
In June 2003, The licensee Failed to have a second Transportation  
Specialist review shipping documentation for 9 of 43 shipments.

**STATEMENT OF CORRECTIVE ACTIONS**

I hereby state that, within 30 days, the actions described by me to the Inspector will be taken to correct the violations identified. This statement of corrective actions is made in accordance with the requirements of 10 CFR 2.201 (corrective steps already taken, corrective steps which will be taken, date when full compliance will be achieved). I understand that no further written response to NRC will be required, unless specifically requested.

TITLE	PRINTED NAME	SIGNATURE	DATE
LICENSEE	Craig Jensen	<i>Craig Jensen</i>	6/20/03
NRC INSPECTOR	Michael M LaFrauzo	<i>Michael M LaFrauzo</i>	6/20/03

*CNDL 7/6/03*

APPENDIX A

**MATERIALS DECOMMISSIONING INSPECTION FIELD NOTES  
FOR FACILITIES NEEDING SIGNIFICANT DECOMMISSIONING EFFORT**

Region III

Inspection Report No.           **07000008/2003-003(DNMS)**  
License No.                       **SNM-7**  
Docket No.                       **070-00008**

Licensee (Name & Address)   **Battelle Memorial Institute  
Battelle Columbus Laboratories Decommissioning  
Project**

Licensee Contact               **Craig E. Jensen, Corporate Radiation Safety Officer**  
Telephone No.                 **(614) 424-5170**

Date of Last Inspection       **March 10-14, 2003 with continuing NRC review  
through March 20, 2003**  
Date of This Inspection       **June 16-20, 2003**  
Date of Next Inspection       **July, August or September 2003**

Type of Inspection:        Announced        Unannounced  
                                   Routine            Special  
                                   Initial Decomm.    Reinspection of Decomm.

Brief Description of Inspection Activities:

**The NRC conducted a routine inspection. The inspection activities covered a wide range of program areas including; but not limited to transportation, training activities, and direct licensed activity performance based inspection.**

Brief Description of Findings and Action:

**The areas above were inspected in accordance with the appropriate inspection procedures. One violation of NRC requirements was identified regarding the licensee's failure to ensure a second transportation specialist review shipping documentation for 9 of 43 shipments.**

Summary of Findings and Action:

- No violations cited, clear NRC Form 591 or regional letter issued
- Violation(s), clear NRC Form 591 issued
- Violation(s), regional letter issued
- Followup on previous violations

Inspectors: Michael LaFranzo Radiation Specialist 7/2/03 Date  
 Approved: Christopher G Miller Chief, Decommissioning Branch  
 Date: 7/4/03

[Field notes are to be used by the inspector to assist with the performance of the inspection. Note that all areas indicated in the field notes are not required to be addressed during each inspection. However, for those areas not covered during the inspection, a notation ("Not Reviewed") should be made in each section where applicable. Additionally, all areas covered during the inspection should be documented in sufficient detail to describe what activities and/or records the inspector observed. The fieldnotes to the "Decommissioning Inspection Procedure for Materials Licensees" should be supplemented with: (1) the applicable inspection procedures for operating facilities provided in the Inspection Procedure (IP) 87100 series; and (2) other written documentation of the inspection, as necessary.]

1. **SUMMARY OF DECOMMISSIONING STATUS**

The checklist below is intended to provide, in a written outline format, summary documentation of the status of the licensee's facility in the decommissioning process. This documentation will be filed as part of the inspection report. The inspector should use this information to develop each inspection plan(s) for the various stages of decommissioning, namely, before dismantlement, during dismantlement and site remediation, and after site remediation.

- A. Licensee ceased operational program. (X) Y ( ) N
- B. Required decommissioning financial assurance mechanisms in place. (X) Y ( ) N
- C. Decommissioning Plan (DP) required. (X) Y ( ) N
- D. Licensee final survey required. (X) Y ( ) N
- E. NRC confirmatory survey required. (X) Y ( ) N
- F. NRC closeout inspection required. (X) Y ( ) N
- G. Licensee doing decommissioning planning and preparation before dismantlement. (X) Y ( ) N
- H. Licensee actively remediating site. (X) Y ( ) N
- I. Licensee completed site remediation. ( ) Y (X) N

2. **INSPECTION OF KEY DECOMMISSIONING ACTIVITIES**

The following is a generic checklist of major licensee activities occurring at various stages of decommissioning. From this generic checklist and from facility-specific activities you identify, develop the set of licensee activities to be inspected - for each individual inspection throughout the decommissioning process. Plan to inspect licensee activities that present potential high-risk conditions. Then apply the standard health and safety inspection areas in Section 3 of these fieldnotes (taken from the applicable 87100 series IP for the licensee's operational program) to the specific licensee decommissioning activities that are being inspected.

To complete the licensee activities checklist, the inspector will need to obtain information from the Licensing Project Manager, review the DP, make observations at the licensee's facility, review licensee records, take measurements and samples of contaminants, and undertake other investigative measures, to determine whether the licensee is meeting all regulatory and DP commitments for each decommissioning activity the licensee is performing.

**A. LICENSEE ACTIVITIES INSPECTED BEFORE DISMANTLEMENT**

- |   |              |
|---|--------------|
| 1. Licensed material used during operations has been removed from site. (In process)  | (X) Y ( ) N  |
| 2. Facility license conditions are in place and met by licensee.  | (X) Y ( ) N  |
| 3. Site security and control of contaminated material being maintained in compliance with 10 CFR 20.1801 and 20.1802.   | (X) Y ( ) N  |
| 4. Support systems and services (e.g., lighting, water supply) are in place.  | (X) Y ( ) N  |
| 5. Decommissioning schedules are consistent with timeliness requirements in 10 CFR 30.36, 40.42, and 70.38.   | See Below    |
| 6. Licensee's recordkeeping is consistent with 10 CFR 30.35, 40.36, and 70.25.  | ( ) Y (X) NR |
| 7. Financial assurance requirements are being maintained in accordance with 10 CFR 30.35, 40.36, and 70.25.   | ( ) Y (X) NR |
| 8. Licensee is conducting site characterization in accordance with applicable radiation protection procedures.  | ( ) Y (X) NR |
| 9. Construction of new site features (e.g., roads, rail spurs, staging areas, sediment control ponds) conforms to DP and does not compromise health and safety of workers and public. | ( ) Y (X) NR |
| 10. Licensee activities conform to specific license conditions and licensee programs and procedures.  | (X) Y ( ) N  |

**Basis of Findings:**

**During the inspection, the licensee indicated that a new subcontractor was going to take over primary decommissioning operations at the West Jefferson site while Battelle will maintain the license and have overall control of the program. The NRC is continuing to review the licensee's planned amendment submittal concerning the management restructuring and Transuranic (TRU) waste disposal issue to ensure that the overall timeliness goals are met and that the license can be terminated by December 2005.**

**B. LICENSEE ACTIVITIES INSPECTED DURING DECONTAMINATION, DISMANTLEMENT, AND SITE REMEDIATION**

- |   |             |
|---|-------------|
| 1. Site security and control of contaminated material being maintained in compliance with 10 CFR Part 20. | (X) Y ( ) N |
|---|-------------|

2. Decontamination and dismantlement of structures are being performed consistent with DP and sound industry practice (structures include buildings, utilities, treatment lagoons, etc.). (X) Y ( ) N

3. Decontamination and remediation of the following are being performed consistent with DP and sound industry practice:

- a. Soil. ( ) Y ( ) NR
- b. Sediment. ( ) Y ( ) NR
- c. Surface waters. ( ) Y ( ) NR
- d. Groundwater. ( ) Y ( ) NR
- e. Other mediums: ( ) Y ( ) NR

**The inspector observed operations regarding the decommissioning and dismantlement of building JN-1. All operations were being performed as required by the Radiation Work Permit and NRC regulatory requirements.**

4. Licensee release and disposal of decommissioning wastes are consistent with DP and approved by NRC for:

- a. Liquid wastes (e.g., groundwater, surface water, liquid from treatment ponds, process liquids). ( ) Y ( ) NR
- b. Solid wastes (e.g., building materials, process and other facility equipment, concrete rubble, soil). (X) Y ( ) N
- c. Other wastes: ( ) Y ( ) N

**The licensee is continuing to generate solid and process liquid waste from several buildings on site, primarily JN-1. At this time, the licensee is unable to ship Transuranic Waste off site to a disposal facility and has submitted an amendment to NRC for the temporary storage of the waste on site until the waste can be shipped off site.**

- 5. Temporary, on-site storage of low-level radioactive wastes from decommissioning meets license conditions and guidance in IP 84890. (X) Y ( ) N

**The licensee is continuing to process and store low-level radioactive waste on site until enough material is collected to economically ship the waste to a disposal facility. The inspector noted that the licensee has recognized that storage space, as well as working space, is getting tighter as decommissioning of the site continues. The licensee is continuing to review low-level waste storage to ensure the safe handling and storage of material. The inspector did not identify any concerns regarding the storage of low-level radioactive waste during the inspection.**

6. Packaging and shipment of radioactive waste materials meet requirements in 40 CFR Parts 173-178 and 10 CFR Part 71.

Y  N

**No radioactive shipments were made during the inspection. However, the inspector reviewed documentation regarding the shipment of radioactive waste and did not identify any concerns regarding packaging and shipment.**

7. Restoration of site - Licensee has restored site to meet license conditions and NRC-approved plans.

Y  N

**The licensee is continuing decommissioning activities.**

8. Licensee survey of material and equipment for free release sufficient to demonstrate compliance with release criteria.

**The inspector noted that the licensee was using appropriate monitoring techniques to ensure material and equipment was properly surveyed prior to unrestricted use.**

Basis for Findings:

**See above**

### C. LICENSEE ACTIVITIES INSPECTED AFTER COMPLETION OF SITE REMEDIATION

Basis for Findings:

**This section is not applicable.**

### 3. INSPECTION OF STANDARD HEALTH AND SAFETY AREAS FROM THE OPERATIONAL INSPECTION PROGRAM

Identify the standard inspection areas (from the inspection program of the licensee's operational program) to be covered during each decommissioning inspection. [Inspection areas A through L below correspond to the typical inspection areas in the 87100 series IPs that are applicable to decommissioning.] Then identify the new activities within the standard inspection areas undertaken by the licensee during decommissioning. Some of the new activities given below, as well as any other activities the inspector identifies, should be considered inspection items under the general set of health and safety inspection areas used in the applicable 87100 series IP.

**Minimum inspection areas for the initial decommissioning inspection:** decommissioning organization (A.1); decommissioning activities in compliance with NRC-approved DP (A.2); licensee procedures for implementing the DP (A.3); Radiation Safety Committee (RSC) and Radiation Safety Officer (RSO) responsibilities (A.4); and the licensee's decommissioning training program (E.1).

A. GENERAL OVERVIEW

1. Describe the licensee's decommissioning organizational structure:

**The licensee's organization was as described in the Decommissioning Plan. The RSO performs general over-sight of the radiation protection program, and ensures compliance with license conditions. The licensee is planning to submit an amendment to the NRC to change certain oversight functions. The licensee plans to submit the amendment in July 2003 so a new subcontractor can be added to the program by October 2003.**

2. Licensee is performing decommissioning activities in compliance with its approved DP. (X) Y ( ) N
3. Licensee has implemented procedures for the decommissioning activities identified in the DP. (X) Y ( ) N
4. The RSC and RSO fulfill license requirements to deal with all decommissioning activities. (X) Y ( ) N

Basis for Findings:

**See Above**

B. FACILITIES

1. Describe, from field observation, the licensee-identified facilities and outdoor areas to be decommissioned:

**During the inspection, the inspectors observed various activities related to the decommissioning of the JN-1 building.**

2. The licensee's remediation plan includes all the contaminated facilities and areas on-site and off-site. (X) Y ( ) N
3. All essential systems and services (e.g., electrical power, water supply, communications systems) are in place and functional for the planned decommissioning activities. (X) Y ( ) N
4. Licensee's emergency plan is in place and operative for the duration of decommissioning. ( ) Y ( ) N

**This area was not reviewed during this inspection.**

5. For complex sites needing site characterization, describe the key site characterization activities to be performed by the licensee to determine the nature and extent of contamination:

**A primary challenge of the licensee is to remove the transuranic waste from JN-1 to a temporary storage location on site so that JN-1 can be decontaminated and demolished. At this time, the transuranic waste can not be shipped off site for disposal. The licensee has an amendment in to NRC regarding the construction of a site storage location.**

- 6. Licensee's characterization activities performed in conformance with good industry practice. (X) Y ( ) N

C. EQUIPMENT AND INSTRUMENTATION

- 1. Survey instruments are applicable to contaminants of interest. (X) Y ( ) N
- 2. Use of survey instruments appropriate for site. (X) Y ( ) N

Basis for Findings:

**The inspector noted that the licensee was using appropriate radiological survey instruments properly to analyze and address radiological conditions during the cask loading and surveys of the transportation container.**

D. MATERIALS

- 1. Radioactive materials licensed during operations have been removed offsite; residual quantities conform to license conditions.

**The licensee is continuing to remove low level radioactive waste for disposal or recycling. As a result of differences between the Department of Energy (DOE) and the State of Washington, the licensee is unable to ship Transuranic Waste to Handford. DOE is unsure whether these differences can be resolved this year. The NRC will continue to monitor this issue.**

- 2. Security and control of licensed materials, including contaminated areas, is being maintained. (X) Y ( ) N

Basis for Findings:

**The inspectors interviewed security personnel and noted security activities on site. The inspectors noted that security was adequate for the program.**

E. TRAINING

- 1. Licensee has developed training program for new decommissioning activities (e.g., demolition of structures, excavation of soil); program is adequate. (X) Y ( ) N
- 2. Training program being effectively implemented. (X) Y ( ) N

Basis for Findings:

**The inspector observed a respiratory training session held by licensee personnel for several site personnel. The inspector noted that information contained within the training was consistent with NRC regulatory requirements. The inspector also interviewed several individuals regarding training on radiation work permits and radiation safety procedures and practices. The**



**inspector noted that all individuals interviewed had sufficient knowledge to ensure the radiation work permit was implemented as required.**

**F. AREA RADIATION SURVEYS AND CONTAMINATION CONTROL**

1. Area surveys are being performed in areas being decommissioned. (X) Y ( ) N
2. Where active remediation (e.g., demolition of structures, excavation of soil) is being performed, radiation levels in unrestricted areas do not exceed 2 mrem in any one hour. (X) Y ( ) N

Basis for Findings:

**The inspectors conducted radiation surveys at various locations throughout the site. The inspectors did not identify any abnormal radiation levels.**

**G. RADIATION PROTECTION**

1. The licensee's approved health physics program is being implemented in the field for new decommissioning activities. (X) Y ( ) N
2. Site security and control of contaminated material are in compliance with 10 CFR 20.1801 and 20.1802. (X) Y ( ) N

Basis for Findings:

**H. RADIOACTIVE WASTE MANAGEMENT/EFFLUENTS/ENVIRONMENTAL MONITORING**

1. Offsite disposal of decommissioning wastes conforms to free release criteria and disposal site requirements. (X) Y ( ) N

**The licensee has been informed not to ship transuranic waste to Handford. See section 3.D for details.**

2. All new effluent releases conform to DP and applicable regulations. (X) Y ( ) N
3. The licensee's environmental monitoring program is being implemented in conformance with the DP and all applicable limits are being met. (X) Y ( ) N
4. Temporary storage/staging areas for radioactive wastes from building demolition, equipment dismantlement, soil excavation, etc., are adequately posted and protected. (X) Y ( ) N

Basis for Findings:

**See Above**

## I. RECORDKEEPING FOR DECOMMISSIONING

1. Copies of the licensee's decommissioning cost estimates and funding methods are on file. ( ) Y (X) NR
2. Licensee has adequate records for decommissioning activities performed (e.g., for decontamination and dismantlement of structures; decontamination and remediation of soil, sediment, surface waters, groundwater; surveys of remediated facilities). (X) Y ( ) N
3. Licensee's financial assurance conforms with the financial assurance requirements of NRC-approved possession limits and NRC regulations. (X) Y ( ) N

### Basis for Findings:

**Within the areas inspected, the inspectors noted that documents to ensure decommissioning activities were performed appropriately were present and readily available.**

## J. TRANSPORTATION

1. Describe the licensee's program to package and ship decommissioning waste materials:

### See Below

2. Licensee's program meets all applicable 10 CFR and 49 CFR requirements for marking labeling, placarding, and shipping paper requirements for radioactive waste shipments. (X) Y ( ) N

### Basis for Findings:

**The licensee has been informed not to ship transuranic waste to Handford. See section 3.D for further details. The disagreement between DOE and the State of Washington does not cover low level radioactive waste and the licensee is continuing to ship the material to Handford for disposal as needed. The licensee is continuing to determine what is necessary to ship the Saxton Fuel Pin to Savannah River for disposal. The NRC will continue to monitor all activities noted above.**

**License Condition 12.B of License No. SNM-0007 requires, in part, that the licensee shall conduct its program in accordance with the statements, representations and procedures contained in the "Decommissioning Plan" (DP), Battelle Memorial Institute Columbus Operations, DD-93-19, Revision 3, August 3, 2000. Section 3.3.9 of the document titled "Packaging and Transportation of Radioactive Materials" requires that shipments of radioactive materials are performed in accordance with approved procedures.**

**Procedure WA-OP-007 Rev. 1 requires that a second transportation specialist review shipping documentation prior to shipment.**

**During the inspection, the licensee identified 9 (of 43 shipments) instances between October 2002 and June 2003 where the licensee failed to have a second transportation specialist review shipping documentation prior to shipment. The failure to have a second transportation specialist review**

shipping documentation as required by WA-OP-007 is a violation of NRC requirements. The inspector reviewed a representative sample of shipping documentation and did not identify any violations of DOT or NRC requirements. The licensee acknowledged that an error in shipping documentation or preparation could cause the licensee to be barred from disposal of waste at waste disposal facilities.

The licensee stated that part of the root cause for the second specialist not reviewing the 9 shipping papers was time shortage for those shipments and the limited supply of certified transportation specialists. The licensee identified the root causes and committed to corrective actions as documented in Non-Conformance Report No. 03-012 dated June 18, 2003 which include, but are not limited to, identifying staff members who are transportation specialists and make that list available to pertinent individuals and retrain all transportation specialists regarding the review process. The NRC determined that the violation should be categorized as a Severity Level IV.

#### K. POSTING AND LABELING

1. All contaminated areas, waste processing areas, and waste handling areas are posted in conformance with regulations. (X) Y ( ) N
2. Packaged radioactive waste materials are labeled in accordance with regulations. (X) Y ( ) N

Basis for Findings:

**While reviewing the licensee's health physics practices, the inspector noted that posting and labeling were properly addressed in the areas inspected.**

#### L. OCCUPATIONAL HEALTH AND SAFETY

1. Describe the occupational health and safety observations made at the licensee's facilities:

**Safety shoes, glasses and helmets were required in areas inspected. All personnel working in these areas were provided with the appropriate equipment.**

2. Licensee and Occupational Safety and Health Administration were informed of occupational health and safety issues observed during the inspection. ( ) Y (X) N

#### 4. VIOLATIONS, NON-CITED VIOLATIONS, FOLLOWUP ITEMS, AND OTHER ISSUES

Briefly state (1) the requirements and (2) how and when the licensee violated the requirement. For non-cited violations, indicate why the violation was not cited. Briefly describe followup items and other issues.

**One violation of NRC requirements was identified regarding shipping paper documentation. See section 3.J for details.**

END