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GDP 06-0008

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555-0001

Paducah Gaseous Diffusion Plant (PGDP)
Docket No. 70-7001, Certificate No. GDP-1
Response to an Apparent Violation to Inspection Report 70-7001/2005-009:
EA-06-013

The subject Inspection Report included an apparent violation for the plant's failure to ensure the C-337 Criticality Accident Alarm System was capable of being automatically actuated by an initiating event as required by ANSI/ANS 8.3. Upon discovery of the event, the plant promptly initiated comprehensive corrective actions to return the plant to full compliance with ANSI/ANS 8.3 and ensure system operability. In parallel with the corrective actions, the plant initiated an investigation to determine the root cause and long-term corrective actions necessary to prevent recurrence. The results of this analysis were included in the final event report submitted to the NRC on December 9, 2005. The United States Enrichment Corporation's (USEC) response to the apparent violation, including the status of the corrective action plan, is provided in Enclosure 1.

If you have any questions regarding this submittal, please contact Stephen R. Cowne at (270) 441-6796.

Sincerely,

R. B. Starkey, Jr.
Vice President, Operations

Enclosures: As stated

cc: Regional Administrator NRC, Region II
Director, Office of Enforcement, NRC HQ
NRC Senior Resident Inspector, PGDP

**UNITED STATES ENRICHMENT CORPORATION (USEC)
RESPONSE TO AN APPARENT VIOLATION IN INSPECTION REPORT
70-7001/2005-009: EA-06-13**

Restatement of Violation

“Technical Safety Requirement 3.11.1 required that a criticality safety program shall be established, implemented, and maintained as described in the Safety Analysis Report (SAR) and shall address, in part, adherence with ANSI/ANS standards. SAR Section 3.12.6 stated that the PGDP Nuclear Criticality Safety section (SAR section 5.2) established criteria for the CAAS that satisfied the requirements of ANSI/ANS 8.3, Criticality Accident Alarm System, 1986 edition. Section 4.4.6 of ANSI/ANS 8.3 required that the signal generating system(s) shall be automatically actuated by an initiating event without requiring human action. Contrary to the above from November 5 - 29, 2005, the signal-generating system for the C-337 Criticality Accident Alarm System was not capable of being automatically actuated by an initiating event without human action.”

USEC Response

I. Reason for the Violation

USEC agrees that a violation occurred when the C-337 CAAS horn switch, located on the CAAS control panel in the C-300 Central Control Facility, was not fully engaged in the “AUTO” position following surveillance testing on November 5, 2005. In this position the electrical circuit for the C-337 CAAS horn system was open and the building’s CAAS horns were inoperable. The root cause of the inoperable CAAS horns was the improper installation of the CAAS horn control switches in the C-300 CAAS console when fabricated in the late 1980s. During the investigation, operator inattention to detail was evaluated and determined not to be a significant causal factor. Significant contributing causes include the surveillance procedure failing to provide positive verification that the horns were functional prior to establishing operability, and the lack of a positive indication of switch position ensuring that the horn electrical circuit was closed. Upon discovery of the condition on November 29, 2005, the plant took immediate action to restore the system and verify its operability.

In accordance with 10 CFR 76.120(c)(2)(i), on November 29, 2005, the NRC was verbally notified of the discovery. On December 9, 2005, the plant submitted the final written event report to the NRC. The event report included the results of the root cause analysis and the corrective actions taken and planned to prevent recurrence. This action plan is summarized in NRC Inspection Report 2005-009 and is consistent with the action plan included in the final event report. The following is the status of those actions as of the submittal date of this response.

II. Corrective Actions Taken

1. On November 29, 2005, all other PGDP CAAS horn switches were verified to be energized from their respective switch in C-300.
2. On November 29, 2005, all C-300 CAAS panel switches were tightened and aligned (switch body rotated to match auto mark on panel).
3. On November 29, 2005, the CAAS TSR surveillance in-progress work instructions were revised to include a verification that horn system circuit voltage is present after placing the C-300 CAAS horn switch in the AUTO position.
4. On December 1, 2005, information was provided to all C-300 personnel to make them aware of the event, and to provide detailed instruction about how the switches operate and that a verification of system function must be done after final positioning of the horns' switches.
5. On December 2, 2005, a communication was transmitted to further explain the lessons learned from the event and to ensure that personnel understand system function/operability must be verified as the last step prior to exiting testing or maintenance evolutions.
6. On December 5, 2005, Operations management issued a Long Term Order requiring the PSS to ensure that voltage checks are performed each time the CAAS horn control switch is operated.
7. On January 18, 2006, alignment locking rings were installed on all the C-300 CAAS horn switches.
8. On January 24, 2006, Production Support completed a review of TSR surveillance procedures that test equipment covered by TSR specifications to validate that when TSR systems are returned to service following testing or maintenance the ability of the system to conduct its safety function is validated, if possible.
9. On January 31, 2006, Maintenance and Operations completed a review of TSR surveillance procedures that test equipment covered by TSR specifications to validate that when TSR systems are returned to service following testing or maintenance the ability of the system to conduct its safety function is validated, if possible.

III. Corrective Action to be Taken

1. By April 1, 2006, Engineering will develop a modification that will inform the operator that the switch is in AUTO.
2. By April 30, 2006, Production Support procedures identified by Action No. 8 under "corrective actions taken" will be revised as necessary.
3. By May 31, 2006, Maintenance procedures identified by Action No. 9 under "corrective actions taken" will be revised as necessary.
4. By June 1, 2006, Maintenance will install the modification (Action No. 1).
5. By June 1, 2006, Operations procedures identified by Action No. 9 under "corrective actions taken" will be revised as necessary.

H. Date When Full Compliance Was Achieved

Full compliance was achieved on November 29, 2005, by placement of the C-337 horn switch in the auto position and verification of voltage on the horn system electrical circuit.

List of Commitments
Response to an Apparent Violation
70-7001/2005-009: EA-06-13

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