



June 21, 2016  
ACO 16-0023

ATTN: Document Control Desk

Ms. Melanie Galloway, Director  
Division of Security Policy  
Office of Nuclear Security and Incident Response  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001

**American Centrifuge Plant**  
**Docket Number 70-7004; License Number SNM-2011**

**Submittal of Changed Pages of the Emergency Plan for the American Centrifuge Plant**

Dear Ms. Galloway:

**Purpose**

In accordance with 10 *Code of Federal Regulations* (CFR) 70.32(i), American Centrifuge Operating, LLC (ACO) hereby submits to the U.S. Nuclear Regulatory Commission (NRC) changed pages of the Emergency Plan for the American Centrifuge Plant (ACP) as Enclosure 1 of this letter.

**Background**

Currently, the NRC-accepted Emergency Plan in effect at the U.S. Department of Energy reservation in Piketon, Ohio is USEC-02, *Portsmouth Gaseous Diffusion Plant (PORTS) Emergency Plan*, which ACO credited within Chapter 8.0 of the License Application for the American Centrifuge Lead Cascade Facility. Changed pages for this site-wide Emergency Plan are currently submitted to the affected off-site response organizations and will remain effective until implementation of the Emergency Plan for the ACP. Upon full implementation of the new site-wide Emergency Plan and in accordance with 10 CFR 70.32(i), ACO will begin supplying changed pages to the affected off-site response organizations through the controlled distribution process.

**Discussion**

The changes noted in Enclosure 1 have been reviewed in accordance with 10 CFR 70.32 and have been determined not to decrease the effectiveness of the applicable plan. Revision bars in the right hand margin depict changes from the previous revision submitted to the NRC.

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**Action**

No specific action is requested concerning this submittal.

**Contact**

If you have any questions regarding this matter, please contact me at (740) 897-2887.

Sincerely,

*Kelly L. White for*

Jonathan K. Corrado  
Regulatory Manager

Enclosure: As Stated

cc: J.R. Downs, NRC HQ  
Y.H. Faraz, NRC HQ  
T.A. Grice, NRC HQ  
L.W. Pitts, NRC Region II  
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**Enclosure 1 to ACO 16-0023**

**Changed Pages of the Emergency Plan for the American Centrifuge Plant**

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

**Reviewer: G. Peed**

**Date: 06/20/16**

## 2.0 TYPES OF ACCIDENTS

Emergency planning at the DOE reservation consists of analysis of the potential hazards associated with ACP operations, as well as hazards associated with GDP activities, and ongoing DOE activities. The analyses also include consideration of the risks associated with the potential release of other hazardous radioactive and non-radioactive materials stored or used on-site. Other hazardous materials are identified in the Material Safety Data Sheets/Safety Data Sheets (MSDS/SDS); chemical inventory; information from the Safeguards and Security Plan; Spill Contingency, Control, and Countermeasures Plan; and Hazardous Waste Contingency Plans.

Both radiological and non-radiological accidents or other emergencies that could occur on the reservation, include the following:

- Hazardous materials (HAZMAT) releases involving toxic or radioactive materials;
- Equipment failures and industrial accidents;
- Natural phenomena (i.e., tornadoes and earthquakes) and fires; and
- Security-related events (i.e., bomb threats and civil disturbances).

### American Centrifuge Plant

Hazards and consequence analyses reflected in the Integrated Safety Analysis (ISA) Summary for the American Centrifuge Plant form the basis for emergency preparedness planning. Emergency preparedness at the ACP is intended to prevent, mitigate, and minimize the consequences of an accident.

Emergency planning for the ACP is based upon an evaluation of the risks associated with various accident scenarios identified in the ISA. Those analyses concluded that the most extreme credible scenario would be an accident involving a large uranium hexafluoride (UF<sub>6</sub>) release. The ISA included consideration of the risks associated with the potential release of other hazardous radioactive and non-radioactive materials stored or used at the ACP.

Each type of credible accident or event that could result in an emergency associated with these hazards has been identified and analyzed to assess the potential consequences to plant workers; public; environment; and on-site and off-site property. Section 5.0 of this plan describes emergency response measures in detail, including on-site and off-site protective actions. Table A-4 (located in Appendix A) contains a summary of the event scenarios that, if unmitigated, could result in potential off-site consequences. The events listed in Table A-4 require crediting of Items Relied On For Safety (IROFS). The IROFS reduce the event likelihood and/or consequences to meet 10 CFR 70.61 Performance Requirements.

The following are radiation exposure guidelines:

- Doses to workers during emergencies to the extent practical, are limited to 5-roentgen equivalent man (rem). Justifications for exposing workers beyond the 5-rem limit include the presence of conditions that prevent the rotation of workers or other commonly used dose-reduction methods.
- Emergency exposures are limited to 10-rem for protecting valuable property.
- Emergency exposures are limited to 25-rem for life saving activities and the protection of large populations.

Emergency exposures in excess of 25-rem are authorized only for rare situations when such exposure is unavoidable in order to carry out a lifesaving operation or to avoid extensive exposure to large populations. Persons undertaking any emergency operation in which the dose will exceed 25 rem to the whole body do so only on a volunteer basis and with full awareness of the risks involved, including the numerical levels of dose at which acute effects of radiation will be incurred and the numerical estimates of the risks of delayed effects. Details for providing this information and for documenting an individual's willingness to volunteer are in plant procedures.

For hazardous material/toxic gas release incidents, the IC and emergency response personnel assess the incident scene and take appropriate protective and mitigative response actions based on available information (i.e., MSDSs/SDSs, emergency response guidebooks, professional industrial hygiene guidance, and meteorological conditions).

During a UF<sub>6</sub> release on-site, the resulting hydrolysis products are uranyl fluoride particles and HF gas. The radiotoxicity of uranium is insignificant when compared with the chemical toxicity of HF and uranium. Therefore, exposure control during an emergency involving a release of UF<sub>6</sub> will be based on chemical toxicity.

### **5.5.1.3 Monitoring**

Provisions have been made for 24 hour per day capability to determine uranium uptakes received by personnel. Personnel who may be required to respond to the scene of an emergency are required to wear thermoluminescence dosimeters. Issuance of self-reading dosimeters and maintenance of interim emergency whole body dose records are addressed in procedures. Emergency worker dose records are maintained in accordance with procedures. Additional details of the personnel monitoring program is contained in Chapter 4.0 of the license application.

### **5.5.2 Decontamination of Personnel**

On-site personnel decontamination stations for emergency conditions are equipped with decontamination material and necessary supplies. The primary means of decontamination is through the use of equipment and supplies carried on emergency response vehicles. The

## 10.0 COMPLIANCE WITH *COMMUNITY RIGHT-TO-KNOW ACT*

The Licensee complies with the EPA *Superfund Amendments and Reauthorization Act* (SARA) Title III regulations, also known as the *Emergency Planning and Community Right-to-Know Act*. Specific responsibilities include emergency response planning, emergency release reporting, hazardous chemical inventory reporting, and toxic chemical release reporting.

This plan and appropriate plant procedures are used during hazardous chemical release emergencies. Plant procedures have been developed for hazardous materials releases that are not classified as emergencies to ensure that the requirements of SARA Title III are met. MSDSs/SDSs are maintained in several areas throughout the DOE reservation. MSDSs/SDSs are maintained in a central location in the ACP and are available at all times to employees, including emergency response and fire department personnel from on- and off-site.

When hazardous materials spills or releases are reported, the IC responds to the incident scene. The IC directs the emergency containment of spills. Actions to be implemented are described in appropriate procedures and include the following:

- Evacuate/isolate the area of release/spill activity, as necessary, and determine areas of concern;
- Classify the emergency if appropriate;
- Determine if activation of additional ERO personnel is necessary;
- Take measures to minimize safety concerns;
- Determine a course of action and personal protective equipment requirements;
- Initiate containment procedures;
- Terminate the source;
- Make appropriate notifications to on-site and off-site officials;
- Determine material disposal; and
- Terminate the incident and enter recovery.