



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

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

May 23, 2006

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. 70-7002/2006-003

Dear Mr. Starkey:

This refers to the inspection conducted from May 1-5, 2006, at the Portsmouth 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 5, 2006, the NRC inspectors discussed the findings with members of your staff.

As a result of the inspection, the enclosed NRC Form 591FF, Safety Inspection Report, Parts 1 and 3, are being issued. The enclosed forms indicate 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. 70-7002  
Certificate No. GDP-2

Enclosure: NRC Form 591FF Parts 1 and 3

cc w/encl: (See page 2)

R. B. Starkey, Jr.

2

cc w/encl:

- S. Penrod, Paducah General Manager
- S. R. Cowne, Paducah Regulatory Affairs Manager
- W. Jordan, Portsmouth General Manager
- G. Workman, Portsmouth Regulatory Affairs Manager
- S. A. Toelle, Director, Nuclear Regulatory Affairs, USEC
- R. M. DeVault, Regulatory Oversight Manager, DOE

Distribution w/encl:

- D. Martin, NMSS
- M. Raddatz, NMSS
- J. Henson, RII
- D. Hartland, RII
- PUBLIC

**\*see previous concurrence**

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  NON-PUBLICLY AVAILABLE     
  SENSITIVE     
  NON-SENSITIVE

ADAMS: X Yes     No    ACCESSION NUMBER: \_\_\_\_\_

OFFICE	RII:DFFI	RII:DFFI	RII:DFFI				
SIGNATURE	RG for 5/23/06	RG 5/23/06	RG for 5/23/06				
NAME	DHartland*	RGibson*	JJimenez*				
DATE	/ /2006	/ /2006	/ /2006	/ /2006	/ /2006		
E-MAIL COPY?	YES	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

**SAFETY INSPECTION REPORT  
AND COMPLIANCE INSPECTION**

1. LICENSEE/LOCATION INSPECTED: United States Enrichment Corporation 6903 Rockledge Drive Bethesda, MD 20817		2. NRC/REGIONAL OFFICE: <b>U.S. Nuclear Regulatory Commission Region II, Division of Fuel Facilities Inspection 61 Forsyth Street, Suite 23T85 Atlanta, GA 30303</b>	
REPORT NUMBER(S): 2006-003			
3. DOCKET NUMBER(S): 70-7002	4. LICENSEE NUMBER(S): GDP-2	5. DATE(S) OF INSPECTION: 5/1-5/2006	

**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

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	Not applicable		
NRC INSPECTOR	R.Gibson	RA/	5/23/06

**SAFETY INSPECTION REPORT  
AND COMPLIANCE INSPECTION**

<p>1. LICENSEE</p> <p><b>United States Enrichment Corporation</b> <b>6903 Rockledge Drive</b> <b>Bethesda, MD 20817</b></p>	<p>2. NRC/REGIONAL OFFICE</p> <p><b>U.S. Nuclear Regulatory Commission</b> <b>Region II, Division of Fuel Facilities Inspection</b> <b>61 Forsyth Street, Suite 23T85</b> <b>Atlanta, GA 30303</b></p>
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REPORT NUMBER(S): **2006-003**

3. DOCKET NUMBER(S):	4. LICENSE NUMBER(S):	5. DATE(S) OF INSPECTION:
<b>070-7002</b>	<b>GDP-2</b>	<b>5/1-5/2006</b>

6. INSPECTOR(S): Richard Gibson Jr. , Jose G. Jimenez

7. INSPECTION PROCEDURES USED: 88020, 88005, 88025, 88010, 88050

**SUPPLEMENTAL INSPECTION INFORMATION**

**Executive Summary**

The Portsmouth Gaseous Diffusion Plant had previously discontinued uranium hexafluoride (UF<sub>6</sub>) enrichment and is presently processing UF<sub>6</sub> to remove impurities like technetium-99, and conducting other cleanup processes as part of cold standby efforts. During the period of the inspection, routine cleanup operations were conducted without incident.

This was a routine, announced inspection that included observations and evaluation of the plant operation, maintenance and surveillance, management organization and controls, emergency preparedness and operator training programs. The inspection involved observations of work activities, reviews of selected records, and interviews with plant personnel. The inspection identified the following aspects of the licensee programs as outlined below:

**Plant Operations**

- Plant activities observed were performed safely and in accordance with license requirements. Housekeeping was adequate and no adverse effect on radiological safety or facility emergency egress was noted.
- Fuel manufacturing operations were conducted in accordance with approved operating procedures. The nuclear criticality safety training emphasized safety principles and practices.
- The licensee's configuration control system for facility modifications ensured that safety significant modifications were properly reviewed, approved, and documented.

**Executive Summary** (continued)

- Safety concerns were being identified, effectively communicated to managers, and resolved in a prompt manner.

**Inspector Follow-up Items (IFI):**

- *Temporary Instruction 2600/012 : Institutionalizing Concern Regarding Safety Issues Identified in selected Past Generic Communications*
  - (1) ***IN-99-030, "Failure of Double Contingency Based on Administrative Controls Involving Laboratory Sampling and Spectroscopic Analysis of Wet Uranium Waste"***: The licensee's waste management program does not rely on laboratory practices as described in the information notice. Waste management practice are performed adequately and in accordance with the safety analysis. Thus, IN 99-030 is not applicable to the licensee.

**Management Organization and Controls**

- Personnel changes did not appear to impact the responsibilities and functions specified in the license. The licensee's system to review and issue procedures adequately ensured that safety procedures were properly controlled and approved.
- The internal safety audits covered a wide range of safety concerns. The inspector concluded that the internal reviews and audits were adequate for detecting potential safety concerns. Management meetings adequately reviewed facility information in order to address actual or potential safety issues and the addition of new processes.

**Maintenance and Surveillance**

- The licensee maintenance program was found to be operated adequately in conformance with the license. The maintenance work performed by the licensee was done as indicated by the procedures and with the appropriate authorizations.
- The criticality monitoring system was adequately calibrated, the documentation was properly maintained and the procedure was followed during the work and for bringing the system back on-line.
- The personnel performing the work were qualified for their positions and tasks. In accordance with procedures the licensee performed timely surveillance tests and calibrations of equipment and adequately documented the results.

**Executive Summary** (continued)

- The licensee had performed modifications on the Technetium Traps (located in the autoclave bay) for which surveillance tests were scheduled. Surveillance results showed radiation levels exceeding the expected levels for the recently modified traps. The inspector verified the certificatee had followed the procedure when implementing the new changes and that the appropriate actions were taken upon discovery of the unexpected levels. Immediate action taken by the certificatee was the installation of lead curtains to minimize exposure of employees. During the inspection the certificatee had not finished the investigation to correct the problem. This issue is going to be followed as IFI 2006/003-1 until the certificatee implements final corrective actions.

Inspector Follow-up Items (IFI):

- *Temporary Instruction 2600/012 : Institutionalizing Concern Regarding Safety Issues Identified in selected Past Generic Communications*
  - (1) **IN-89-003, "Potential Electrical Equipment Problems"**: The licensee provided evidence of their acquisition's program. The program verifies that any equipment or parts purchased for the facility met the manufacturers and safety standards established in the procedure. Examples reviewed and interviews conducted confirmed the adequacy of the program. This notice is considered closed.
  - (2) **IN-87-033, "Applicability of 10CFR Part 21 to Nonlicensees"**: The inspector interviewed licensee personnel in charge of contracting services and/or products from vendors. The inspector also reviewed the licensee policy for contractors. The information gathered from the licensee validated the fact that they are in compliance with requirements of 10CFR Part 21. This IN is considered closed.
  - (3) **IN-87-026, "Cracks in Stiffening Rings on 48-inch-diameter UF6 Cylinders"**: The inspector reviewed the records of cylinders owned and stored by the certificatee and interviewed personnel in charge of tracking cylinders present at the facility. Information obtained demonstrated that the few cylinders present were manufactured after the time period specified in the IN. While not applicable, the certificatee had inspected their cylinders as part of the QA program. No issues had been found in regards to cracks in stiffening rings. This IN is considered closed.
  - (4) **IN-86-077, "Computer Program Error Report Handling"**: As with IN 89-003 the certificatee's procurement of Quality, Augmented Quality-Nuclear Criticality Safety and Augmented Quality Services demonstrated that this program adequately captured and notified them of any errors reported with the software in use at the facility. Procedure UE4-BM-PC1101 rev.1 gave an overview of the requirements of the program and was one of a series of Quality Assurance procedures that covered different aspects of acquisition of products or services which covered computer program problems. This IN is considered closed.

**Executive Summary** (continued)**Operator Training/Retraining**

- The training program for initial and refresher training in nuclear criticality safety, radiation protection and general emergency areas was effective. Training material and examinations were adequate to measure the knowledge level of the workers, and were current. Lessons learned from past facility events were appropriately captured in the refresher training to improve worker safety.
- Operating procedure and facility change control training was effective. Operators were knowledgeable of their operating processes and pending changes. Changes to nuclear material processing requirements were readily identified to the operators who had to acknowledge their understanding before processing operations could continue.
- Each new operator's on-the-job training was tracked by his/her immediate supervisor or front line manager on a training requirement matrix (TRM). Training matrixes were maintained by the supervisor and reviewed weekly with each operator.

**Emergency Preparedness**

- Some program changes by the certificatee since the last inspection that positively impacted the effectiveness of the emergency preparedness program were: revised procedure to reflect the recent organizational change, which changes the title to some of the EOC cadre; and the elimination of the duties required by the building X300 cascade controller that were transferred to the cascade controller operator and the assistant plant shift superintendent. The independent audit was a compliance-based assessment.
- The revised emergency procedures continued to implement the certificatee's emergency plan.
- Based on interviews and training documentation, emergency response training was adequate. Personnel selected for review were trained in accordance with procedures.
- Based on interviews and records reviewed, the certificatee's interface with offsite support groups was properly maintained.
- The certificatee conducted exercises in accordance with the requirements of the emergency plan and procedures. The performance of table top and hands-on-drills using realistic scenarios provided sufficient challenges to maintain the proficiency of the response organization.
- Based on the equipment operability checks and documentation for maintenance and calibration, the inspector determined that the reliability of selected equipment was good

and the equipment was maintained in a state of operational readiness.

**Executive Summary** (continued)

**Items Opened, Closed and Discussed**

<u>Item Number</u>	<u>Status</u>	<u>Description</u>
TI 2600/012	Closed	Institutionalizing Concern Regarding Safety Issues Identified In Selected Past Generic Communications. Based on interviews, documentation, and physical inspection of equipment, the inspector determined that where appropriate, the certificatee had taken actions to address the issues identified in response to IN 89-047 (Potential Problems With Worn or Distorted Hose Clamps on Self-Contained Breathing Apparatus), and IN 86-024 (Respirator Users Notice: Increased Inspection Frequency for Certain Self-Contained Breathing Apparatus Air Cylinders).
IFI 2006/003-1	Open	High level of radiation on the recently modified Technetium traps located in the autoclave bay.

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