



UNITED STATES
NUCLEAR REGULATORY COMMISSION

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

January 29, 2008

EA-04-123

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 NO. 70-7001/2007-006

Dear Mr. Starkey:

This refers to the inspection conducted from November 1 through December 31, 2007, at the Paducah Gaseous Diffusion Plant. The purpose of the inspection was to determine whether activities authorized by the certificate holder were conducted safely and in accordance with NRC requirements. The NRC resident inspector discussed the findings with members of your staff on January 7, 2008.

As a result of the inspection, the enclosed NRC Form 591FF, Safety Inspection Report, is being issued. The enclosed form indicates that no violations were identified during the inspection period.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be made available electronically for public inspection in the NRC Public Document room or from the NRC's document system (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

Should you have any questions concerning this letter, please contact us.

Sincerely,

/RA/

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

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

Enclosure: NRC Form 591FF Parts 1 and 3

cc w/encl: (See page 2)

R. Starkey, Jr.

2

cc w/encl:

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Distribution w/encl: (See page 3)

R. Starkey, Jr.

3

Distribution w/encl:
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M. Miller, RII

X PUBLICLY AVAILABLE ☐ NON-PUBLICLY AVAILABLE ☐ SENSITIVE X NON-SENSITIVE

ADAMS: X Yes ACCESSION NUMBER: _____

OFFICE	RII:DFFI	RII:DFFI	RII:DFFI	RII:DFFI	RII:DFFI	RII:DFFI	
SIGNATURE	J Pelchat for	/RA/	/RA/	J Pelchat for			
NAME	MChitty	JPelchat	DHartland	CTaylor			
DATE	01/29/2008	01/29/2008	01/29/2008	01/29/2008	1/ /2008	1/ /2008	1/ /2008
E-MAIL COPY?	NO	YES NO	YES NO	NO	YES NO	YES NO	YES NO

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DOCUMENT NAME: C:\FileNet\ML080290647.wpd

SAFETY INSPECTION REPORT
AND COMPLIANCE INSPECTION

1. LICENSEE/LOCATION INSPECTED:

United States Enrichment Corporation
6903 Rockledge Road
Bethesda, MD 20817

2. NRC/REGIONAL OFFICE:

U.S. Nuclear Regulatory Commission
Region II, Division of Fuel Facilities Inspection
61 Forsyth Street, Suite 23T85
Atlanta, GA 30303

REPORT NUMBER(S): 2007-006

3. DOCKET NUMBER(S):

70-7001

4. LICENSEE NUMBER(S):

GDP-1

5. DATE(S) OF INSPECTION:

November 1 - December 31, 2007

LICENSEE:

The inspection was an examination of the activities conducted under your license as they relate to radiation safety and to compliance with the Nuclear Regulatory Commission (NRC) rules and regulations and the conditions of your license. The inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observations by the inspector. The inspection findings are as follows:

- ☒ 1. Based on the inspection findings, no violations were identified.
- ☐ 2. Previous violation(s) closed.
- ☐ 3. The violation(s), specifically described to you by the inspector as non-cited violations, are not being cited because they were self-identified, non-repetitive, and corrective action was or is being taken, and the remaining criteria in the NRC Enforcement Policy to exercise discretion were satisfied.

_____ Non-Cited Violation(s) was/were discussed involving the following requirement(s) and Corrective Action(s):

- ☐ 4. During this inspection certain of your activities, as described below and/or attached, were in violation of NRC requirements and are being cited. This form is a NOTICE OF VIOLATION, which may be subject to posting in accordance with 10 CFR 19.11.

(Violations and Corrective Actions)

Licensee's Statement of Corrective Actions for Item 4, above.

I hereby state that, within 30 days, the actions described by me to the inspector will be taken to correct the violations identified. This statement of corrective actions is made in accordance with the requirements of 10 CFR 2.201 (corrective steps already taken, corrective steps which will be taken, date when full compliance will be achieved). I understand that no further written response to NRC will be required, unless specifically requested.

Title	Printed Name	Signature	Date
LICENSEE'S REPRESENTATIVE			
NRC INSPECTOR	Mark A. Chitty		

**SAFETY INSPECTION REPORT
AND COMPLIANCE INSPECTION**

1. LICENSEE

**United States Enrichment Corporation
6903 Rockledge Road
Bethesda, MD 20817**

2. NRC/REGIONAL OFFICE

**U.S. Nuclear Regulatory Commission
Region II, Division of Fuel Facilities Inspection
61 Forsyth Street, Suite 23T85
Atlanta, GA 30303**REPORT NUMBER(S): **2007-006**

3. DOCKET NUMBER(S):

70-7001

4. LICENSE NUMBER(S):

GDP-1

5. DATE(S) OF INSPECTION:

November 1 - December 31, 2007

6. INSPECTOR(S): John Pelchat, Cynthia Taylor, David Hartland, Mark Chitty

7. INSPECTION PROCEDURES USED: 88030, 88050, 88070, 88100, 88101, 88102, 88103, 88105

SUPPLEMENTAL INSPECTION INFORMATION**Executive Summary**Summary of Plant Status

- The certificate holder performed routine operations throughout the inspection period. Plant load was increased and product assay was reduced to in accordance with the production schedule.

Plant Operations

- 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.
- The certificate holder experienced several operational challenges with respect to the operation of the Process Gas Leak Detection (PGLD) System. Although the certificate holder's root cause analysis is on-going, plant personnel identified that shielded, instead of unshielded, wiring had been installed. Shielded wiring did not meet design requirements and was causing inadvertent grounds. Inspectors continue to monitor extent of condition efforts.
- The certificate holder submitted four event notifications due to minor UF₆ releases that resulted in actuations of the PGLD System. The inspectors confirmed that operators responded safely in accordance with plant procedures.

Maintenance and Surveillance

- During the observation of maintenance and surveillance activities, the inspectors verified that: 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 and 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.

Management Organization and Controls

- The plant experienced a number of personnel changes. These changes did not appear to impact the responsibilities and functions specified in the license. The certificate holder's system to review and issue procedures adequately ensured that safety procedures were properly controlled and approved.
- The certificate holder adequately assessed the issues presented at plant operations review committee meetings. Actions described from the meetings were implemented accordingly.

Executive Summary (continued)Radiation Protection

- The certificate holder's self-assessment audit of the radiation protection program was reviewed. The audit is conducted yearly. Several items from the audit were entered into the corrective action program and had been corrected.
- The transfer of a condenser and the corresponding protective measures were observed by the inspectors. Health Physics technicians set up a temporary contamination boundary for the equipment transfer and labeled the area in accordance with the regulations. The HP technicians were observed as they surveyed the equipment. The radiation workers donned the correct respiratory protection and full anti-contamination clothing. The doffing sequence of the PPE was examined as the workers exited the contamination area.
- The maintenance work on the tie-line between the 331 and 333 buildings was observed. While the tie-line was being seismically secured, contamination was found by workers. The RWP for the project was changed and the protective clothing requirements were increased. Several RWPs used during the project were reviewed by the inspectors. The initial contamination event was investigated and a worker was interviewed. The inspectors verified the certificate holder's evaluation of the extent of the resultant contamination.
- Inspectors observed the changing of filters for air sampling equipment. The air flow was examined for several air sampling pumps and was within the administrative range. Past air sampling results were observed at the sampling laboratory and were adequate.
- The yearly estimates for external and internal exposure were reviewed for the facility. The highest exposures in the facility were compared to their working locations and were below the regulatory and administrative limits. Records pertaining to declared pregnant workers were kept and the dose equivalents were below the regulatory limit. There were not any planned special exposures conducted at the facility. The dose estimate to the public was below the regulatory limit.
- Internal exposure calculations for several individuals' accidental uranium uptakes were reviewed. The calculations were based upon bioassay results. The uptakes and exposure results were below applicable regulatory limits. The internal exposure monitoring (bioassay) program was implemented in a manner for maintaining doses ALARA. The exposures were less than the occupational limits in 10 CFR 20.1201.
- Respiratory protection equipment issuance and training assured that equipment was obtained by certified users only. The certificate holder maintained adequate records to demonstrate adequate implementation of the respiratory protection program.

Emergency Preparedness

- The certificate holder made two major changes to the emergency preparedness program. The changes involved modifications to the fluorine system and removal of the assistant plant superintendent from the emergency roster. These changes required prior approval from the NRC and an update to their "Community Right to Know," certification. These changes received the appropriate level of review and communications to affected personnel.
- The certificate holder's implementing procedures incorporated the requirements and major changes described in the safety analysis report and emergency plan.
- Training provided to emergency responders met the requirements described in the certificate's safety analysis report.
- The certificate holder regularly met with the off-site organizations that provided assistance to the facility in case of an emergency to ensure they were updated on the conditions of the facility and changes as detailed in the emergency plan.
- No issues were identified with respect to the certificate holder's drill conducted on November 15, 2007. The Department of Energy participated in the drill and critique.
- The emergency preparedness audit results demonstrated that the certificate effectively assessed its emergency management program. However, during the inspection, an assessment and tracking report item, ATRC -07-3254, was opened to address a backlog of lessons learned initiated prior to 2006.
- Equipment relied on for emergency management was inspected, maintained, and tested in accordance with the certificate requirements.

Executive Summary (continued)Permanent Plant Modifications

- The inspectors reviewed the implementation of the modification to Autoclaves 5A and 5B in Building 333A to allow for controlled feed operations and verified that the design information and safety analyses were in compliance with required design criteria. The inspectors verified that the modification was installed and system condition was consistent with the design basis, and that post-modification testing assured implementation of design and safety system functionality.
- The inspectors verified that design and licensing documents and operating procedures were updated to reflect the modification, and plant staff were properly trained prior to implementation. The certificate holder also entered issues identified during the modification review process in its corrective action system at the appropriate threshold for resolution.

Exit Meeting Summary

- The inspection scope and results were summarized on January 7, 2008 with Mr. Steve Penrod, General Manager, and members of his staff. No dissenting comments were received from the certificate holder. The inspectors asked the certificate holder staff whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

List of Items Opened, Closed, Discussed

<u>Item Number</u>	<u>Status</u>	<u>Description</u>
URI 2007-001-01	Closed	Protective force officer engaged in a prohibited activity while on duty at Post 1 (Paragraph 2.d.2) . This item resulted in a Notice of Violation, Severity Level IV, and was closed in NRC Inspection Report 07007001/2007401.
URI 2006-002-01	Closed	An NRC inspector was granted unescorted access without having the appropriate documentation to verify that the individual's security clearance was active. Inspectors confirmed completion of PGDP commitments to rewrite the access control Procedure CP4-SS-SP1200 to clarify steps for admitting NRC employees, as well as their implementation. Inspectors also noted constructive discipline was issued and a Guardmount/refreshers topic about general employee training entry requirements was provided. Inspectors had no further questions. This URI is closed.
EA-04-123	Closed	This confirmatory order related to concerns regarding whether a violation of employee protection requirements occurred at the Paducah Gaseous Diffusion Plant (PGDP). The actions focused on providing safety conscious work environment (SCWE) training to selected PGDP managers and contractors. NRC staff from the Office of Enforcement reviewed the actions taken by PGDP to verify that they satisfied the conditions specified in the Order. NRC staff reviewed the initial and refresher training Modules GP104CR and G105CR and selected training records from the PGPD computerized database to verify that managers of USEC contractors and USEC personnel who are principle points of contact for USEC contractors received the required SCWE training. In addition, Procedure CP2-MA-MA-1032, "Oversight and Control of Supplier Personnel," was reviewed to verify that it established controls to ensure that the SCWE training requirement be completed for the identified individuals before they commence work and that refresher training is provided every 24 months. The inspector concluded SCWE training provided an adequate overview of employee protection requirements and the elements of a good SCWE; USEC provided the SCWE training to managers of USEC contractors and USEC personnel who are principle points of contact for USEC contractors; and the order was implemented correctly. This enforcement action is closed.
EEl 2002-003-06	Closed	Failure to properly store classified matter. EEl 2002-003-06 was closed in NRC Inspection Report 07007001/2007401.
EEl 2002-003-07	Closed	Failure to control classified confidential restricted data. EEl 2002-003-07 was closed in NRC Inspection Report 07007001/2007401.

NRC FORM 591FF PART 3 (11-2005)

Executive Summary (continued)

Event Report 42165	Closed	Improper criticality spacing for waste drums. This event report had been held open until the completion of a drum remediation program which began in October of 2005, involving approximately 12,000 5.5 gallon drums. The remediation program addressed the following: (1) Adequacy of the equipment and processes used to certify spacing exemptions in the past, (2) Methods to confirm that no drums contained in excess of 120 grams U235, (3) Methods to remediate drums exempted from spacing requirements without appropriate justification, (4) Recommendations for modifying the spacing exemption process to eliminate any deficiencies identified. Drums that were initially characterized as not meeting double contingency requirements were subsequently reported under this event report number. Inspectors had no further questions. This event report is closed.
Event Report 43787	Open	Safety system actuation due to incidental UF ₆ release. The incident occurred on 11/15/07 when instrument mechanics were performing a cell datum calibration in C-333 Unit 4 Cell2.
Event Report 43801	Open	Failure of UF ₆ release detection system. On November 20, 2007, the C-333 Unit 6 Cell 7 PGLD system failed to function when performing the TSR surveillance.
Event Report 43828	Open	Unplanned safety system actuation and contamination event. On December 6, 2007, a C-337 Unit 5 Cell 3 PGLD head actuated followed by the actuation of two additional heads in Unit 5 Cell 5.
Event Report 43829	Open	Unplanned safety system actuation and contamination event. On December 6, 2007, upon charging C-337 Unit 5 Cell 5 above atmospheric pressure, the PGLD system actuated due to a UF ₆ release.
Event Report 43864	Open	Small UF ₆ process leak. On December 12, 2007, the C-333 Unit 3 Cell 1 PGLD system actuated due to a UF ₆ release caused by the failure of the Stage 7A seal.