



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

July 22, 2015

James D. Lewis
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 70-7003/2015-003**

Dear Mr. Lewis:

This letter refers to the inspections conducted during the period from April 1 through June 30, 2015, 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 were discussed with members of your staff at an exit meetings held on April 30 and June 15, 2015.

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 us.

Sincerely,

/RA/

Marvin D. Sykes, Chief
Projects Branch 1
Division of Fuel Facility Inspection

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

Enclosure:
NRC Inspection Report Number 70-7003/2015-003
w/Attachment: Supplementary Information

cc: (See page 3)

Should you have any questions concerning these inspections, please contact us.

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cc: (See page 3)

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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.: 70-7003/2015-003

Licensee: American Centrifuge Operating, LLC

Facility: American Centrifuge Lead Cascade Facility

Location: Piketon, OH

Dates: April 1 through June 30, 2015

Inspectors: K. Kirchbaum, Fuel Facility Inspector, DFFI
T. Vukovsky, Fuel Facility Inspector, DFFI
N. Pitoniak, Fuel Facility Inspector, DFFI
L. Pitts, Senior Fuel Facility Inspector, DFFI
J. Downs, Fire Protection Engineer, NMSS

Approved by: M. Sykes
Projects Branch 1
Division of Fuel Facility Inspection

Enclosure

EXECUTIVE SUMMARY

American Centrifuge Operating, Lead Cascade Facility
NRC Inspection Report 70-7003/2015-003
April 1 through June 30, 2015

Inspections were conducted by regional inspectors and headquarters personnel during normal shifts in the areas of Safety Operations 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)

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 B.1)
- The Emergency Preparedness programs were implemented in accordance with the license application and regulatory requirements. (Paragraph B.2)
- The graded biennial emergency drill was implemented in accordance with the Emergency Plan and regulatory requirements. (Paragraph B.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 installation and evaluation of the research, development and demonstration phase of the American Centrifuge Plant.

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) IROFS in support of various accidents sequences. The inspectors determined that the IROFS associated with the selected accident sequences were being properly maintained as described in the ISA Summary. The inspectors determined that the licensee was operating safely and in compliance with requirements.

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 have been 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 Triennial (IP 88054)

a. Inspection Scope and Observations

The inspectors performed a triennial 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 toured the site fire station, interviewed personnel, and observed the operation and monitoring of fire protection alarm and supervisory equipment.

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 review of the work permit 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 had been 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. 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 for their personnel and emergency equipment 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. Evaluation of Exercises and Drills (IP 88051)

a. Inspection Scope and Observations

The inspectors reviewed the emergency drill scenario and discussed the exercise objectives with licensee personnel before the exercise. The inspectors walked down the plant to assess the effectiveness of the visual aids used in the drill and verified that the licensee had not pre-staged equipment in anticipation of the exercise.

The inspectors observed and evaluated the licensee's graded biennial exercise conducted on June 13, 2015. The scenario included a catastrophic rupture of a one ton chlorine cylinder and a multiple vehicle accident with numerous injured personnel. Protective actions were required and offsite assistance was utilized.

At the initiation of the emergency drill, the inspectors verified that the licensee assessed the accident scenario, analyzed the plant condition, and properly classified the event. The event was classified as a site area emergency in accordance with the Emergency Plan. The inspectors observed the activation of the Emergency Operations Center and noted that all required positions were fully staffed in accordance with the Emergency Plan. The inspectors verified that the protective action recommendations implemented by the emergency organization were appropriate for the accident scenario and in accordance with the Emergency Plan.

The inspectors verified that the initial offsite notifications were completed within the time periods specified in the Emergency Plan and were adequate in content with the exception of the notification to the Department of Energy (DOE) HQ which was three minutes late. The inspectors verified that the onsite communications to the occupational workers were consistent with the protective action recommendations implemented by the emergency organization. The occupational workers participated in the evacuation/shelter-in-place protective actions and personnel accountability in accordance with approved procedures. The inspectors reviewed the emergency organization communicators' press releases. The inspectors determined that the press releases were reviewed by the Crisis Manager prior to issuance and were in accordance with the Emergency Plan.

The inspectors determined that the Crisis Manager maintained adequate command and control of the emergency organization. The inspectors reviewed the offsite dose assessment conducted by the site dose assessor. The inspectors verified that the Crisis Manager utilized the dose assessment, radiation survey results, and environmental monitoring results during the assessment of the accident scenario.

The inspectors observed members of the licensee's emergency response team assemble at the designated assembly area and the arrival of the off-site emergency responders including fire, emergency medical, and police. The inspectors observed the emergency response team's search and rescue activities for casualties, assessment of the affected area and response to additional emerging situations. The Incident Commander adequately coordinated action with the off-site emergency responders. The inspectors verified that the emergency response team activities were appropriate for the exercise scenario and were adequate in meeting the drill objectives.

The inspectors observed the staff critiques of the emergency exercise. The inspectors verified that the licensee initiated documentation of critique items discussed in the various drill debriefs and entered them into their corrective actions program.

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 meetings conducted on April 30 and June 15, 2015. 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>
J. Anzelmo	I&C/Electrical Engineer
T. Coulter	Training Manager
S. Corwin	FPB Emergency Management
J. Corrado	Regulatory Affairs
D. Fosson	Operations Manager
D. Godfrey	Engineering Manager
B. Jones	Operations
R. Jacobs	GM Staff
J. Kammer	Senior Shift Supervisor
S. Kelley	Health Physics Supervisor
J. Lawentmann	Regulatory Affairs
J. Lewis	Plant General Manager
T. Martin	Regulatory Affairs
J. McKinley	Maintenance and Work Control Supervisor
S. McKinnly	Technical Services Manager
M. Miller	BOP Operations
M. Potter	Maintenance Work Control Supervisor
M. Robles	Regulatory Manager
M. Sanders	Cascade Operations PAM
S. Skeens	Fire Safety and Emergency Preparedness Manager

2. ITEMS OPENED, CLOSED, AND DISCUSSED

None

3. INSPECTION PROCEDURES USED

88020	Operational Safety
88025	Maintenance and Surveillance of Safety Controls
88050	Emergency Preparedness
88051	Evaluation of Exercises and Drills
88054	Fire Protection Triennial