



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

April 29, 2011

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

SUBJECT: NUCLEAR REGULATORY COMMISSION INSPECTION REPORT  
NO. 70-7003/2011-002

Dear Mr. Miner:

This letter refers to the inspection conducted during the period from January 1 through March 31, 2011, 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 NRC requirements. At the conclusion of the inspection, the findings were discussed with members of your staff.

The inspection consisted of an examination of activities as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of the license. Areas examined during the inspection included radiation protection and emergency preparedness program areas. Within these areas, the inspection consisted of a selective examination of procedures and representative records, observations of activities in progress, and interviews with personnel.

Based on the results of these inspections, no cited violations or deviations were identified.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosures 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>.

P. Miner

2

Should you have any questions concerning this inspection, please contact us.

Sincerely,

**/RA by J. Calle/**

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. 70-7003/2011-002

cc w/encl:  
Dan Rogers  
Director  
Lead Cascade Construction and Operations - Piketon  
United States Enrichment Corporation, Inc.  
Electronic Mail Distribution

Terry Sensue  
Regulatory Manager  
American Centrifuge Plant  
USEC Inc.  
Electronic Mail Distribution

R. M. DeVault  
Manager  
Regulatory Oversight  
Department of Energy  
Electronic Mail Distribution

Carol O'Claire  
State Liaison Officer  
Ohio Emergency Management Agency  
Electronic Mail Distribution

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PUBLICLY AVAILABLE     NON-PUBLICLY AVAILABLE     SENSITIVE     NON-SENSITIVE  
ADAMS:  Yes    ACCESSION NUMBER: ML111190363     SUNSI REVIEW COMPLETE

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NAME	JFoster	DHartland				
DATE	4/21/2011	4/25/2011	5/ /2011	5/ /2011	5/ /2011	5/ /2011
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P. Miner

3

Letter to Peter J. Miner from Joselito O. Calle dated April 29, 2011

Subject: NUCLEAR REGULATORY COMMISSION INSPECTION REPORT  
NO. 70-7003/2011-002

Distribution w/encl:

M. Tschiltz, NMSS

B. Smith, NMSS

D. Hartland, RII

J. Calle, RII

U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No.: 70-7003

Certificate No.: SNM-7003

Report No.: 70-7003/2011-002

Licensee: USEC Inc.

Facility: Lead Cascade

Location: Piketon, OH

Dates: March 7 through 11, 2011

Inspectors: J. Foster, Fuel Facility Inspector

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 70-7003/2011-002

This inspection included activities conducted by a region-based inspector in the areas of radiation protection and emergency preparedness.

### **Radiation Protection**

- Areas inspected in the radiation protection program were in compliance with 10 CFR Part 20 and the license. No issues of significance were identified. (Paragraph 2.a)

### **Emergency Preparedness**

- Area inspected in the emergency preparedness program were in compliance with the Emergency Plan. No issues of significance were identified. (Paragraph 3.a)

### **Attachment**

Partial List of Persons Contacted

Inspection Procedures Used

List of Items Opened, Closed, and Discussed

List of Documents Reviewed

## **REPORT DETAILS**

### **1. Summary of Plant Status**

During the inspection, the Lead Cascade continued to run the test loop without enriching or withdrawing material.

### **2. Radiological Controls**

#### **a. Radiological Protection (Inspection Procedure (IP) 88030)**

##### **(1) Inspection Scope and Observations**

The inspector reviewed the licensee's 2010 Occupational Radiation Exposure Report. The inspector noted that the dose results were very low, and the largest total dose to an individual in 2010 was 0.029 rem/ year. This was well below the 5 rem/year limit in 10CFR20.1201. The inspector determined that the company contracted to process the dosimetry was accredited by the National Institute of Standards and Technology.

The inspector interviewed radiation protection staff and determined that bioassay results for 2010 were below plant action levels for investigation and did not result in any internal doses. The inspector noted that the licensee collected bioassay samples from its staff, and the analysis of the samples was completed by Portsmouth Gaseous Diffusion Plant (PORTS) staff. The inspector determined by interview that there were no internal dose calculations conducted as a result of Class Y air sampling data obtained in 2010. The inspector also reviewed routine air sampling results and determined that they were consistent with background (natural radiation) levels.

The inspector verified that the licensee was utilizing a form equivalent to NRC Form 5 to communicate the annual dose to the workers. The inspector also determined that the licensee did not have any declared pregnant workers or minors in the plant in 2010.

The inspector observed a radiation technician perform a routine daily survey of a lunchroom at the Centrifuge Training Test Facility. The inspector determined that the technician used calibrated instrumentation, was conducting the surveys in accordance with approved procedures, and had an understanding of the background levels of the facility. The inspector reviewed a random sample of routine survey records of the plant and noted that less than detectable readings were on the majority of the surveys.

The inspector verified that posting and labeling was consistent with 10 CFR 20.1902 during a walk down of the X-3001 Lead Cascade. The inspector determined that the facility did not have any radiation or contamination areas with the exception of internally contaminated equipment that required a radiation work permit for entry. The inspector verified that the radiation material areas were properly posted and labeled.

The inspector verified that the radiation protection instrumentation viewed during the plant walk down was within calibration due dates. The inspector noted that the calibration of the instrumentation was conducted by PORTS. The inspector also noted that the respiratory protection program was managed by PORTS staff. The inspector observed staff conduct a respirator fit test and determined

that the fit test was in compliance of 10 CFR 20.1703. The inspector discussed the training program with the individual undergoing respirator fit testing and verified that instruction had been provided regarding the required checks of the respirator prior to each use. The inspector reviewed applicable training materials and verified that they covered key topics such as instructions to leave the area when under distress.

The inspector interviewed the respiratory protection staff on the types of respirators used at the facility in relation to the hazards present. The staff member was knowledgeable of the various types of respirators and cartridges available. The staff member demonstrated how the training database tracked individual's training and respirator fit qualification. The inspector verified that the respirators used at the plant were National Institute for Occupational Safety and Health certified and that the respiratory fit test equipment was routinely calibrated.

The inspector reviewed the most recent radiation protection program assessment and noted that it was extensive and utilized the NRC Inspection Procedure 88030 as guidance. The inspector also reviewed entries related to the radiation protection in the licensee's corrective action program since the last radiation protection inspection and did not identify any reportable events or other significant issues/adverse trends. The inspector determined that the assessment of the program and identification and resolution of radiation protection issues were adequate.

## (2) Conclusions

Areas reviewed in the radiation protection program were in compliance with 10 CFR Part 20 and the license. No findings of significance were identified.

## 3. Facility Support

### a. Emergency Preparedness (Inspection Procedure (IP) 88050)

#### (1) Inspection Scope and Observations

The emergency preparedness program was a shared program between PORTS and Lead Cascade staff. The inspector interviewed staff from each site and determined that the relationship and interaction between PORTS and Lead Cascade staff emergency preparedness staff was effective. The inspector determined that there were no significant changes in the Emergency Plan since the last inspection.

The inspector reviewed training records for randomly selected individuals qualified to respond as cadre to the Emergency Operation Center. The requirements were located in training development administrative guides as required by the Emergency Plan. The training of the individuals reviewed met the requirements as described by the guides for the specific positions for which they were qualified. The inspector also verified that the individuals had maintained their general employee training as required by the Emergency Plan.

The inspector reviewed the materials used in the training seminar offered to off-site agencies. The inspector determined that the training seminar included the topics required by the Emergency Plan. The training was offered to the off-site agencies once a year, a greater frequency than that required by the Emergency Plan. The inspector



verified that the off-site agencies were invited for a drill in 2010 and that the contact telephone listing was kept up to date.

The inspector reviewed the written agreements held between the licensee and off-site agencies. The inspector verified that a written agreement existed for each off-site agency required by the Emergency Plan and was updated at the frequency mandated. The inspector interviewed several contact points for off-site agencies that have entered into an agreement for emergency response. The inspector interviewed contacts from the Stockdale Volunteer Fire Department, Pike Community Hospital, and Pike County Emergency Management Agency. Each interviewee indicated that their organization maintained a positive relationship with the licensee and gave examples of good communication.

The interviewees stated that their organization had participated in emergency drills in the past and felt that the drills were meaningful and allowed the participants to test their skills. The interviewees stated that they were familiar with their expected roles, felt that the training provided by the site was worthwhile, and that they believed those in their organization understood the radiological and chemical hazards present at the site.

The inspector reviewed the Tier II report, compiled for the Community Right to Know Act, and determined that it had been completed. The Tier II report was compiled for the entire site, including the Lead Cascade and PORTS.

The inspector reviewed the pre-fire plans for the X-3001 and X-705 buildings. The inspector determined that the packets had been reviewed and updated annually as required by Section 5.4.1.3 of the Safety Analysis Report.

The inspector reviewed emergency drill scenarios and evaluations conducted since the last emergency preparedness inspection. The inspector determined that the degree of challenge of these drill scenarios was adequate. The inspector determined that the types and frequencies of these drills were consistent with the Emergency Plan.

The inspector observed a debrief meeting of the controllers and individuals responsible for observing and evaluating a drill prior to drill implementation. The inspector noted that the controllers were adequately briefed on the scenario and were given drill objectives. The inspector noted that a program was in place to keep drill scenarios confidential and that the players did not have information regarding the scenario prior to drill implementation.

The inspector observed the initial response of the emergency responders at the drill scene and determined it was appropriate. The inspector observed the incident command post and noted that it was established at a safe distance from the simulated hazards. The inspector observed that the Incident Commander maintained command and control of the field team including environmental monitoring by Health Physics staff.

The inspector observed the Emergency Operation Center after it was activated. The inspector determined that it was fully staffed and was operated as described in the Emergency Plan. The inspector observed that the Crisis Manager maintained command and control and communicated effectively with the Incident Commander at the scene. The Crisis Manager remained organized throughout the emergency drill and periodically

provided updates to the members of the Emergency Operation Center. The inspector determined that the Crisis Manager and Incident Commander followed the appropriate procedural requirements for emergency classification and establishing protective actions.

The inspector determined that the degree of challenge of the drill scenario was adequate and tested key elements of the Emergency Plan. As the scene of the drill was located in the Lead Cascade facility, the scenario successfully tested the control of classified information.

The inspector observed the critique held after the emergency drill and determined that the licensee assessment was adequate. The inspector noted that the critique was consistent with procedural requirements. The inspector also noted that the drill scenario, information packet, and controller actions were also consistent with procedures.

The inspector reviewed several examples of emergency equipment that were maintained on-site by the emergency response organization. The inspector reviewed the equipment located on the emergency response vehicle and on the mobile communications vehicle and verified that the equipment was being maintained with checklists provided in approved procedures.

The inspector also observed a member of the on-site fire department conduct a daily check of an ambulance and noted the check was conducted in accordance with the applicable procedure. The inspector observed the use and operability of the equipment located in the Emergency Operations Center during the drill. The inspector noted that the majority of the equipment operated properly with the exception of one modem. In the case of the modem failure, the modem was promptly replaced and was operational before the end of the drill.

The inspector reviewed the latest assessment performed of the emergency preparedness program and issues related to emergency preparedness entered the licensee's corrective action program since the last inspection. No issues of significance were identified.

## (2) Conclusions

Areas reviewed in the emergency preparedness program were in compliance with the Emergency Plan. No findings of significance were identified.

## 4. Exit Meeting

The inspection scope and results were presented to members of the licensee's staff on March 11, 2011. No dissenting comments were received from the licensee.

## ATTACHMENT

### 1. PERSONS CONTACTED

#### Partial List of Licensee's Persons Contacted

J. Corrato, Regulatory Affairs  
J. Thompson, Radiation Protection Manager  
M. Redden, Emergency Preparedness Manager

### 2. INSPECTION PROCEDURE USED

IP 88030      Radiological Protection  
IP 88050      Emergency Preparedness

### 3. LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

<u>Item Number</u>	<u>Status</u>	<u>Type/Description</u>
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None

### 4. LIST OF DOCUMENTS REVIEWED

2010 Occupational Radiation Exposure Report.  
Assessment of CY 2010 Air Sampling Activities  
Quality Assurance Independent Assessment of Radiation Protection Programs for the American Centrifuge Lead Cascade Facility, ACP-2011-03  
Independent Assessment of the Emergency Preparedness Program for the American Centrifuge Lead Cascade Facility, ACP-2011-02  
Training, Development, Administrative Guide for Emergency Management Training Program  
Offsite Telephone Verification Checklist  
Centrifuge Lead Cascade Facility, ACP-2011-02  
American Centrifuge Lead Cascade Facility, ACP-2011-03  
Emergency Classification, XP2-EP-EP1050  
Emergency Management Drill and Exercise Program, XP2-EP-EP5031 Rev 4  
Maintenance of Emergency Facilities and Equipment, XP2-EP-EP5034 Rev. 7  
Emergency Vehicle Daily Inspection, XP4-SS-FS6278 Rev. 1  
Respirator Training Self Study Guide, ACP 12.04.05 U00108