

**SAFETY INSPECTION REPORT AND COMPLIANCE INSPECTION**

1. LICENSEE/LOCATION INSPECTED: Battelle Memorial Institute/West Jefferson North Columbus, OH		2. NRC/REGIONAL OFFICE REGION III US NUCLEAR REGULATORY COMMISSION 2443 WARRENVILLE ROAD LISLE IL 60532	
REPORT NUMBER(S) 070-00008/2004-001			
3. DOCKET NUMBER(S) 070-00008	4. LICENSE NUMBER(S) SNM-7	5. DATE(S) OF INSPECTION 17-21 May 2004	

**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. Previous violation(s) closed.
- 3. 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.

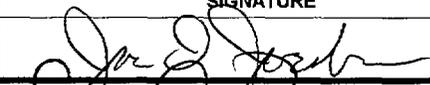
\_\_\_\_\_ non-cited violation(s) were discussed involving the following requirement(s):

- 4. 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 may be subject to posting in accordance with 10 CFR 19.11.

(Violations and Corrective Actions)

**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	Joe D. Subosa		5/21/04
NRC INSPECTOR	Eugenio A. Bonano		5.21.04

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

Region: III

Inspection Report No.: 070-00008/2004-001 (DNMS)

License No.: SNM-00007

Docket No.: 070-00008

Licensee (Name & Address): Battelle Memorial Institute, Battelle Columbus Laboratories  
Decommissioning Project (BCLDP), West Jefferson, Ohio

Licensee Contact: Joseph Jacobsen, BCLDP Radiation Safety Officer

Telephone No.: (614) 424-4098

Last Amendment No.: 28

Date of Amendment: May 10, 2004

Program Code: 21130 & 22200

Date of Last Inspection: December 18, 2003

Date of This Inspection: May 17-21, 2004

Date of Next Inspection: August 2004

Type of Inspection:             Announced             Unannounced  
    Routine                     Special  
    Initial Decomm         Reinspection of Decomm.  
Level of Inspection:         Normal                     Reduced     Extended

**Brief Description of Inspection Activities: The inspection focused on the licensee's oversight of the DOE contractor performing the actual decommissioning work, and the contractor's implementation and adherence to the licensee's approved decommissioning plan (DP). Inspectors reviewed, observed and evaluated the following: 1) document and procedure approval, control, and tracking process; 2) maintenance and security of the transuranic (TRU) storage pad; 3) personnel training and qualifications; 4) general radiation protection; 5) performance-based work activities, to include compliance with radiation work permits (RWP), work instructions (WI), and general safety requirements; 6) licensee's corrective actions concerning a transportation violation documented in Inspection Report Number, 070-00008/2003-003; and 7) licensee's corrective actions for two (non-reportable) operational occurrences (5 May and 29 April 2004). The inspectors also reviewed the licensee's actions to address one Information Follow-up Item (IFI), identified during the last inspection (Report No.: 070-00008/2003-004), concerning the failure of a vacuum cleaner gasket for a High-Efficiency Particulate Air (HEPA) Vac.**

**Brief Description of Findings and Action: The licensee is resuming decommissioning activities after an almost 6-7 month period of inactivity. This period was a result of the DOE renegotiating its contract with the licensee, which resulted in the replacement of the licensee as prime contractor directly responsible for the cleanup of the former Nuclear Sciences Area, located at Battelle's West Jefferson Ohio site. During the inspection, the licensee, contractor and DOE demonstrated a unified effort and cooperation in conducting the Battelle decommissioning project safely and in accordance with the DP and regulatory requirements.**

The following inspection procedures were used for this inspection:

IP 87104 Decommissioning Inspection Procedure for Material Licensees  
IP 83822 Radiation Protection  
IP 88005 Management Organization and Controls  
IP 88035 Radioactive Waste Management

Summary of Findings and Actions:

- No violations cited, clear NRC Form 591 or regional letter issued
- Violation(s), NRC Form 591 issued
- Violation(s), regional letter issued (Form 591 attached to this letter)
- Follow up on previous violations
- Follow up on Open Inspection Items

Inspectors: Gene Bonano, Decommissioning Inspector  
George (Mike) McCann, Project Manager/Senior Decommissioning Inspector

Approved by Branch Chief:



Kenneth G. O'Brien, Chief  
Decommissioning Branch

Date:

06/21/2004

1. SUMMARY OF DECOMMISSIONING STATUS

- 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. (Not applicable) ( ) 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

Description of Facility Status: The licensee has moved the remaining transuranic waste from building JN-1 to the Transuranic Waste Staging Pad. Remediation and demolition of building JN-1 is now the main work activity, with the steel liner for the fuel pool and transfer tunnel, which is connected to the now emptied Hot Cell, being dismantled. Characterization surveys are being conducted in building JN-2. WIs are being written for building JN-3 radiological and hazardous material removal. Interference removal activities are on going (i.e., sheep shed dismantlement (former low-level waste storage shed) ) to facilitate the remediation and demolition of building JN-1.

2. INSPECTION OF KEY DECOMMISSIONING ACTIVITIES

A. LICENSEE ACTIVITIES INSPECTED BEFORE DISMANTLEMENT

- 1. Licensed material used during operations has been removed from site. (X) Y ( ) N  
**The licensee has moved the remaining transuranic waste from building JN-1 to the Transuranic Waste Staging Pad.**
- 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. (X) Y ( ) N

- 6. Licensee's record keeping is consistent with 10 CFR 30.35, 40.36, and 70.25. ( ) Y ( ) N  
**This area not reviewed during this inspection.**
- 7. Financial assurance requirements are being maintained in accordance with 10 CFR 30.35, 40.36, and 70.25. ( ) Y ( ) N  
**This area not reviewed during this inspection.**
- 8. Licensee is conducting site characterization in accordance with applicable radiation protection procedures. (X) Y ( ) N
- 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. (X) Y ( ) N
- 10. Licensee activities conform to specific license conditions and licensee programs and procedures. (X) Y ( ) N
- 11. Other licensee activities: (SEE COMMENTS BELOW) ( ) Y (\*) N

**Basis for Findings:** The NRC inspectors attended the contractor's "Plan of the Day (POD)" planning and daily morning meetings. During these daily meetings, decommissioning safety and radiation protection topics and issues were discussed. The inspectors conducted daily rounds of buildings and grounds inside the licensee's fenced site and observed decommissioning work activities, such as radiological area, equipment, and personnel surveys, storage of low level waste, personnel dress-out and PPE practices, posting, and labeling of areas and materials, and completion of logs.

**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 ( ) N
  - b. Sediment. ( ) Y ( ) N
  - c. Surface waters. ( ) Y ( ) N
  - d. Groundwater ( ) Y ( ) N
  - e. Other mediums: ( ) Y ( ) N

**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, Work Instructions, 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 ( ) N
  - b. Solid wastes (e.g., building materials, process and other facility equipment, concrete rubble, soil). (X) Y ( ) N
  - c. Other wastes:

**The licensee did not conduct any shipments of waste at the time of the inspection.**

5. Temporary, on-site storage of low-level radioactive waste from decommissioning meets license conditions. (X) Y ( ) N

**The licensee's low level and transuranic waste are stored on site in accordance with the license and NRC regulations.**

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

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

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

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

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

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

9. Other licensee activities:

**Basis for Findings: NRC inspectors observed the licensee's low level and transuranic waste storage areas.**

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

**Basis for Findings: This area is not applicable.**

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

A. GENERAL OVERVIEW

1. Describe the licensee's decommissioning organizational structure:

**The licensee's organizational structure was as described in the DP Revision 5. License amendment number 28 incorporated the changes to the licensee's organization and oversight responsibilities. Licensee is responsible for the oversight of the decommissioning activities while the contractor, who reports to the DOE, engages in the actual execution of the decommissioning program under the licensee's DP and license.**

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: **Inspectors observed decommissioning activities in building JN-1. All transuranic waste have been removed from JN-1 and placed on a temporary storage pad secured by walls, barbed-wired fence, and security personnel.**

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 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:

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

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

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

Basis for Findings: See above....

#### 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: Instrumentation observed during tours.

#### D. MATERIALS

1. Radioactive materials licensed during operations have been removed offsite; residual quantities conform to license conditions. (X) Y ( ) N
2. Security and control of licensed materials, including contaminated areas, is being maintained. (X) Y ( ) N

Basis for Findings: These areas are adequately addressed elsewhere in this report.

#### 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: NRC inspectors interviewed licensee and contractor personnel responsible for training. The contractor QA manager had developed and implemented both a paper filing and computer based training documentation systems. The inspectors randomly pulled hard training records, and compared the records against the computer data based, as well as required training. All records reviewed were adequate.

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

1. Area surveys are being performed (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: Inspector observations.

## 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: **Inspector observations.**

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

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

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

2. All new effluent releases conform to DP and applicable regulations. ( ) Y ( ) N

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

3. The licensee's environmental monitoring program is being implemented in conformance with the DP and all applicable limits are being met. ( ) Y ( ) N

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

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: **Inspector observations**

## I. RECORD KEEPING FOR DECOMMISSIONING

1. Copies of the licensee's decommissioning cost estimates and funding methods are on file. ( ) Y ( ) N
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). ( ) Y ( ) N
3. Licensee's financial assurance conforms with the financial assurance requirements of NRC-approved possession limits and NRC regulations. ( ) Y ( ) N

Basis for Findings: **This area not reviewed during this inspection.**

## J. TRANSPORTATION

1. Describe the licensee's program to package and ship decommissioning waste materials: **During the inspection, the licensee did not ship waste material.**

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. ( ) Y ( ) N

Basis for Findings: **This program area was not reviewed during this inspection.**

**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: **Inspector observations**

**L. OCCUPATIONAL HEALTH AND SAFETY**

1. Describe the occupational health and safety observations made at the licensee's facilities: **Safety shoes, glasses and helmets required. All personnel working in these areas were provided with 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

Basis for Findings: **Inspector observations**

**4. VIOLATIONS, NON-CITED VIOLATIONS, FOLLOW UP ITEMS, AND OTHER ISSUES**

**No violations of NRC requirements were identified during this inspection.**

**Closed: Violation of NRC requirements documented in Inspection Report Number, 070-00008/2003-003. Failure to have a second transportation specialist review shipping documentation prior to shipment. The licensee's procedure, WA-OP-007 requires a supplementary review of all shipping documents prior to shipment. Inspection Report Number, 070-00008/2003-003 indicated that the licensee self-identified and implemented corrective actions during the inspection.**

**The licensee's corrective actions are still in place as describe in their Non-Conformance Report, NCR No. 03-012 (Dated: June 18, 2003). The licensee completed supplementary reviews of all shipping documents that did not get reviewed, identified qualified staff members who are available to provide paper reviews, and counseled the responsible staff member concerning importance of procedure compliance and decision making. The corrective actions implemented since the last inspection are adequate. This item is closed.**

**Closed: IFI Number, 070-00008/2003-004-01. Gasket failure on a vacuum cleaner being used in a radiologically contaminated area. Inspectors reviewed and evaluated the licensee's corrective actions. The inspectors determined the licensee adequately addressed this item.**

**Inspectors reviewed and evaluated the licensee's Event Reports (DD-04-006 and DD-04-008), Radiological Awareness Reports (RAR No.: 04-001 and RAR No.: 04-002) and corrective actions for two (non-reportable) operational occurrences (29 April and 4 May 2004, respectively). The inspectors determined the licensee adequately addressed this item.**