



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION II
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET, SW, SUITE 23T85
ATLANTA, GEORGIA 30303-8931

May 16, 2005

Mr. Russell B. Starkey, Jr.
Vice President - Operations
United States Enrichment Corporation
Two Democracy Center
6903 Rockledge Drive
Bethesda, MD 20817

SUBJECT: NRC INSPECTION REPORT 07007001/2005-003

Dear Mr. Starkey:

On May 7, 2005, the NRC completed a routine inspection at the Paducah Gaseous Diffusion Plant. The purpose of the inspection was to determine whether activities authorized by the certificate were conducted safely and in accordance with NRC requirements. At the conclusion of the inspection on May 10, 2005, the NRC inspectors discussed the findings with members of your staff.

This inspection consisted of an examination of activities conducted under your certificate as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your certificate. Areas examined during the routine inspection are identified in the enclosed report. Within these areas, the inspection consisted of a selected examination of procedures and representative records, observations of activities in progress, and interviews with personnel.

Based on the results of this inspection, the NRC did not identify any violations.

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-rm/adams.html> (the Public Electronic Reading Room).

We will gladly discuss any questions you have concerning this inspection.

Sincerely,

/RA/

Jay L. Henson, Chief
Fuel Facility Inspection Branch 2
Division of Fuel Facility Inspection

Docket No. 07007001
Certificate No. GDP-1

Enclosure: Inspection Report 07007001/2005-003

cc w/encl:
S. Penrod, 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
Robert L. Johnson, State Liaison Officer

Distribution w/encl:
D. Martin, NMSS
R. Nelson, NMSS
D. Ayres, RII
J. Henson, RII
D. Hartland, RII
M. Thomas, RII
PUBLIC

***see previous concurrence**

X SISP REVIEW COMPLETE: Initials: JLH _____ SISP REVIEW PENDING*: Initials: _____ *Non-Public until the review is complete
X PUBLICLY AVAILABLE NON-PUBLICLY AVAILABLE SENSITIVE X NON-SENSITIVE
ADAMS: X Yes ACCESSION NUMBER: _____

OFFICE	RII:DFFI	RII:DFFI					
SIGNATURE	WB 5/16/05	DH 5/16/05					
NAME	WBritz*	DHartland*					
DATE	5/ /2005	5/ /2005	5/ /2005	5/ /2005	5/ /2005	5/ /2005	5/ /2005
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No.: 07007001

Certificate No.: GDP-1

Report No.: 07007001/2005-003

Facility Operator: United States Enrichment Corporation

Facility Name: Paducah Gaseous Diffusion Plant

Location: Paducah, KY

Dates: March 13, through May 7, 2005

Inspectors: Bruce L. Bartlett, Senior Resident Inspector
Mary L. Thomas, Resident Inspector
Wayne L. Britz, Fuel Facility Inspector
Daniel W. Rich, Senior Resident Inspector - NFS

Approved by: Jay L. Henson, Chief
Fuel Facility Inspection Branch 2
Division of Fuel Facility Inspection

Enclosure

EXECUTIVE SUMMARY

United States Enrichment Corporation Paducah Gaseous Diffusion Plant NRC Inspection Report 07007001/2005-003

This inspection included aspects of certificatee safety operations and facility support. The report covered resident and region-based inspection activities, including follow-up to issues identified during previous inspections.

Plant Operations

- Routine operations activities were conducted in accordance with written procedures. Routine communications among operators were adequate. (Paragraph 2.a)
- The certificatee maintained an effective Nuclear Criticality Safety (NCS) Program with an established configuration control process over all facility and process operations that affected criticality safety. In addition, the certificatee obtained and implemented advice from a technical NCS function independent from the production function. Undue risk was avoided. (Paragraph 2.b)

Maintenance and Surveillance

- Maintenance and surveillance activities were conducted appropriately and in accordance with approved procedures. Acceptance criteria contained in surveillance procedures were adequate and, when required, assessment and tracking reports were initiated. (Paragraph 3.a)

Attachment:

Partial List of Persons Contacted
Inspection Procedures Used
List of Items Opened, Closed, and Discussed
List of Acronyms

REPORT DETAILS

1. Summary of Plant Status

The certificatee performed routine operations throughout the inspection period. During the period, product assay was slowly decreased in order to achieve targeted values. On April 27, 2005, the certificatee announced that James Lewis, Nuclear Criticality Safety Field Services Manager, was being promoted to replace Michael Wayland, Maintenance Manager.

2. Plant Operations

a. Conduct of Operations - Routine Operations Activities

(1) Scope and Observations (IP 88100 and TI 2600/003)

The inspectors observed routine operations activities and discussed routine operations with staff and management. In addition, the inspectors reviewed the applicable area control room log books and routine surveillance forms. The inspectors observed operators respond to various alarms.

The inspectors observed routine operations in the cascade buildings and area control rooms, the feed vaporization facilities, product and tails withdrawal facilities, and the central control facility. The operations staff were alert and generally knowledgeable of the current status of equipment associated with their assigned facilities.

(2) Conclusions

Routine operations activities were conducted in accordance with written procedures. Routine communications among operators were adequate.

b. Conduct of Operations - Nuclear Criticality Safety (NCS) Program

(1) Scope and Observations (88020)

The inspectors observed routine operations and interviewed plant personnel. In addition, the inspectors reviewed certificatee procedures and sampled the certificatee's corrective action program for potential issues and negative trends.

The inspectors verified that the certificatee maintained an effective NCS program that had an established configuration control process over all facility and process operations that affected criticality safety. In addition, the inspectors verified that the certificatee obtained and implemented advice from a technical NCS function independent from the production function such that undue risk was avoided.

(2) Conclusions

The certificatee maintained an effective NCS program with an established configuration control process over all facility and process operations that affected criticality safety. In addition, the certificatee obtained and implemented advice from a technical NCS function independent from the production function. Undue risk was avoided.

c. Miscellaneous Open Item Closures (92701)

(Closed) IFI 2003011-04: Review and evaluate the frequency for source testing of the laundry monitor. The inspectors completed their review and evaluation of the frequency for source testing of the laundry monitor and determined that weekly source testing was acceptable, as items processed through the monitor do not go off-site. The inspectors have no further issues, and this item is closed.

(Closed) URI 2004006-01: Fissile material identified in thin-wall cylinders. The certificatee determined that the root cause was the inadvertent back-feeding of enriched material through the jet station piping from a cylinder containing the enriched material to one containing natural material. As corrective action, the certificatee revised the affected procedure to prohibit the heeling of non-fissile cylinders to a fissile feed stream. The inspectors have no further issues, and this item is closed.

(Closed) URI 2003009-01: Operator shift staffing requirements during events. Certificatee management determined that the four-hour Technical Safety Requirement minimum staffing exception did not apply to facilities not impacted by plant emergency squad runs. The four-hour exception accommodated unexpected absences of on-duty shift members, provided immediate action was taken to restore minimum staffing requirements. The certificatee issued a memo to plant staff that clarified the implementation of the requirements. The inspectors have no further issues, and this item is closed.

(Closed) VIO 2004003-01: Two examples of failure to follow configuration control requirements. The certificatee determined that the root cause was the plant staff's misunderstanding of requirements for using the work order system for controlling equipment configuration of safety-related items, as well as poor log keeping and communications. As corrective action, the certificatee conducted training on the requirements for use of formal documentation for work on quality class components and the expectations regarding log keeping. The inspectors have no further issues, and this item is closed.

3. Maintenance and Surveillance

a. Maintenance and Surveillance Activity Reviews

(1) Scope and Observations (88102 and 88103)

For the maintenance and surveillance activities listed below, the inspectors verified one or more of the following: activities observed were performed in a safe manner; testing was performed in accordance with procedures; measuring and test equipment was within calibration; Technical Safety Requirement (TSR) Limiting Conditions for

Operations were entered, when appropriate; removal and restoration of the affected components were properly accomplished; test acceptance criteria were clear and conformed with the TSR and the Safety Analysis Report; and any deficiencies or out-of-tolerance values identified during the testing were documented, reviewed, and resolved by appropriate management personnel.

- Work Order (WO) 0402610, Clean Transformer 31A5 in the C-333 building;
- WO 0503557, Valve appears to be leaking on Autoclave No. 1 in C-360;
- WO 0503892, Replace fire hydrant, would not shut off;
- WO 0503893, Replace fire hydrant, will not shut off, and replace curb box valve that would not shut off flow to the hydrant;
- WO 0503974, C-360 West Crane full load test;
- WO 0504524; Surveillance Requirement 2.4.4.8-1 and 2.3.4.11-1, Manually start High Pressure Fire Water Pump Number 2;
- WO 0504525; Surveillance Requirement 2.4.4.8-1 and 2.3.4.11-1, Manually start High Pressure Fire Water Pump Number 3;
- WO 0504984, Preventive maintenance to replace the motor on the Number 3 Low Speed Purge and Evacuation Pump in C-331;
- WO 0504984, Preventive maintenance to replace pump bearings on the Number 3 Low Speed Purge and Evacuation Pump in C-331;
- CP4-QA-QI6085, "Inspection and Load Test of UF₆ Cylinder Handling Cranes," Revision 8, performed on C-333A East Crane; and
- CP4-QA-QI6089, "Structural and Mechanical Below-The-Hook Lifting Device Inspections," Revision 5, performed on C-333A East Crane.

The inspectors observed that the certificatee staff effectively implemented work control practices and associated radiological controls during the above listed maintenance activities.

(2) Conclusions

Maintenance and surveillance activities were conducted appropriately and in accordance with approved procedures. Acceptance criteria contained in surveillance procedures were adequate and, when required, assessment and tracking reports were initiated.

4. Exit Meeting Summary

The inspection scope and results were summarized on May 10, 2005, with the Plant Manager and members of the facility management. The inspectors asked the certificatee staff whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

ATTACHMENT

1. PARTIAL LIST OF PERSONS CONTACTED

United States Enrichment Corporation

- *M. Keef, Plant Manager
- *S. Cowne, Nuclear Regulatory Affairs Manager
- *K. Ahern, Production Support
- *M. Boren, Nuclear Regulatory Affairs
- *S. Chappelle, Nuclear Quality and Safety
- *R. Helme, Engineering Manager
- *C. Hicks, Scheduling Manager
- *L. Jackson, Operations Manager
- *P. Jenny, Security Manager
- *J. Lewis, Maintenance Manager
- *K. Stratemeyer, UF₆ Handling Manager

* Denotes those present at the exit meeting on May 10, 2005.

2. INSPECTION PROCEDURES USED

TI 2600/003	Operational Safety Review
IP 88020	Regional Nuclear Criticality Safety Inspection Program
IP 88100	Plant Operations
IP 88101	Configuration Control
IP 88102	Surveillance Observations
IP 88103	Maintenance Observations
IP 88105	Management Control
IP 92701	Follow-up

3. LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

<u>Item Number</u>	<u>Status</u>	<u>Type</u>	<u>Description</u>
2003011-04	Closed	IFI	Review and evaluate the frequency for source testing of the laundry monitor.
2004006-01	Closed	URI	Fissile material identified in thin-wall cylinders.
2003009-01	Closed	URI	Operator shift staffing requirements during events.
2004003-01	Closed	VIO	Two examples of failure to follow configuration control requirements.

4. LIST OF ACRONYMS USED

ADAMS	Agencywide Documents Access and Management System
CFR	Code of Federal Regulations
IFI	Inspector Followup Item
IP	Inspection Procedure
NRC	Nuclear Regulatory Commission
NSC	Nuclear Criticality Safety
PARS	Publicly Available Records
PDR	Public Document Room
TI	Temporary Instruction
TSR	Technical Safety Requirement
UF ₆	Uranium Hexafluoride
URI	Unresolved Item
USEC	United States Enrichment Corporation
VIO	Violation
WO	Work Order