



October 17, 2019
ACO 19-0025

ATTN: Document Control Desk
Mr. John W. Lubinski, Director
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

**American Centrifuge Lead Cascade Facility
Docket Number 70-7003; License Number SNM-7003**

License Amendment Request – Revision to License Application for the American Centrifuge Lead Cascade Facility

Dear Mr. Lubinski:

The purpose of this letter is to request, in accordance with 10 *Code of Federal Regulations* (CFR) 70.34, U.S. Nuclear Regulatory Commission (NRC) review and approval of the proposed license amendment to the American Centrifuge Lead Cascade Facility (Lead Cascade) License Application to remove the requirement for an emergency plan.

Enclosure 1 to this letter provides a description, justification for the proposed change, and American Centrifuge Operating, LLC (ACO) determination that the proposed change associated with this request is not significant. Enclosure 2 of this letter contains the proposed changes for the NRC's prior review and approval.

ACO requests NRC review and approval of the proposed changes contained within Enclosure 2 at your earliest convenience, but no later than December 3, 2019. If you have any questions regarding this matter, please contact me at (740) 897-3859.

Sincerely,

Kelly L. Wiehle
Regulatory Manager

Enclosures: As Stated

NM55ZD
NM55

Mr. John W. Lubinski
October 17, 2019
ACO 19-0025, Page 2

cc:

R. DeVault, DOE, NE-OR3, NE-ORSO
R. Edwards, PPPO, LEX
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Enclosure 1 of ACO 19-0025

Description, Justification, and Significance Determination for Change

**Information contained within
does not contain
Export Controlled Information**

Reviewer: #1014

Date: 10/17/2019

Description

The proposed changes include a revision of Chapter 8.0, *Emergency Management*, of the American Centrifuge Lead Cascade Facility (Lead Cascade) License Application to remove the requirements to maintain an emergency plan. This proposed revision will in turn formally cancel USEC-02, *Emergency Plan for the Portsmouth Gaseous Diffusion Plant (PORTS)*, and remove the commitment to maintain the corresponding Emergency Plan Implementing Procedures (EPIPs).

The proposed changes contained within Enclosure 2 of this letter are annotated with a revision bar in the right-hand margin and identified by the following method:

- **Blue Strikeout** - Identifies text to be removed
- **Red Underline** – Identifies text added

Additionally, administrative changes which have been determined through the 10 *Code of Federal Regulations* (CFR) 70.72 and/or 70.32 process not to require prior NRC review and approval for Chapter 2.0, *Organization and Administration*, and Chapter 7.0, *Fire Safety*, which reference the Emergency Plan (USEC-02) are being provided for information only purposes.

Justification for Change

On March 2, 2016 (ACO 16-0010), American Centrifuge Operating, LLC (ACO) notified the U.S. Nuclear Regulatory Commission (NRC) of ceased operation of the Lead Cascade and subsequently completed decontamination and decommissioning in accordance with the NRC-approved Decommissioning Plan. On April 19, 2018 (ACO 18-0015), as part of the Lead Cascade decommissioning, ACO submitted the Final Status Survey Report (FSSR) to the NRC for final review and approval. On September 23, 2019, the NRC approved the FSSR, confirming that no radiological materials remain in Lead Cascade areas and the areas meet NRC's radiological free release criteria. 10 CFR 70.22(i)(1)(i) requires an evaluation demonstrating that a maximum dose to a member of the public offsite of 1 rem effective dose equivalent or an intake of 2 milligrams of soluble uranium due to a release of radioactive materials will not be exceeded or an emergency plan must be implemented. Since the Lead Cascade areas no longer contain any radioactive material, the 10 CFR 70.22(i)(1)(i) criteria cannot be exceeded. Therefore, an emergency plan is no longer required for the Lead Cascade.

On March 22, 2019, the U.S. Department of Energy (DOE) notified of its intent to transition to a three-tier classification system and to fully comply with DOE Order 151.1D, *Comprehensive Emergency Management System*, at the Portsmouth Site. General emergency response for ACO leased activities will continue to be conducted through an approved Reverse Work Authorization with the DOE for fire and emergency preparedness services.

Based upon the above justification, the proposed changes do not introduce an undue risk to the public health and safety, the environment, or common defense and security.

On May 31, 2019, the DOE issued a letter contract to ACO to deploy a 16-machine AC100M high assay, low-enriched uranium (HALEU), cascade in ACO leased areas at DOE's site in Piketon, Ohio. Moving forward under the HALEU Program, ACO will update and amend the American Centrifuge Plant (ACP) NRC Materials License (SNM-2011) for NRC review and approval to allow HALEU production. At that time, if required, new proposed emergency plan requirements will be addressed in a future License Amendment Request for the NRC's prior review and approval.

Significance Determination

ACO has reviewed the proposed changes associated with this request and has determined the following:

1. No significant change to any condition to the License.

None of the conditions to the Materials License specifically address the Emergency Plan that is being deleted. Thus, the proposed change will have no impact on any of the conditions to the Materials License.

2. No significant increase in the probability of occurrence or consequences of previously evaluated accident.

As confirmed by the NRC-approved Final Status Survey Report, there is no radiological material within the Lead Cascade leased areas; therefore, the performance requirements in 10 CFR 70.61 are no longer applicable to the Lead Cascade license. NRC has amended the Lead Cascade NRC Materials License to add a license condition that ACO cannot receive any licensed material at the Lead Cascade without prior NRC approval.

3. No new or different type of accident.

As confirmed by the NRC-approved Final Status Survey Report, there is no radiological material within the Lead Cascade leased areas; therefore, the performance requirements in 10 CFR 70.61 are no longer applicable to the Lead Cascade license. NRC has amended the Lead Cascade NRC Materials License to add a license condition that ACO cannot receive any licensed material at the Lead Cascade without prior NRC approval.

4. No significant reduction in margins of safety.

As confirmed by the NRC-approved Final Status Survey Report, there is no radiological material within the Lead Cascade leased areas; therefore, the performance requirements in 10 CFR 70.61 are no longer applicable to the Lead Cascade license. NRC has amended the Lead Cascade NRC Materials License to add a license condition that ACO cannot receive any licensed material at the Lead Cascade without prior NRC approval.

5. No significant decrease in the effectiveness of any programs or plans contained in the licensing documents.

Consistent with the requirements in 10 CFR 70.22(i)(1)(i), an emergency plan is no longer required for the Lead Cascade and is being deleted. No licensed material remains within the Lead Cascade leased areas; therefore, the Fundamental Nuclear Material Control Plan is no longer applicable to the Lead Cascade license. Deletion of the Emergency Plan does not affect any other plant safety, safeguards, or security programs contained in the License Application.

6. The proposed changes do not result in undue risk to: 1) public health and safety; 2) common defense and security; and 3) the environment.

There is no radiological material within the Lead Cascade leased areas, therefore, there are no conditions associated with the Lead Cascade license that result in any risk to public health and safety, the environment, or to the common defense and security. The Emergency Plan is not required due to the absence of radiological material and is being deleted consistent with 10 CFR 70.22(i)(1)(i).

7. There is no change in the type or significant increases in the amounts of any effluents that may be released off-site.

The existence of an emergency plan has no influence on the creation of any sources of hazardous substances, hazardous waste, or new waste streams that could be released off-site.

8. There is no significant increase in individual or cumulative occupational radiation exposure.

There is no radiological material within the Lead Cascade leased areas and the areas meet NRC's free release criteria. Therefore, occupational radiation exposure is not relevant to activities associated with the Lead Cascade license.

9. There is no significant construction impact.

The existence of an emergency plan has no influence on any construction activities.

Enclosure 2 of ACO 19-0025

**Proposed Changes to License Application and Supporting Documents
for the American Centrifuge Lead Cascade Facility**

**Information contained within
does not contain
Export Controlled Information**

**Reviewer: #1014
Date: 10/17/2019**

8.0 EMERGENCY MANAGEMENT

8.1 Emergency Plan

The Lead Cascade is in a leased area of the U.S. Department of Energy's (DOE) Portsmouth Gaseous Diffusion Plant (PORTS) reservation, adjacent to the Former Uranium Enrichment Facilities (FUEF) as shown in Figure 8.1-1 (located in Appendix B of this license application).

When the U.S. Nuclear Regulatory Commission (NRC) assumed regulatory oversight responsibility over PORTS, leased by the United States Enrichment Corporation (USEC) from DOE, USEC implemented an NRC-approved Emergency Plan on the PORTS reservation in accordance with the requirements of 10 Code of Federal Regulations (CFR) 76.91. The NRC notice promulgating 10 CFR Part 76 confirmed that the emergency planning requirements set forth in 10 CFR Part 70 for other nuclear fuel cycle facilities were appropriate for the gaseous diffusion plants and that the requirements in 10 CFR 76.91 were based upon the emergency planning provisions in 10 CFR Part 70. The Emergency Plan design adhered to the 10 CFR 70.64 Emergency Capability Baseline Design Criteria. Accordingly, the Emergency Plan format was generally based upon NRC Regulatory Guide 3.67, *Standard Format and Content for Emergency Plans for Fuel Cycle and Materials Facilities* (January 1992). Additionally, the emergency action levels were developed using examples provided in this Regulatory Guide. Based on these factors, and to ensure a consistent response by emergency response personnel, the existing PORTS Emergency Plan was utilized to meet the 10 CFR 70.22(i)(1)(ii) and (i)(3) requirements for the Lead Cascade during Lead Cascade operation.

While the PORTS Emergency Plan contained pertinent information specific to the Lead Cascade, the overall elements of the Emergency Plan apply to the entire PORTS reservation and the activities conducted on the PORTS site. DOE Decontamination and Decommissioning contractor, Fluor-BWXT Portsmouth LLC (FBP); DOE Facility Support Services contractor, Portsmouth Mission Alliance, LLC (PMA); — the DOE Prime Contractor for the PORTS site and the Former Uranium Enrichment Facilities (FUEF), and Mid-America Conversion Services, LLC (MCS) Depleted Uranium Hexafluoride (DUF6) Conversion Facility also conduct activities and operate non-leased facilities at the site that are regulated by DOE. FBP is responsible for the safe operation of the FUEF and is responsible for the day-to-day management and operation of the FUEF. Upon the return of the PORTS leased areas by USEC to DOE in 2011, the program of emergency management and response services became the responsibility of FBP.

Operation of the Lead Cascade has ceased and all decommissioning activities have been completed. American Centrifuge Operating, LLC submitted, and NRC subsequently approved (Reference 1) the Final Status Survey Report confirming that no radiological materials remain in Lead Cascade areas and the areas meet NRC's radiological free release criteria. Consequently, the Lead Cascade satisfies the 10 CFR 70.22(i)(1)(i) criteria of not exceeding a maximum dose to a member of the public offsite of 1 rem effective dose equivalent or an intake of 2 milligrams of soluble uranium due to a release of radioactive materials. Therefore, an Emergency Plan is no longer required for the Lead Cascade. The Lead Cascade is located in a leased area of the U.S. Department of Energy's (DOE) Portsmouth Gaseous Diffusion Plant (PORTS) reservation, adjacent to the gaseous diffusion plant as shown in Figure 8.1-1 (located in Appendix B of this license application).

PORTS implemented a U.S. Nuclear Regulatory Commission (NRC)-accepted Emergency Plan in accordance with the requirements of 10 *Code of Federal Regulations* (CFR) 76.91. The Emergency Plan was mature and effectively implemented by Emergency Plan Implementing Procedures (EPIPs). The EPIPs addressed generic requirements for responses to incidents involving hazardous chemicals, radioactive materials, natural phenomena, and other adverse conditions throughout the PORTS reservation. The Emergency Plan helped to ensure that personnel were adequately prepared for accidents and other emergencies involving the potential release of radioactive materials and that prompt, orderly, and effective response actions were taken to mitigate the consequences of such accidents and emergencies and protect the health and safety of the public and workers at the plant.

The NRC notice promulgating 10 CFR Part 76 confirmed that the emergency planning requirements set forth in 10 CFR Part 70 for other nuclear fuel cycle facilities were appropriate for the gaseous diffusion plants and that the requirements in 10 CFR 76.91 were based upon the emergency planning provisions in 10 CFR Part 70. The Emergency Plan design adhered to the 10 CFR 70.64 Emergency Capability Baseline Design Criteria. Accordingly, the Emergency Plan format was generally based upon NRC Regulatory Guide 3.67, *Standard Format and Content for Emergency Plans for Fuel Cycle and Materials Facilities* (January 1992). Additionally, the emergency action levels were developed using examples provided in this Regulatory Guide. Based on these factors, and to ensure a consistent response by emergency response personnel, the existing PORTS Emergency Plan and the accompanying EPIPs are utilized to meet the 10 CFR 70.22(i)(1)(ii) and (i)(3) requirements for the Lead Cascade. The Fire Safety/Emergency Management Manager reports to the License Termination and Decommissioning Support Manager and is responsible for Lead Cascade Emergency Management.

A general map covering a radius of approximately 10 miles from the PORTS reservation is provided in Figure 8.1-2.

8.1.1 Emergency Plan Summary

The EPIPs implement each section of the Emergency Plan, but are not included in the Emergency Plan itself. Rather, the Emergency Plan includes a general description of the procedures that are followed in connection with each activity to demonstrate that appropriate actions can and will be taken to mitigate accident consequences and to protect the health and safety of the public and plant personnel in the event of an emergency.

The Emergency Plan provides an overall description of the comprehensive site wide emergency preparedness program and is based in large measure on the emergency preparedness policies, procedures, and practices that have been successfully used on the PORTS reservation. This program was established to manage and respond in a consistent and integrated way to

accidents or other emergency situations that may occur at the site. The structure of this program is intended to ensure that the consequences of emergencies are promptly mitigated and that the health and safety of the public, personnel throughout the reservation, and plant personnel are protected, regardless of the cause or nature of the emergency. Therefore, the Emergency Plan addresses both radiological and non-radiological emergencies as well as potential emergencies arising out of activities at the site that are regulated by the NRC and those activities that are regulated by the DOE.

The scenarios addressed in the Emergency Plan include accidents involving radioactive materials, non-radioactive materials, and chemicals; fires; natural phenomena such as earthquakes and tornadoes; and security-related emergencies. The scenarios in the Emergency Plan include a large uranium hexafluoride (UF_6) release, which far exceeds, and fully bounds a release of the entire inventory of UF_6 from the Lead Cascade.

The Emergency Plan includes a general description of leased property, the DOE reservation, and the surrounding area. It identifies the types of accidents and the emergencies for which protective actions may be needed and describes the manner in which accidents are detected and classified. The Emergency Plan also contains a description of the policies and procedures that are followed for the notification of and communication with plant personnel, DOE reservation personnel, local governments, and regulatory agencies in the event of an emergency, and for the coordination of the emergency response activities of both on-site and off-site response organizations. The Emergency Plan provides a description of the responsibilities of the key individuals and organizations involved in emergency response activities and the manner in which the consequences of an emergency are mitigated and assessed. The Emergency Plan also includes separate sections and subsections addressing the establishment and maintenance of emergency response equipment, facilities, and capabilities; the training and exercises that are conducted to maintain and enhance emergency preparedness; the manner in which plant equipment and systems are restored to a safe condition after an accident and all other topics required by 10 CFR 70.22 (i)(3).

The Emergency Plan also confirms that the Licensee has met its responsibilities under the *Emergency Planning and Community Right to Know Act* of 1986 as required by 10 CFR 70.22(i)(3)(xiii). The Emergency Plan is maintained and updated by the Licensee. In accordance with 10 CFR 70.32(i), the Licensee may change the Emergency Plan without receiving prior NRC approval, providing the change does not decrease the effectiveness of the Emergency Plan and the NRC and affected off-site response organizations are provided with copies of any changes to the Emergency Plan within six months of the change.

In summary, the Emergency Plan is the master document addressing the site-wide emergency preparedness program and the policies, procedures, and actions that will be implemented in any emergency arising from activities on the PORTS reservation or from outside sources affecting personnel working on the site to mitigate the consequences of the emergency and protect the health and safety of the public, personnel on the DOE reservation, and Lead Cascade workers/contractors.

8.1.2 Lead Cascade Facilities

The Lead Cascade occupies a very small fraction of the area of the PORTS reservation (Figure 8-1-1) and the Lead Cascade has a modest possession limit of 250 kilograms (kg) UF_6 . The type, quantity, and form of NRC regulated source material, byproduct material, and special nuclear materials are shown in Table 1-2-1. A topographical map of the reservation is shown in Figure 8-1-3. An aerial photo is provided in Figure 8-1-4 (located in Appendix B of this license application).

The Lead Cascade enriches normal UF_6 , which contains approximately 0.711 weight (wt.) percent ^{235}U , up to 10 wt. percent ^{235}U . The Lead Cascade is operated on recycle where the enriched product stream is recombined with the depleted stream prior to being re-fed to the cascade. No product withdrawals are made from the Lead Cascade other than the samples that are taken for laboratory analysis. The specific authorized uses for each class of NRC regulated material are shown in Table 1-2-2.

Due to the small quantity of licensed material, the consequences of any accident postulated in the Integrated Safety Analysis (ISA) would be small when compared to postulated accidents at the GDP. The postulated accidents addressed in the PORTS Emergency Plan envelope and bound any conceivable accident in the Lead Cascade.

The Lead Cascade is described in Chapter 1.0, the organization is described in Chapter 2.0, and the credible accident scenarios have been evaluated in Chapter 3.0 of this license application (ISA Summary).

UF_6 leak detection instrumentation and criticality accident detection instrumentation are not utilized in the Lead Cascade. The Lead Cascade is small in area and manned on a continuous basis while UF_6 is present in the system. Abnormal operating conditions and accidents are identified by human observation, based on installed instrumentation and routine operator rounds of the facility.

8.1.3 Areas Not Addressed by Existing Emergency Plan

The existing Emergency Plan provides a comprehensive response to incidents involving hazardous chemicals, radioactive materials, natural phenomena, and other adverse conditions throughout the PORTS reservation. While no new chemicals not in use at PORTS are utilized in the Lead Cascade, there are a few topics specific to the Lead Cascade and gas centrifuge technology that are not currently addressed. These topical areas are described in the following sections:

8.1.3.1 Vent System

The purge vacuum (PV) and evacuation vacuum (EV) systems are utilized to produce the required vacuum in the gas centrifuge machines. Effluent from the systems discharge through a vent to the atmosphere. The systems are described in Section 1-1-2-7.1 and airborne effluent monitoring is discussed in Sections 9-2-1-2.1 and 9-2-2-1.3 of this license application. The PV and EV systems share activated alumina traps and the X-3001 Process Building vent. The vent stack has a height of approximately 23 meters. Four chemical traps, and an exhaust gas analyzer and gas flow monitoring capability are provided as part of the system. The efficiency of the activated

alumina traps ranges from 0 to 95 percent, depending on concentration of UF_6 in the effluent stream. The flow rate is expected be comparable to the existing vents utilized at the gaseous diffusion plant. The maximum anticipated gaseous effluent from the Lead Cascade during normal operations is estimated to be 1.0 millicurie (mCi) of uranium over a week, or up to 0.052 curie (Ci) per year. Effluent levels are discussed in Section 9.2.2.1.1 of this license application.

8.1.3.2 Accident Sequences

The cascade feed cylinder is located in the X-3001 Process Building. The feed cylinder provides the principle source for nearly all of the accident scenarios in the Lead Cascade. The most severe accident sequence involves the release of the entire 250 kg inventory of UF_6 . There are no offsite radiological consequences from the Lead Cascade accident sequences; rather the sequences are predominately concerned with related chemical consequences. Details regarding the projected doses and toxic substance concentrations are provided in the ISA Summary, along with measures credited in preventing and mitigating the events.

8.1.3.3 PORTS Emergency Plan Revision

The PORTS Emergency Plan and the EIPs were revised to address the topics that are unique to the gas centrifuge process, including classification requirements. Specifically, the underlined information below was added:

- Section 5.0 Emergency Response Measures

- Emergency measures must be taken in response to an emergency. Upon recognizing that an emergency exists, the Emergency Response Organization (ERO) is activated. Once activation has taken place, assessments of the condition are made, corrective and protective actions are taken, and aid to affected persons is administered as required.

After becoming aware that an emergency exists, the Plant Shift Superintendent does the following:

- Takes actions to ensure the safety of plant personnel and the general public;
- Takes actions to ensure safe operation/activities of the plant;
- Classifies the emergency and makes the required notifications;
- Takes actions to ensure that safeguards and security measures are maintained;
- Takes actions to ensure that material control and accountability measures are maintained;
- Performs assessment actions;
- Performs other emergency actions as appropriate, and

~~For Lead Cascade emergencies, takes actions to ensure that items relied on for safety are assessed for collateral damage.~~

~~• Section 7.2.3 Offsite Emergency Management Training~~

~~Training is offered biennially by letter of invitation to non licensee emergency support organizations that may be called upon to respond to emergencies at the plant, including the Lead Cascade. These agencies include local fire, law enforcement, ambulance, and hospital services. In addition to fire services/emergency management, personnel from other plant groups such as training, health physics, industrial hygiene, security, and operations, provide assistance as needed. This training includes the following topics and performance objectives as a minimum:~~

~~Site specific information on hazards, onsite and offsite protective actions, and emergency response from personnel or organizations augmenting the ERO;~~

~~Orientation tours of the PORTS reservation, and~~

~~Information briefings for the news media on operational emergencies, site specific hazards and responses, site points of contact, and procedures for the release of information in the event of an emergency.~~

~~• Section 9.1 Recovery~~

~~The nature and extent of the emergency determines what recovery operations are required and the extent of the recovery organization that must be formed. A recovery plan must be flexible enough to adapt to the existing conditions. It is not possible to anticipate in advance all of the conditions that may be encountered as a result of the emergency. General principles addressed in this section serve as a guide for developing a flexible plan of action.~~

~~Recovery includes those actions necessary to return an incident site and the surrounding environment to pre-emergency conditions to the maximum extent practical. Specific recovery plans are developed in accordance with the applicable EPIP.~~

~~The DOE site manager is responsible for ensuring the adequacy and appropriateness of recovery operations involving non-leased portions of the facility. The General Manager, American Centrifuge Plant Operations and Decommissioning is responsible for ensuring the adequacy and appropriateness of recovery operations involving the Lead Cascade.~~

~~The revisions to the PORTS Emergency Plan and EPIPs encompassing these topics were implemented prior to beginning operation of the Lead Cascade.~~

~~The Licensee will continue to perform additional reviews of the Emergency Plan and incorporate any necessary additional specific emergency management aspects of the Lead Cascade into the existing Emergency Plan including adding any hazardous chemicals associated with the Lead Cascade to the existing list of chemicals, with clear indication that the hazardous chemicals pertain to the Lead Cascade.~~

The information within this figure has been determined to contain Export Controlled Information and is located in Appendix B of this license application

Figure 8.1-1
Lead Cascade Location

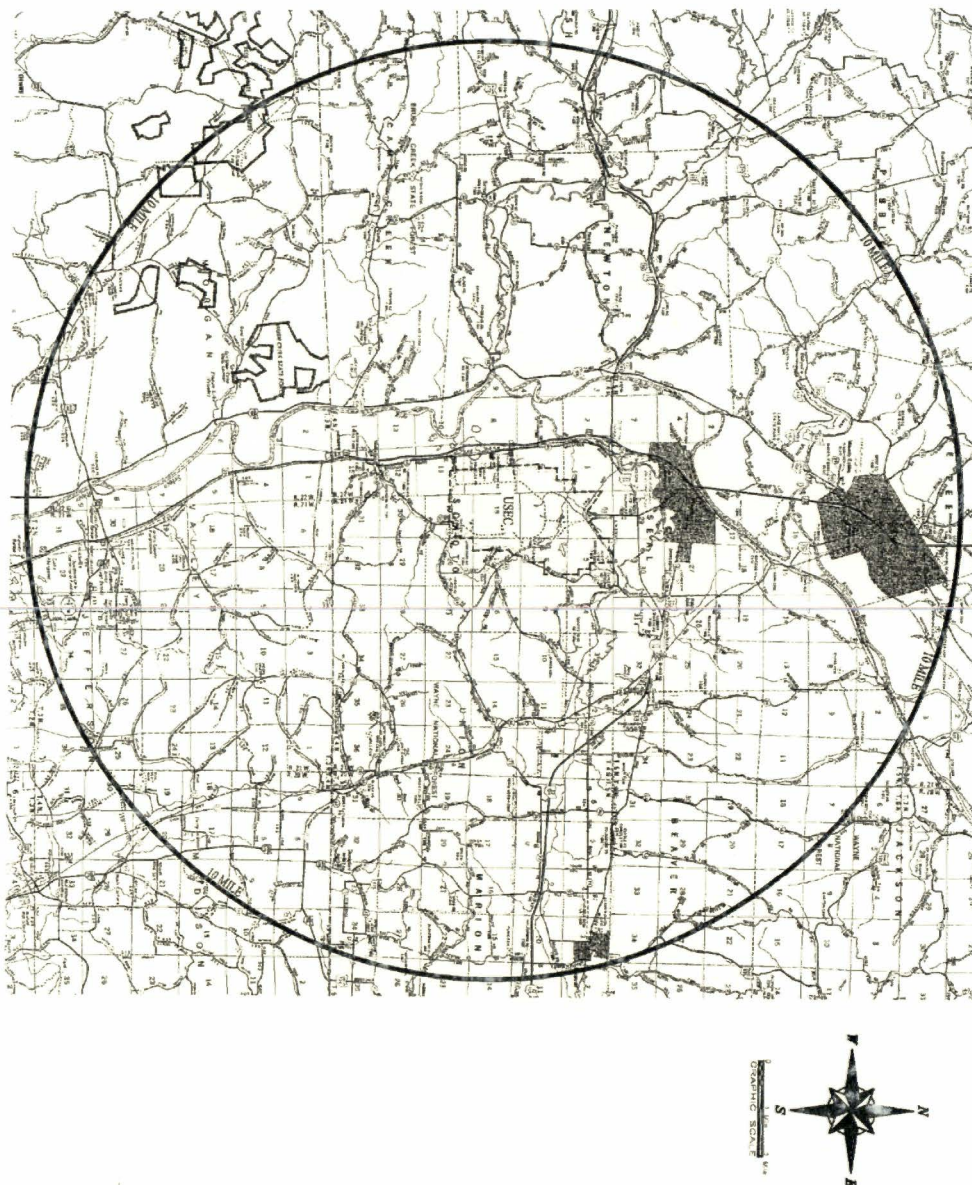


Figure 8.1-2
General Map Covering a Radius of Approximately 10 Miles
from the PORTS Reservation

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Figure 8.1-3
Topographical Map of PORTS
(Reference 1)

The information within this figure has been determined to contain Export Controlled Information and is located in Appendix B of this license application

Figure 8.1-4
Aerial Map of the PORTS Reservation
(Reference 1)

8.2 References

1. ~~U.S. Department of the Interior, U.S. Geological Survey, Reston, VA, Website: <http://www.usgs.gov/index.html>~~NRC letter dated September 23, 2019, regarding Approval of Centrus Energy Corp. Final Status Survey Report and Request to Cancel Its Decommissioning Funding Instrument for the American Centrifuge Lead Cascade Facility
2. ~~NUREG-1513, Integrated Safety Analysis Guidance Document~~
3. ~~NUREG-1520, Standard Review Plan for the Review of a License Application for a Fuel Cycle Facility~~
4. ~~USEC-02, Portsmouth Gaseous Diffusion Plant (PORTS) Emergency Plan~~
5. ~~NRC Regulatory Guide 3.67, Revision 0, Standard Format and Content for Emergency Plans for Fuel Cycle and Materials Facilities, January 1992~~

USEC-02

**PORTSMOUTH GASEOUS
DIFFUSION PLANT
(PORTS)
EMERGENCY PLAN**

Revision 212

Docket No. 70-7003

June 2017

Information contained within
does not contain
Export Controlled Information

Reviewing
Official: #152
Date: 06/08/2017

FOR INFORMATION ONLY**2.2 Management Controls**

The Licensee has established management systems with associated policies, administrative procedures, and management controls to ensure: the Lead Cascade equipment, facilities and procedures; the staff (including training and qualifications); and the programs provide for the protection of the health and safety of workers and the public, protection of the environment, and for the common defense and security. Management controls have been established to maintain configuration management of the Lead Cascade. These controls are described in Section 11.1 of this license application. Organizations with environmental, health, safety, safeguards, security, and quality responsibilities have been established with a reporting chain, independent from the operations organization. Effective lines of communication and authority among the organizations involved in the engineering, environmental, safety, and health, and operations functions of the facility are clearly defined.

The management controls established by the Licensee for the Lead Cascade include policies, management systems, and administrative procedures that are communicated to Lead Cascade personnel. Policies related to the protection of health and safety of workers and the public, protection of the environment, and providing for the common defense are discussed in pertinent sections of this license application. Activities that are essential for effective implementation of the environmental, safety, and health functions are documented in approved, written procedures, prepared in compliance with a document control program. Procedure development and document control are described in Section 11.4 of this license application and Sections 5 and 6 of the QAPD.

Management measures required to ensure the availability and reliability of IROFS are described in Chapter 11.0 of this license application. Controls specific to Lead Cascade programs are identified in the QAPD, Fundamental Nuclear Material Control Plan, and Security Program.

The commitment tracking and corrective action management systems are integrated to prioritize Lead Cascade actions consistent with their safety and safeguards significance. Any person working in the facility may report potentially unsafe conditions or activities by submitting a problem report. Reported concerns are investigated, assessed, and resolved as described in Section 11.6 of this license application.

Where safety, security, or safeguards might be adversely impacted by cost or schedule considerations, it is the policy of the Licensee to subordinate cost and schedule considerations to ensure adequate treatment of safety and safeguards in full compliance with applicable regulatory requirements.

The integration of Lead Cascade operations and the various programs and requirements is accomplished through a variety of management practices, including:

- Staff meetings to discuss issues and policy implementation

- Review of performance indicators
- Review of identified events or conditions
- Multi-discipline reviews by the FSRC
- Plant work permit systems that provide the integration in the field of various health, safety, and environmental program requirements and hazard evaluations

Additionally, oversight of the integration of various program elements is provided by the QA Organization.

Written interface agreements exist with offsite emergency resources such as fire, police, ambulance/rescue units, and medical services. ~~These interface agreements are addressed in more detail in the Portsmouth Gaseous Diffusion Plant (PORTS) Emergency Plan.~~

2.2.1 Facility Safety Review Committee

The FSRC performs multi-discipline reviews of day-to-day and proposed Lead Cascade activities to ensure that these activities are and/or will be conducted in a safe manner. The FSRC advises the General Manager, American Centrifuge Plant Operations and Decommissioning on matters related to RP, Nuclear Safety, Chemical Safety, Fire Safety, and Environmental Protection. The specific membership, qualifications, meeting frequency, quorum, functions, responsibilities, and required records are provided in a facility procedure. Auditing and oversight of FSRC activities is the responsibility of the QA Manager.

Subcommittees may be established by the FSRC chairperson to provide assistance in conducting reviews and assessments as described in the FSRC procedure. The FSRC chairperson approves the subcommittee procedures, membership, and member qualifications. The FSRC maintains the overall responsibility for any required reviews.

2.3 Pre-operational Testing and Initial Start-up

Specific plans have been established to ensure the safe and efficient turnover, testing, and start-up of Lead Cascade centrifuge machines, equipment, and support systems. These plans cover the transition from the refurbishment/construction phase to the operations phase of the Lead Cascade Project.

The Integrated Systems Test/Start-up Manager is responsible for development and implementation of testing to provide for the turnover and acceptance of equipment and systems from contractors/vendors to the Licensee.

2.4 References

1. NR-3605-0003, *Quality Assurance Program Description for the American Centrifuge Plant*
2. NUREG-1324, *Proposed Method for Regulating Major Materials Licensees*
3. NUREG-1520, *Standard Review Plan for the Review of a License Application for a Fuel Cycle Facility*
4. ~~USEC-02, Portsmouth Gaseous Diffusion Plant (PORTS) Emergency Plan~~

7.1.4 Personnel Training

Fire services personnel are trained and equipped to handle anticipated types of emergencies. Firefighter training is equivalent to the state certified firefighter training curriculum. Emergency medical response personnel meet requirements for state certification as Emergency Medical Technicians (these are typically also firefighters). Qualified instructors provide a range of classroom and hands-on training to maintain standards of performance for all response personnel. Training needs are reviewed annually and the training program modified to meet identified needs.

Records of the training activities are maintained in accordance with Records Management and Document Control requirements. Training is based on national standard emergency response methodology with site-specific training on issues unique to the site.

Specific training activities include firefighting, hazardous material response, confined space rescue, emergency medical response, radiological emergencies, and rescue. Drills are periodically conducted quarterly as part of the Emergency Plan. Training requirements of fire services personnel are described in Section 11.3 of this license application. Fire Officers have at least five years experience in fire service with management and leadership training.

An on-site emergency squad provides additional support for the fire services group. This group is on call for response to assist emergency responders at emergency scenes. Training is provided for the type of activities they may be called upon to perform.

Employees receive initial and biennial fire safety training as part of General Employee Training (GET) on emergency preparedness. This includes emergency reporting, facility evacuation, and fire extinguisher familiarization. GET is described in Section 11.3 of this license application.

7.1.5 Impairment Control

Closure of valves on the water system supplying the fire suppression systems is controlled by a written permit system. Fire services controls the valve closure permit system; therefore, fire services is notified of the impairment of fire suppression systems. Only groups authorized by Fire Safety/Emergency Management Manager have the authority to issue permits and operate fire protection valves.

This permit system provides for the notification of the facility manager and the Plant Shift Superintendent (PSS) of the reason for the impairment, the expected duration of the impairment, the person doing the valving, system restoration time, person restoring the system, and residual partial system impairment (e.g., branch line removed). Compensatory actions are initiated when building sprinkler systems are out of service. These may include suspension of hot work or other hazardous processes, personnel notifications, fire patrols, or other action necessary as determined by the Fire Safety/Emergency Management Manager. Systems taken out of service for repair are usually returned to service within an 8-hour period; actual required repairs will affect the actual time needed to complete the repair.