



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
REGION II  
245 PEACHTREE CENTER AVENUE NE, SUITE 1200  
ATLANTA, GEORGIA 30303-1257

July 30, 2012

Mr. Peter J. Miner  
Director  
USEC Inc.  
Regulatory and Quality Assurance  
6903 Rockledge Drive  
Bethesda, MD 20817

SUBJECT: NUCLEAR REGULATORY COMMISSION INSPECTION REPORT  
NO. 70-7003/2012-003

Dear Mr. Miner,

This letter refers to the inspection conducted during the period from April 1 through June 30, 2012, at the USEC Inc., Lead Cascade in Piketon, OH. The purpose of the inspection was to determine whether activities authorized under the license were conducted safely and in accordance with Nuclear Regulatory Commission (NRC) requirements. The enclosed report presents the results of the inspection. The findings were discussed with members of your staff at an exit meeting held on May 4, 2012.

During the inspection, the NRC staff examined activities conducted under your license as they related to public health and safety and to confirm compliance with the Commission's rules and regulations, and with the conditions of your license. Areas examined during the inspection are identified in the enclosed report. Within these areas, the inspection consisted of selected examination of procedures and representative records, observations of activities, and interviews with personnel.

Based on the results of the inspection, no findings of significance were identified.

In accordance with 10 CFR 2.390 of NRC's "Rules of Practice," a copy of this letter and its enclosure will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

Should you have any questions concerning this inspection, please contact Leonard Pitts at (404) 997-4708.

Sincerely,

**/RA/**

Joselito O. Calle, Chief  
Fuel Facility Inspection Branch 2  
Division of Fuel Facility Inspection

Docket No. 70-7003  
License No. SNM-7003

Enclosure:  
NRC Inspection Report No. 70-7003/2012-003  
w/Attachment: Supplementary Information

cc w/encl: (See page 3)

Should you have any questions concerning this inspection, please contact Leonard Pitts at (404) 997-4708.

Sincerely,

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Distribution w/encl:

- B. Smith, NMSS
- O. Siurano-Perez, NMSS
- J. Calle, RII
- L. Pitts, RII

**\*se previous concurrence**

PUBLICLY AVAILABLE     
  NON-PUBLICLY AVAILABLE     
  SENSITIVE     
  NON-SENSITIVE  
 ADAMS:  Yes     
 ACCESSION NUMBER: ML112212A005     
  SUNSI REVIEW COMPLETE  FORM 665 ATTACHED

OFFICE	RII:DFFI	RII:DFFI					
SIGNATURE	/RA/	/RA/					
NAME	LPitts*	JFoster*					
DATE	7/20/2012	7/23/2012	7/ /2012	7/ /2012	7/ /2012	7/ /2012	7/ /2012
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

cc w/encl:  
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U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No.: 70-7003

Certificate No.: SNM-7003

Report No.: 70-7003/2012-003

Licensee: USEC Inc.

Facility: Lead Cascade

Location: Piketon, OH

Dates: April 1 through June 30, 2012

Inspector: J. Foster, Fuel Facility Inspector, DFFI

Approved by: J. Calle, Chief  
Fuel Facility Inspection Branch 2  
Division of Fuel Facility Inspection

Enclosure

## **EXECUTIVE SUMMARY**

United States Enrichment Corp., Lead Cascade  
NRC Inspection Report 70-7003/2012-003  
April 1 – June 30, 2012

An inspection was conducted by a region-based inspector during normal shifts in the areas of radiological controls and facility support. The inspector performed a selective examination of licensee activities which were accomplished by direct observation of safety-significant activities and equipment, tours of the facility, interviews and discussions with licensee personnel, and a review of facility records.

### **Radiological Controls**

- The Radiation Protection program was implemented in accordance with the license application and regulatory requirements. (Paragraph A.1)

### **Facility Support**

- The Emergency Preparedness program was implemented in accordance with the Emergency Plan and regulatory requirements. (Paragraph B.1)

### **Attachment**

Key Points of Contact

List of Items Opened, Closed, and Discussed

Inspection Procedures Used

Documents Reviewed

## REPORT DETAILS

### Summary of Plant Status

The licensee continued implementation of corrective actions in response to the event that occurred on June 11, 2011, that resulted in the failure of multiple centrifuges. Additionally, the licensee commenced the research, development and demonstration phase of the American Centrifuge Lead Cascade. The inspectors conducted a safety walk down of the Lead Cascade facility, engaged in focused discussions with subject matter experts, and performed reviews of documentation.

#### A. RADIOLOGICAL CONTROLS

##### 1. Radiation Protection (Inspection Procedure (IP) 88030)

###### a. Inspection Scope and Observations

The inspector reviewed self assessments, audits, and the 2011 As Low As Reasonably Achievable (ALARA) report to ensure that the program performance was being reviewed, at least annually, in compliance with 10 CFR 20.1101. The inspector reviewed the organization chart to verify that radiation protection functions and responsibilities were independent from operations. The inspector reviewed a sample of procedures to determine that changes in the radiological protection procedures made since the last inspection were consistent with regulations and license requirements.

The inspector reviewed the Total Effective Dose Equivalent (TEDE) results and determined that they were less than the regulatory limit of 5 rem/yr. The maximum TEDE result for 2011 was 0.025 rem. The inspector reviewed the 2011 personnel dosimeter results as submitted to the licensee by their contractor and determined that the Lens Dose Equivalent and Shallow Dose Equivalent results were less than the regulatory limit of 15 rem and 50 rem/yr, respectively. The inspector reviewed individual dose assessments and determined the final dose calculation to be adequate. The inspector noted that the licensee monitored for internal dose components and that the radiation protection practices contributed to zero Committed Effective Dose Equivalent for the licensee staff in 2011. The inspector verified that records were maintained in accordance with 10 CFR 20.2106.

The inspector toured the controlled access area and verified that radiological signs and postings accurately reflected radiological conditions within the posted area. Areas were posted in accordance to 10 CFR Part 20. The inspector verified that the Notice to Employees, NRC Form 3, was posted in a high traffic area in accordance with 10 CFR 19.11. The inspector verified that the hand held radiation protection monitoring equipment was calibrated and in compliance with 10 CFR 20.1501.

The inspector observed radiation technicians perform removable contamination surveys and reviewed survey records and determined that surveys adequately evaluated the magnitude and extent of radiation levels in accordance with 10 CFR 20.1501. The inspector reviewed storage of the sealed radiation sources and observed an external radiation survey conducted around the storage area. The inspectors verified the storage and control of the sealed radiation sources and determined that it was in accordance with regulatory requirements.

The inspector interviewed staff and reviewed condition reports to verify that the licensee was in compliance with the reporting and notification requirements. The inspector reviewed the recently revised Event Reporting procedure and verified that the requirements for reporting unplanned contamination events and unplanned medical treatments were in compliance with regulatory requirements.

The inspector reviewed the 2011 annual ALARA Report and ALARA meeting minutes and determined that both were in compliance with the license application.

b. Conclusion

No violations of NRC requirements were identified.

B. FACILITY SUPPORT

1. Emergency Preparedness (IP 88050)

a. Inspection Scope and Observations

The inspector interviewed staff and reviewed contractor deficiency notices and determined that changes made to the Emergency Plan were properly coordinated within the Emergency Preparedness program. The inspector focused on the changes pertaining to the change in relationship between the American Centrifuge Lead Cascade and the Department of Energy regulated industry located on the reservation. The inspector reviewed multiple procedures with revisions since the last emergency preparedness inspection and determined that the changes were in compliance with the Emergency Plan. The inspector reviewed the licensee's emergency call list and verified that licensee was conducting communication checks at the appropriate frequency.

The inspector reviewed emergency preparedness training participation records, individual training modules, and interviewed staff on training received which was required by their qualified position. The inspector determined that the training module documentation was in compliance with the Emergency Plan and that the participation records demonstrated that the current Emergency Preparedness cadre list was qualified. The inspector verified that the licensee held drills and exercises to hypothetical emergency situations which were effective and consistent with the frequency and performance objectives required in the Emergency Plan.

The inspector reviewed the written agreements with the off-site agencies and verified that the organizations required by the Emergency Plan had up-to-date agreements. The inspector verified that these reflected the organizational changes which were occurred in the past year. The inspector reviewed invitation letters to the off-site response organizations and verified that the licensee invited the required organizations for training as required by the Emergency Plan and determined that the training given was appropriate. The inspector verified that the revised Emergency Plan was present and available in the Sherriff's office.

The inspector observed the inventory and storage of emergency equipment at the on-site Fire Department. The inspector verified that the equipment was kept available, properly stored, and maintained in operable status for emergency response personnel

as required in the Emergency Plan. The inspector observed a source-check on a radiological monitoring instrument performed by the Fire Department and determined that the check was in compliance with radiological protection procedures and the instrument was in calibration.

The inspector reviewed documentation of past drills and critique items, since the last Emergency Preparedness inspection, and verified that the critique items were being tracked. The inspector reviewed the self assessment generated since the last inspection and verified that a system was in place for adequately tracking and resolving self assessment findings.

b. Conclusion

No findings of significance were identified.

c. Exit Meeting

The inspection scope and results were presented to members of the licensee's staff on May 4, 2012 to Ms. Fout and staff. No dissenting comments were received from the licensee. Proprietary information was discussed but not included in the report.

## **SUPPLEMENTARY INFORMATION**

### **1. KEY POINTS OF CONTACT**

<u>Name</u>	<u>Title</u>
C. Bauer	FBP Emergency Management
J. Corrado	Regulatory Affairs
S. Fout	Technical Services Manager
S. Kelley	Health Physics
M. Redden	ACP Fire Services/Emergency Management
T. Sensue	Nuclear Regulatory Affairs Manager
S. Skeens	FBP Emergency Management
J. Thompson	ACP Health Physics Manager
B. Wiseman	Health Physics Supervisor

### **2. ITEMS OPENED, CLOSED, AND DISCUSSED**

None

### **3. INSPECTION PROCEDURES USED**

IP 88030	Radiation Protection
IP 88050	Emergency Preparedness

### **4. DOCUMENT REVIEWED**

Condition Reports Written as a Result of the Inspection:

AC Condition Notification 5201, Documented during IP 88030 inspection, 05/02/2012