



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION II
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ATLANTA, GEORGIA 30303-8931

November 5, 2004

Mr. J. Morris Brown
Vice President - Operations
United States Enrichment Corporation
Two Democracy Center
6903 Rockledge Drive
Bethesda, MD 20817

**SUBJECT: LICENSEE PERFORMANCE REVIEW (LPR) OF CERTIFIED ACTIVITIES
FOR THE PADUCAH GASEOUS DIFFUSION PLANT, DOCKET
NUMBER 70-7001**

Dear Mr. Brown:

Managers and staff in our Region II office in Atlanta, Georgia, and the Office of Nuclear Material Safety and Safeguards (ONMSS) in Rockville, Maryland, completed a review of your performance in conducting NRC-certified activities at the Paducah Gaseous Diffusion Plant. The review evaluated your performance during the period beginning January 1, 2003, and ending September 25, 2004. Paducah's performance was evaluated in four major areas: Safety Operations, Radiological Controls, Facility Support, and Special Topics. This letter and the enclosure provide to you the results of our review, and will be used as a basis for establishing the NRC oversight program for your conduct of certified activities during the next 12 months.

Paducah continued to conduct its activities safely during the review period. However, adherence to, and quality of, procedures related to conduct of operations and operator attentiveness were identified as areas needing improvement. Another area needing improvement was identified regarding nuclear criticality safety analysis and its documentation, particularly the development and implementation of single-parameter and administrative nuclear criticality safety controls. In addition, although improvement was noted in most areas identified during the previous LPR period, continued focus on implementation of your corrective action program is warranted.

The results of our review will be discussed with you at your facility during a meeting open to the public on December 13, 2004. Areas needing improvement are summarized in the enclosure to this letter. During that meeting, we expect you to discuss your view of your performance in the same major areas that the NRC evaluated. We ask you to specifically discuss why actions to improve adherence to, and quality of, procedures related to conduct of operations and operator performance, areas identified during the previous LPR period, have not been fully effective. In addition, please present how you will improve those practices in the future, and how you will monitor the effectiveness of the actions to be implemented.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document

Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-room/adams.html> (the Public Electronic Reading Room).

Please note that on October 25, 2004, the NRC terminated public access to ADAMS and initiated an additional security review of publicly available documents to ensure that potentially sensitive information is removed from the ADAMS database accessible through the NRC's web site. Interested members of the public may obtain copies of the referenced documents for review and/or copying by contacting the Public Document Room pending resumption of public access to ADAMS. The NRC Public Documents Room is located at NRC Headquarters in Rockville, MD, and can be contacted at (800) 397-4209.

Questions and comments about NRC's review of Paducah's performance should be referred to Mr. Jay Henson, who can be reached by telephone at 404-562-4731.

Sincerely,

/RA/

Douglas M. Collins, Director
Division of Fuel Facility Inspection

Docket No. 70-7001
Certificate No. GDP-1

Enclosure: Licensee Performance Review
- Summary Outline

cc w/encl: R. B. Starkey, Paducah General Manager
S. R. Cowne, Paducah Regulatory Affairs Manager
P. D. Musser, Portsmouth General Manager
S. A. Toelle, Director, Nuclear Regulatory Affairs, USEC
Paducah Resident Inspector Office
R. M. DeVault, Regulatory Oversight Manager, DOE
G. A. Bazzell, Paducah Facility Representative, DOE
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DATE	11/04/04	11/05/04	/ /04	0/ /04	0/ /04
E-MAIL	YES NO	YES NO	YES NO	YES NO	YES

OFFICIAL RECORD COPY DOCUMENT NAME: E:\Filenet\ML043130210.wpd

LICENSEE PERFORMANCE REVIEW FOR PADUCAH

**PERFORMANCE PERIOD: JANUARY 1, 2003 TO SEPTEMBER 25, 2004
SUMMARY OUTLINE**

The following is a summary of the performance of the Paducah Gaseous Diffusion Plant in the conduct of NRC-certified activities.

PERFORMANCE AREA: SAFETY OPERATIONS

This area comprises chemical safety, criticality safety, plant operations, and fire safety.

Program Areas Needing Improvement

- Nuclear criticality safety analysis and its documentation, particularly the development and implementation of single-parameter and administrative nuclear criticality safety (NCS) controls.

Failure to implement double contingency (Violation): The certificatee failed to use the double contingency principle, as described in the Safety Analysis Report, for the design and operation of the purge and evacuation coolers. Specifically, the failure scenarios associated with the double contingency controls (i.e., two differential pressure switches connected to a common instrument line) for a single parameter, moderation, were not independent. (Inspection Report (IR) 2004-203, Severity Level (SL) IV violation)

Administrative control failure (Violation): The certificatee failed to adequately post a fissile operation with the applicable NCS sign. Administrative NCS controls credited for meeting the double contingency principle were not implemented in operating procedures. Specifically, NCS Analysis 335-004 required permanent display of NCS postings while operating procedures only required the posting during maintenance. The certificatee revised the NCS analysis to only require the posting during maintenance. (IR 2004-203, SL IV violation)

Inadequate NCS evaluation: The double contingency basis associated with introduction of moderator into holding drums during drum maintenance was not clearly documented in NCS Evaluation 082 with an appropriate level of detail, including sufficiency of information to support an independent review, and clear documentation of the bases for unlikely events. The simultaneous activation of building sprinkler systems and failure of administrative requirements appeared to create an unmitigated criticality accident sequence. (IR 2004-201)

Weak review of NCS evaluations: Technical review of NCS Evaluation 082 concluded that double contingency was assured based on the reviewers' expert knowledge rather than information in the analysis. Specific information regarding fire protection program elements and effectiveness of administrative controls was not included in the NCS evaluation despite being required to reach the conclusion that the analysis was adequate. The evaluation did not support double contingency according to the inspector's review. (IR 2004-201)

- Adherence to, and quality of, procedures related to the conduct of operations:

Failure to follow procedure (Violation): During routine follow up to a certificatee-identified failure to follow procedure, the inspectors identified a violation of Technical Safety Requirement 2.2.4.1 regarding failure to initiate a smoke watch within one hour after the Process Gas Leak Detection System was rendered inoperable. The certificatee took appropriate corrective action to address the issue. (IR 2004-007, SL IV violation)

Failure to follow procedure: During review of event reports for closure, the inspectors identified a non-cited violation (NCV), with three examples, for failure to follow procedure and NCS requirements. (IR 2004-001, NCV)

Inadequate procedure: The inspectors identified a minor violation regarding two operators' failure to stop work when an in-hand procedure could not be performed as written. (IR 2003-006)

Failure to follow procedure (Violation): The inspectors concluded that the operations staff failed to check the pressure in the Unit 4, Cell 9 Recirculating Cooling Water Condenser in Process Building C-335 within the six hour periodicity specified in the governing procedure. One example of a violation for failure to follow a procedure was identified. (IR 2003-002, SL IV violation)

Failure to follow procedure (Violation): Following the failure of the "E" surge drum pressure monitoring instrumentation in Process Building C-333, the operations staff failed to isolate the "E" surge drum and install portable pressure monitoring equipment as specified in the governing procedure. One example of a violation for failure to follow a procedure was identified. (IR 2003-002, SL IV violation)

Lack of procedure: The inspectors concluded that the operations staff performed a leak rate check of Transfer Isolation Valve WV-042 in the liquid transfer line in Toll, Transfer, and Sampling Building C-360 without the benefit of documented procedures or instructions. One non-cited violation was identified. (IR 2003-002, NCV)

- Operator attentiveness:

Inattentive operator: The staff performed a good root cause analysis of the adverse trend in operator inattentiveness and implemented appropriate corrective actions for a self-identified finding involving an inattentive operator. The inspectors identified a non-cited violation for this finding. (IR 2003-011, NCV)

Unattended control room (Violation): The inspectors identified a violation of the minimum staffing requirements of Technical Safety Requirement Table 3.2.2.1 in that the Building C-333 area control room was deliberately left unattended by a qualified area control room operator. (IR 2003-011, SL IV violation)

Inattentive operator: Certificatee staff identified inattentive operators in the Feed Vaporization Facility, C-333A, and took appropriate action to address the issue. (IR 2003-010)

Inattentive operator: The inspectors identified one inattentive operator in the Central Control Facility, Building C-300. (IR 2003-009)

Inattention to detail: The inspectors concluded that an operator inadvertently removed power from the process gas leak detection system for the Number 3 Normetex Pump. The appropriate Technical Safety Requirement (TSR) action statement was entered, the process gas leak detector was replaced, and the system was returned to service. (IR 2003-004)

Inattentive operator (Violation): The inspectors identified a procedural violation, in that, a cascade operator, who was not part of the Process Building C-331 minimum staffing requirement and had been assigned as a dedicated operator at a local control panel, was not alert at all times. (IR 2003-003, SL IV violation)

PERFORMANCE AREA: RADIOLOGICAL CONTROLS

This area comprises radiation protection, environmental protection, waste management and transportation.

Program Areas Needing Improvement

- No specific areas needing improvement were identified for Radiological Controls.

PERFORMANCE AREA: FACILITY SUPPORT

This area comprises maintenance/surveillance, training, emergency preparedness, and management organization and controls.

Program Areas Needing Improvement

- No specific areas needing improvement were identified for Facility Support.

PERFORMANCE AREA: SPECIAL TOPICS

This area comprises safety licensing.

Program Areas Needing Improvement

- No specific areas needing improvement were identified for Special Topics.