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

January 13, 2017

David A. Fosson
General Manager, ACP Operations
American Centrifuge Operating, LLC (ACO)
Lead Cascade Facility and American Centrifuge Plant
3930 U.S. Route 23 South
P.O. Box 628
Mail Stop 7560
Piketon, OH 45661

SUBJECT: AMERICAN CENTRIFUGE OPERATING, LLC, LEAD CASCADE FACILITY – U.S. NUCLEAR REGULATORY COMMISSION INTEGRATED INSPECTION REPORT NUMBER 70-7003/2016-005

Dear Mr. Fosson:

This letter refers to the inspections conducted during the period from October 1 through December 31, 2016, at the American Centrifuge Operating, LLC, Lead Cascade Facility in Piketon, OH. The purpose of these inspections was to determine whether activities authorized under the license were conducted safely and in accordance with Nuclear Regulatory Commission (NRC) requirements. The enclosed integrated report presents the results of these inspections and were discussed with members of your staff at an exit meeting held on December 8, 2016.

During the inspections, 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 inspections are identified in the enclosed report. Within these areas, the inspections consisted of selected examination of procedures and representative records, observations of activities, and interviews with personnel.

Based on the results of the inspections, no violations of NRC requirements were identified.

In accordance with 10 CFR 2.390 of NRC's "Rules of Practice and Procedure," 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 these inspections, please contact me at (404) 997-4620.

Sincerely,

/RA/

Brannen Adkins, Acting Chief
Projects Branch 1
Division of Fuel Facility Inspection

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

Enclosure:
NRC Inspection Report Number 70-7003/2016-005
w/Attachment: Supplementary Information

cc: (See page 3)

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Sincerely,

/RA

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cc:
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U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No.:	70-7003
Certificate No.:	SNM-7003
Report No.:	70-7003/2016-005
Licensee:	American Centrifuge Operating, LLC
Facility:	American Centrifuge Lead Cascade Facility
Location:	Piketon, OH
Dates:	October 1 through December 31, 2016
Inspectors:	N. Pitoniak, Senior Fuel Facility Inspector, DFFI T. Vukovinsky, Senior Fuel Facility Inspector, DFFI
Approved by:	B. Adkins, Acting Chief Projects Branch 1 Division of Fuel Facility Inspection

Enclosure

EXECUTIVE SUMMARY

American Centrifuge Operating, Lead Cascade Facility
NRC Inspection Report 70-7003/2016-005
October 1 through December 31, 2016

Inspections were conducted by regional inspectors during normal shifts in the areas of Safety Operations, Radiological Controls, and Facility Support. The inspectors 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.

Safety Operations

- The licensee properly implemented items relied on for safety (IROFS) and maintained them such that they would perform their intended safety function. (Paragraph A.1)

- The fire protection programs and fire protection systems were adequately maintained in accordance with the license application and site procedures. (Paragraph A.2)

Radiological Controls

- The Radiation Protection programs were implemented in accordance with the license application and regulatory requirements. (Paragraph B.1)

- Radioactive waste processing, handling, storage, and transportation activities were implemented in accordance with the license application and regulatory requirements. (Paragraph B.2)

- The Environmental Protection program was implemented in accordance with the license application and regulatory requirements. (Paragraph B.3)

Facility Support

- The inspectors determined that maintenance and surveillance program activities for IROFS and other safety controls were adequate to assure that IROFS were available and reliable to perform their safety function. (Paragraph C.1)

- The Emergency Preparedness programs were implemented in accordance with the license application and regulatory requirements. (Paragraph C.2)

- The Plant Modifications program was implemented in accordance with the license application and regulatory requirements. (Paragraph C.3)

Attachment
Key Points of Contact
List of Items Opened, Closed, and Discussed
Inspection Procedures Used

REPORT DETAILS

Summary of Plant Status

The licensee continued the planned decommissioning activities associated with the Lead Cascade facility. Limited activities were being performed at the site due to decommissioning activities.

A. Safety Operations

1. Operational Safety (Inspection Procedure (IP) 88020)

a. Inspection Scope and Observations

This inspection was focused in the areas of the Process Building. The inspectors interviewed staff and reviewed records associated with the safety functions and attributes of the Lead Cascade Integrated Safety Analysis (ISA) Items Relied on for Safety (IROFS) in support of various accidents sequences. The inspectors determined that the IROFS associated with the selected accident sequences were properly maintained as described in the ISA Summary. The inspectors determined that the licensee was operating safely and in compliance with requirements.

The licensee performed an evaluation to determine which Lead Cascade IROFS were necessary during decommissioning activities. This evaluation only considered items credited in the Lead Cascade ISA as IROFS, and did not consider other items that may be required to meet various codes and standards (e.g. fire suppression, health physics, and industrial safety). No new IROFS were determined to be necessary due to the licensed material being isolated or removed as part of the decommissioning activities.

The inspectors confirmed that the IROFS reviewed were present and capable of performing their intended safety function(s). To complete this confirmation, the inspectors verified the physical presence of passive and active engineered safety controls, evaluated the safety controls to determine their capability and operability, and verified that potential accident scenarios were covered.

The inspectors determined that licensee's administrative controls were properly implemented and communicated. The inspectors reviewed the test procedures associated with the selected IROFS and determined that required actions as identified in the ISA Summary were correctly transcribed into written operating procedures. The inspectors evaluated the procedures' contents with respect to operating limits and operator responses for upset conditions and verified that limits needed to assure safety were adequately described in the procedures.

The inspectors reviewed the licensee corrective action program (CAP) entries for the past 12 months and determined that deviations from procedures and unforeseen process changes affecting nuclear criticality, chemical, radiological, or fire safety were documented and investigated promptly.

b. Conclusion

No violations of NRC requirements were identified.

2. Fire Protection Annual (IP 88055)

a. Inspection Scope and Observations

The inspectors performed an annual fire protection review of the X-3001 Process Building, X-7725 Recycle/Assembly Building, and X-7727H Transfer Corridor to evaluate the existing fire protection capability from a programmatic design-based, and risk informed perspective. The inspectors reviewed the associated area drawings, pre-fire plans, and fire loading calculations.

The inspectors reviewed programs, procedures, modifications, surveillances, maintenance, functional tests, training, drill exercises, and corrective action reports for the fire protection systems to ensure that designated programs met license requirements and were adequate to preclude or mitigate the consequences of a fire.

The inspectors toured facility areas and noted the material condition of the fire system valves, piping, and various support systems, including the emergency diesel room sprinkler system, was adequate. The inspectors verified that flammable materials were stored in marked cabinets and that housekeeping and the control of combustible materials were adequate and consistent with approved procedures.

The inspectors evaluated the licensee's hot work program through a procedure review, interview of personnel, and spot checks of approved and posted hot work permits. The inspectors determined the reviews of the work permits and work permit implementing procedures were adequate.

The inspectors reviewed records to verify that the observed fire protection systems were maintained in an adequate state of readiness and were properly tested to verify their ability to perform their safety function. The inspectors determined that fire walls, doors, and penetration seals were being maintained in a condition that would ensure they were available and reliable to perform their safety function. Also, the inspectors determined that fire hoses and portable extinguishers were provided at designated locations, access was unobstructed, and all component surveillances were up-to-date.

The inspectors conducted field walk-downs for a selection of post indicator valves (PIVs) to verify the operational readiness of the site fire loop. The PIVs were in the position required by procedure and the material condition of the valves, operating wrenches, and position indicator windows was adequate.

The inspectors reviewed the licensee's fire protection system out-of-service records and determined that adequate compensatory measures had been put in place for out-of-service, degraded or inoperable fire protection equipment, systems or features.

The inspectors reviewed the licensee's CAP entries since the previous fire protection inspection in September 2014, and determined that the licensee was identifying fire protection operability problems at an appropriate threshold and entering them into the CAP.

b. Conclusion

No violations of NRC requirements were identified.

B. Radiological Controls

1. Radiation Protection (IP 88030)

a. Inspection Scope and Observations

The inspectors reviewed multiple self-assessments to verify that the program performance was being reviewed, at least annually, to comply with 10 CFR 20.1101. The inspectors reviewed organization charts and interviewed licensee staff to determine the radiation protection function's responsibilities and independence from operations. The inspectors reviewed a selection of procedures to determine that changes in the radiological protection procedures made since the last inspection were consistent with regulatory and license requirements.

The inspectors reviewed instrument calibration records and verified that the performance of radiation protection instruments and equipment was in accordance with license requirements and procedures. The inspectors reviewed training and qualification records for three radiation protection technicians with no discrepancies identified.

The inspectors reviewed the Total Effective Dose Equivalent results and determined that they were less than the regulatory limit of 5 rem per year. The inspectors reviewed the 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 inspectors verified that records were maintained in accordance with 10 CFR 20.2106.

The inspectors reviewed the respiratory protection program and determined that the training, fit testing, and procedural uses of respiratory protection as required by the license application was in compliance with 10 CFR 20.1703.

The inspectors toured the facility 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 inspectors verified that the Notice to Employees, NRC Form 3, was posted in a high traffic area in accordance with 10 CFR 19.11.

The inspectors reviewed a sample of survey records conducted in 2016, and determined that surveys adequately evaluated the magnitude and extent of radiation levels in accordance with 10 CFR 20.1501. The inspectors reviewed leak test survey records for sealed sources and determined that the licensee was in compliance with the license application.

The inspectors reviewed the As Low As Reasonably Achievable (ALARA) meeting minutes and determined that staffing levels, meeting frequency, and topics of discussion were in accordance with license application requirements. The inspectors evaluated the ALARA principle during dose result reviews and plant tours and determined that management was maintaining a commitment to ALARA.

b. Conclusion

No violations of NRC requirements were identified.

2. Radioactive Waste Management (IP 88035)

a. Inspection Scope and Observations

The inspectors evaluated the licensee procedures and quality assurance programs and verified compliance with the requirements of 10 CFR Part 20 applicable to low-level radioactive waste form, classification, stabilization, and shipment manifests/tracking.

The inspectors reviewed procedures related to radioactive waste. The procedures were clearly written and adequately delineated responsibilities related to radioactive waste management. The operators were familiar with their responsibilities and performed their tasks in accordance with facility procedures.

The inspectors reviewed the quality assurance program for radioactive waste management and determined that the licensee was performing the required audits. The findings from these audits were entered into the licensee's corrective action program for resolution.

The inspectors performed walk-downs of selected radioactive material storage areas. Minimal radiological waste generation had occurred during the previous year. The storage areas had adequate postings to ensure that the proper material was being stored in the area and the material was safely stored in accordance with the nuclear criticality safety requirements. The containers were inspected for proper labeling to reflect their contents and were in good physical condition.

b. Conclusion

No violations of NRC requirements were identified.

3. Effluent Control and Environmental Protection (IP 88045)

a. Inspection Scope and Observations

The inspectors reviewed procedures related to the conduct and implementation of the effluent and environmental monitoring programs. The inspectors reviewed internal audits and verified that issues needing improvement were entered into the licensee's corrective actions system and that corrective action(s) were/are being adequately implemented.

The inspectors reviewed the 2014 and 2015 Radiological Discharge Monitoring Reports and determined that the licensee was in compliance with 10 CFR 70.59 and 10 CFR 20 Appendix B requirements for uranium. In addition, the inspectors reviewed records of airborne effluents and reviewed records for filter change-outs of the exhaust stack monitor filter. Furthermore, the inspectors reviewed records of liquid effluents and observed sampling activities of the process waste lagoons. As a result, the inspectors verified compliance with the license application, procedures, and 10 CFR 20 Appendix B limits for both airborne and liquid effluent discharges. Also, inspectors noted that liquid and air borne effluent monitors and associated equipment were calibrated and functionally checked in accordance with procedures and 10 CFR 20.1501.

The inspectors reviewed the public dose assessment and determined that the average annual effluent concentrations released since July 2014, did not exceed the values specified in Appendix B of 10 CFR Part 20. The inspectors reviewed the airborne portion of the public dose assessment and verified that results were in compliance with the ALARA constraint as required by 10 CFR 20.1101(d).

b. Conclusion

No violations of NRC requirements were identified

C. Facility Support

1. Maintenance and Surveillance of Safety Controls (IP 88025)

a. Inspection Scope and Observations

The inspectors interviewed staff and reviewed records and procedures associated with licensee maintenance processes. The inspectors observed both scheduled and emergent maintenance activities in the field. The inspectors determined that the IROFS associated with cascade operations were being adequately implemented and properly maintained as described in the ISA. The inspectors determined the licensee was in compliance with all requirements.

The inspectors interviewed maintenance technicians and staff, operators, and supervisors in the control room and determined that the licensee staff was adequately performing testing and surveillances as required to ensure the availability of safety significant equipment.

Through interviews and document reviews, the inspectors verified that the licensee conducted preventive maintenance, calibration, and periodic surveillance as required by the ISA Summary.

Briefs were observed in the control room that were part of a post maintenance test activities. The inspectors observed the performance of post maintenance testing in the field and found no areas of concern.

b. Conclusion

No violations of NRC requirements were identified.

2. Emergency Preparedness (IP 88050)

a. Inspection Scope and Observations

The inspectors interviewed staff and reviewed records to determine if any changes made to the Emergency Plan or the Emergency Preparedness program had been recently implemented. The inspectors reviewed procedures with significant revisions since the last emergency preparedness inspection and determined that the changes were in compliance with the Emergency Plan.

The inspectors reviewed training records for the Plant Shift Superintendents and interviewed licensee staff regarding emergency preparedness training in the past year. The inspectors determined that the Emergency Preparedness requirements were in

compliance with the Emergency Plan. The inspectors verified that the licensee provided training and emergency equipment for their personnel as required by the Emergency Plan and that the individuals responsible for utilizing the equipment were qualified.

The inspectors 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 inspectors verified that the offsite organizations were provided the opportunity to participate in site emergency exercises.

The inspectors reviewed the self-assessments 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.

3. Permanent Plant Modifications (IP 88070)

a. Inspection Scope and Observations

Limited inspection was done in this area due to no significant plant modifications performed in 2015. The inspectors reviewed self-assessments to verify that the program performance was being reviewed. The inspectors reviewed the licensee's problem identification and resolution program to verify that issues relating to the preparation and installation of permanent plant modifications were entered into the CAP and the adequacy of corrective actions.

The inspectors reviewed the change management program to verify the licensee has established an effective configuration management system to evaluate, implement, and track permanent plant modifications to the site which could affect safety.

The inspectors verified that the licensee had addressed baseline design criteria stipulated in 10 CFR 70.64 in the designs of permanent plant modifications. The inspectors verified that the licensee had addressed the impacts of modifications to the ISA, ISA Summary, and other safety program information developed in accordance with 10 CFR 70.62.

b. Conclusion

No violations of NRC requirements were identified.

C. Exit Meeting

The inspection scope and results were presented to members of the licensee's staff at various meetings throughout the inspection period and were summarized at the exit meeting conducted on December 8, 2016. 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

Name	Title
N. Banks	Waste Management
J. Carpenter	Environmental
T. Coulter	QA Manager
J. Corrado	Regulatory Manager
D. Fosson	General Manager
D. Godfrey	Engineering Manager
B. Jones	Operations
R. Jacobs	GM Staff
S. Kelley	Health Physics Supervisor
C. Mays	Emergency Preparedness
J. McKinley	Maintenance and Work Control Supervisor
M. Potter	Maintenance Work Control Supervisor
M. Robles	Project Support
M. Sanders	Cascade Operations PAM
K. Wiehle	Deputy Regulatory Manager

2. ITEMS OPENED, CLOSED, AND DISCUSSED

None

3. INSPECTION PROCEDURES USED

88020	Operational Safety
88025	Maintenance and Surveillance of Safety Controls
88030	Radiation Protection
88035	Radioactive Waste Processing, Handling, Storage, and Transportation
88045	Effluent Control and Environmental Protection
88050	Emergency Preparedness
88055	Fire Protection Annual
88070	Plant Modifications

4. RECORDS REVIEWED

Emergency Operations Center Watch bill, December 2016
American Centrifuge Operating, LLC's National Emission Standards for Hazardous Air Pollutants (NESHAP) Radionuclide Emissions Report for Calendar year 2015 and 2016
1st Quarter Calendar Year 2015 Radiological Discharge Monitoring Report for the American Centrifuge Program at the Portsmouth Gaseous Diffusion Plant, May 7, 2015

- 2nd quarter, dated July 27, 2015
- 3rd quarter, dated November 6l, 2015
- 4th quarter, dated February 1, 2016
- 1st quarter, dated May 17, 2016
- 2nd quarter, dated August 5, 2016
- 3rd quarter, dated November 17, 2016

WO15102618, Annual PM – Replace Hasting Mass Flow Meter for Vent Monitor, dated February 12, 2015
WO15108569, Annual PM – Replace Hasting Mass Flow Meter for Vent Monitor, dated October 1, 2015
WO15114851, Annual Test of RMS-3, AISH-680, dated February 4, 2016
WO16300830, 2/17/2016, Monthly Inspection on Fire Suppression System
AC4-AR-005, Instrument Air and Vent Monitor Alarms and Responses, Revision (Rev.) 25
SA-2901-0014, Engineering Self-Assessment of the IROFS Surveillance Program, dated April 15, 2016
SA-2901-0016, Engineering Self-Assessment of Equivalency Substitution Evaluation Process, dated September 19-22, 2016
SA-0770-15-070, Enrichment Operations Management Assessment of BOP Operations Use of Human Performance Error Reduction Tools, dated January 7, 2016
SA-0770-16-047, Enrichment Operations NCS Assessment of Fissile Material Operations, dated November 21, 2016
SA-765-PS-16-030, 2015 Annual Radiation Protection Report for the LC and ACP, dated April 27, 2016
SA-0770-16-042, 2016-2017 Winterization Assessment, dated October 24, 2016
SA-0770-16-039, HAZCOM Assessment, dated September 21, 2016
SA-0770-16-027, Work Control Assessment, dated August 17, 2016
SA-0770-16-027, Maintenance Pre-job Briefs, dated June 24, 2016
SA-0770-16-001, Handling and Use of Chemicals, dated March 1, 2016
IROFS Surveillance IS-038, Semi-Annual Review of Valve Checklist (IS-038) and Valve Positioning Controls, ACD3-EO-064, dated March 17, 2016

Condition Notifications (CNs) reviewed
8712
8603
8689
8710
8737
8727
8762
8882
8692
8652
8653
8744
8748

Memorandum of Understanding (MOUs)
Pike County Firefighter's Association
Southern Ohio Medical Center
Adena Pike Medical Center
Adena Regional Medical Center Hospital
Pike County Emergency Medical Service
Word Alive Fellowship / Miracle City Academy
Eastern School District
Waverly City School District
Valley Local School District
Western Local School District
Pike County Sheriff's Office