USEC
A Global Energy Company

January 18, 2013
GDP 13-1001

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555-0001

Paducah Gaseous Diffusion Plant (PGDP)
Docket No. 70-7001, Certificate No. GDP-1
USEC Event Report ER-12-01

Pursuant to 10 CFR 76.120(c)(2)(i), enclosure 1 provides the 60-day written event report pertaining to a momentary loss of audibility of the C-409 stabilization facility Criticality Accident Alarm System (CAAS). The event on November 19, 2012 occurred while preparing for maintenance on a circuit breaker supplying power to the CAAS uninterruptible power supply in the C-409 facility at the Paducah Gaseous Diffusion Plant (PGDP). Enclosure 2 is a list of commitments made in the report. The Nuclear Regulatory Commission (NRC) was verbally notified on November 20, 2012 at 1002 hours. NRC assigned No. 48522 to the notification.

Should you require additional information regarding this event, please contact Vernon Shanks, Regulatory Affairs Manager at 270-441-6039.

Sincerely,

Michael A Buckner

Michael A. Buckner, (Acting) General Manager
Paducah Gaseous Diffusion Plant

DCS: mcl

Enclosures: As stated

cc: NRC Region II Office
NRC Senior Resident Inspector – PGDP

United States Enrichment Corporation
Paducah Gaseous Diffusion Plant
P.O. Box 1410, Paducah, KY 42002

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Event Report
ER-12-01

A. Description of Event

At 1625 hours, CST on November 19, 2012, while preparing to replace a circuit breaker (MCC-A) in the AC power supply to the C-409 building Criticality Accident Alarm System (CAAS) horn uninterruptible power supply (UPS), UPS power failed to throw over to its battery backup power supply rendering the building CAAS horns inoperable. When the breaker being replaced was opened, the expected throw over failed to occur. Normal AC power was restored within three to five seconds by reclosing the breaker as directed by Operations personnel assigned to monitor the UPS power supply during this maintenance evolution. The CAAS UPS is monitored by Operations personnel continuously for a maintenance evolution of this nature to ensure the CAAS horns remain operable or are returned immediately to operable status should the throw over fail. The horns were inaudible/inoperable for three to five seconds. The CAAS system is required to be audible according to Technical Safety Requirement (TSR) Limiting Conditions of Operation (LCO) 2.6.4.1b. There were no fissile material operations being conducted, other than fissile waste storage, at that time in the C-409 building. The CAAS horn inoperability is reportable within 24 hours in accordance with 10 CFR 76.120(c)(2)(i). NRC was verbally notified on November 20, 2012 at 1002 CST.

B. Description of Equipment Failure Investigation

The UPS system is used to supply the AC power to horn solenoids for the CAAS air horns and CAAS electronic horns in this facility. The input AC power to and output AC power from the UPS are both monitored electronically for loss of power that produces a trouble alarm in the C-300 Central Control Facility. In this maintenance evolution, an operations person was prestaged to monitor the UPS performance and, when input power was isolated from the UPS, the output power failed to throw over to its internal battery backup power.

Maintenance evolutions like this, which are of short duration and are easily recoverable, are frequently accomplished by relying on the installed UPS as the backup electrical power source to handle the electrical load for the short duration of the maintenance activity while the UPS function is continuously monitored by Operations personnel. Continuous monitoring of the UPS is required during this evolution to facilitate immediate reactions to restore AC power or enter a TSR Limiting Condition for Operation (LCO). The use of a LCO action to allow the CAAS horns to be inoperable during this evolution would subject the plant staff to unwarranted exposures to other industrial safety concerns and commitments of resources that would outweigh the momentary challenge to the reliability of the backup power source. Sufficient system monitoring and recovery capabilities are established to ensure a loss of power is immediately identified and corrected.

The UPS power supply is a Tripp-Lite Model 2200 RM. At PGDP the battery backup power is provided by Panasonic Model LC-R1233P, 12 volt, 33 ampere-hour batteries. Technical support from both manufacturers was contacted and no generic issues were determined to exist for either

component. On replacement of the backup batteries, the UPS power supply was returned to normal operation.

Based on an extent of condition review it was determined similar equipment configurations are used in five other locations at PGDP. In one of these locations, building C-333A, a second CAAS UPS battery backup failed on November 22, 2012. This failure was not reportable since there was redundant CAAS horn coverage in this area. This failure resulted from an AC power supply interruption to the UPS due to an unknown reason. A review of previous surveillance and preventive maintenance activities performed on the CAAS UPS systems and their battery backup found the batteries being replaced on a three year preventive maintenance schedule consistent with manufacturer recommendations. The industry standard is to replace batteries of this type on a three to five year interval. In this instance, the C-409 batteries were replaced on April 25, 2010. The C-409 batteries were due for replacement on April 25, 2013; however, in this case, they failed in approximately two years and seven months. The batteries in all six locations had passed their annual battery checks in 2012. Annual battery checks are performed during annual surveillance of the CAAS systems. Because of the two battery failures, the remaining locations' batteries were all replaced and the preventive maintenance battery replacement interval was shortened to two years.

C. Root Cause

The root cause of this event was the premature unanticipated failure of the UPS internal battery backup following isolation of the input UPS power.

D. Corrective Actions

1. The C-409 UPS batteries were replaced on November 20, 2012.

2. The remaining five UPS systems' batteries were replaced by December 12, 2012.

3. The preventive maintenance replacement schedules for these type batteries have been reduced to a two year interval effective January 14, 2013.

E. Description of Isotopes, Quantities, and Chemical and Physical Form of the Material Involved

No material was involved with this event.

F. Extent of Exposure of Individuals to Radiation or to Radioactive Materials

There were no exposures to radiation or radioactive materials.

List of Commitments
ER-12-01

There are no new commitments in this report.