



UNITED STATES
NUCLEAR REGULATORY COMMISSION

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

November 3, 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. 70-7001/2006-005 AND NOTICE OF VIOLATION

Dear Mr. Starkey:

This refers to the inspection conducted from August 10 through October 4, 2006, at your Paducah, Kentucky facility. The purpose of the inspection was to determine whether activities authorized by the certificate were conducted safely and in accordance with NRC requirements. At a meeting held on October 5, 2006, the NRC inspectors discussed the findings with members of your staff. The results of the inspection are documented in the enclosed NRC Form 591, Parts 1, 2, and 3.

Based on the results of this inspection, the NRC has determined that two Severity Level IV violations of NRC requirements occurred. These violations were evaluated in accordance with the NRC Enforcement Policy. The current Enforcement Policy is available on the NRC's Web site at www.nrc.gov; select **What We Do, Enforcement**, then **Enforcement Policy**.

The violations cited in the enclosed Notice of Violation (Notice) and the circumstances surrounding the violations are described in detail in the subject inspection report. The violations are being cited because they were NRC identified and in the case of the second violation, the nature and extent of the contamination became obvious after certificatee staff were surveyed while exiting the area and found to be wearing clothing that was contaminated as a result of the replacement of a valve in the C-360 transfer room.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. For your consideration and convenience, an excerpt from NRC Information Notice 96-28, "Suggested Guidance Relating to Development and Implementation of Corrective Action," is enclosed. The NRC will use your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure(s), and your response, if you choose to provide one, 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/readingrm/adams.html>. To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the Public without redactions.

R. B. Starkey, Jr.

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Thank you for your cooperation. If you have any questions, please call me at (404) 562-4731.

Sincerely,

/RA/

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

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

Enclosures: 1. Notice of Violation
2. NRC Form 591FF Parts 1 and 3

cc w/encl:
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P. O. Box 1410
Paducah, KY 42001

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PUBLICLY AVAILABLE NON-PUBLICLY AVAILABLE SENSITIVE NON-SENSITIVE

ADAMS: Yes ACCESSION NUMBER: _____

OFFICE	DFFI	DFFI	DFFI	DFFI	DFFI		
SIGNATURE	/RA/	M.Thomas for	/RA/	/RA/	/RA/		
NAME	R.Gibson	O.Lopez	M.Crespo	M.Thomas	D.Hartland		
DATE	10/30/2006	10/30/2006	10/30/2006	10/30/2006	10/30/2006		
E-MAIL COPY?	YES	YES NO	YES	YES NO	YES NO	YES NO	YES NO

OFFICIAL RECORD COPY DOCUMENT NAME: C:\FileNet\ML063070585.wpd

NOTICE OF VIOLATION

During an NRC inspection conducted from August 10, through October 4, 2006, two violations of NRC requirements was identified. In accordance with the NRC Enforcement Policy, the violations are listed below:

1. Technical Safety Requirement (TSR) 3.9.1 requires, in part, that approved written procedures shall be implemented to cover the activities described in the Safety Analysis Report (SAR) Section 6.11.4.1 and as listed in Appendix A to the SAR Section 6.11.

Appendix A to the SAR Section 6.11, identifies changes in facilities and equipment as an activity that shall be covered by written procedures.

Step 6.3.10 of Procedure UE2-TO-NS1032, "Operability Evaluations and Resolution of Degraded And Nonconforming Conditions," requires if a nonconforming condition is accepted "as is" and results in something different than that described in the certificate, Engineering shall complete a 10 CFR 76.68 review of the condition and update appropriate documents (design, SAR, etc.).

Contrary to the above, as of October 4, 2006, Engineering did not complete a 10 CFR 76.68 review of a nonconforming condition accepted "as is" and did not update appropriate documents. Specifically, on July 28, 2006, the licensee determined that the tie-lines C-331/C-333 and C-335/C-337 were not seismically rated as stated in the Safety Analysis Report, Table 3.15-10.

This is a Severity Level IV violation (Supplement VI).

2. Technical Safety Requirement 3.9.1 requires, in part, that approved written procedures shall be implemented to cover the activities described in the SAR Section 6.11.4.1 and as listed in Appendix A to the SAR Section 6.11.

Appendix A to the SAR Section 6.11, identifies radiation protection as an activity that shall be covered by written procedures.

Step 6.4.1.G of Procedure UE2-HP-RP1031, "Radiological Work Permits," requires, in part, that the certificatee stop radiological work activities in a justifiable and responsible manner when an adverse change in radiological conditions exists.

Contrary to the above, on August 16, 2006, the certificatee did not stop radiological work activities in a justifiable and responsible manner when an adverse change in radiological conditions occurred during the replacement of valve WV-042 in the C-360 transfer room. Specifically, a health physics technician obtained a masslin wipe of the floor underneath the work location and identified a removable level of contamination of 300,000 counts per minute. After discovery of this adverse radiological condition, the certificatee allowed the radiological work activities to continue.

This is a Severity Level IV violation (Supplement VI).

Pursuant to the provisions of 10 CFR 76.70, the United States Enrichment Corporation, Paducah Gaseous Diffusion Plant is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with a copy to the Regional Administrator, Region II, and a copy to the NRC Resident Inspector at the Paducah Gaseous Diffusion Plant, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation," and should include for each violation: (1) the reason for the violation, or, if contested, the basis for disputing the violation or severity level, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken to avoid further violations, and (4) the date when full compliance will be achieved.

Your response may reference or include previous docketed correspondence, if the correspondence adequately addresses the required response. If an adequate reply is not received within the time specified in this Notice, an order or a Demand for Information may be issued as to why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

If you contest this enforcement action, you should also provide a copy of your response, with the basis for your denial, to the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001.

Because your response 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> to the extent possible, it should not include any personal privacy, proprietary, classified, or safeguards information so that it can be made available to the public without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

In accordance with 10 CFR 19.11, you may be required to post this Notice within two working days.

Dated this 3rd day of November, 2006

**SAFETY INSPECTION REPORT
AND COMPLIANCE INSPECTION**

1. LICENSEE/LOCATION INSPECTED: United States Enrichment Corporation 6903 Rockledge Drive 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): 2006-005			
3. DOCKET NUMBER(S): 70-7001	4. LICENSEE NUMBER(S): GDP-1	5. DATE(S) OF INSPECTION: 08/10-10/04/2006	

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)

See Notice of Violation (Enclosure 1 to cover letter)

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			

**SAFETY INSPECTION REPORT
AND COMPLIANCE INSPECTION**

1. LICENSEE

**United States Enrichment Corporation
6903 Rockledge Drive
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): **2006-005**

3. DOCKET NUMBER(S):

70-7001

4. LICENSE NUMBER(S):

GDP-1

5. DATE(S) OF INSPECTION:

08/10-10/04/2006

6. INSPECTOR(S): M. Thomas, M. Chitty, J. Pelchat, M. Crespo, O. Lopez, C. Taylor, R. Gibson

7. INSPECTION PROCEDURES USED: 84850, 84900, 88035, 88045, 88050, 88056, 88066 88100, 88101, 88102, 88103, 88105

SUPPLEMENTAL INSPECTION INFORMATION

Executive Summary

Summary of Plant Status

- The certificatee performed routine operations throughout the inspection period. Plant load and product assay were increased to 1560 megawatts and 3.2 weight percent in accordance with the production schedule.

Chemical Operations

- Process safety information was maintained current for the existing plant configuration and was readily accessible to employees. The certificatee's program inventory of hazardous chemicals was adequate to control the chemical hazards.
- Procedures contained adequate safety and operational information. The certificatee adequately implemented site-wide safety procedures.
- Plant operations in the C-410 building were performed in accordance with approved procedures, and operators were knowledgeable of chemical hazards.
- The certificatee's management of change program adequately controlled changes in materials, procedures, and equipment related to C-350 building modifications.
- The certificatee adequately implemented technical safety requirements related to the preventive maintenance, calibration, and inspection of safety-related chemical equipment.
- The certificatee adequately implemented the mechanical integrity program.
- The certificatee's chemical safety training for plant personnel adequately covered safe work practices and chemical hazards.

Executive Summary (continued)

- Audits and inspections of the chemical safety program were of sufficient depth and appropriately targeted, the results were documented and conveyed to management, and audit findings were resolved in a timely manner.
- The following information notice (IN) was reviewed as part of Temporary Instruction (TI) 2600/012:

IN-90-070, "Pump Explosions Involving Ammonium Nitrate."

Based on interviews, observations, and documentation review, the inspector determined that the specifics of the IN did not apply to the certificatee.

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.
- In November 2005, after identifying that piping and housing added during the cascade upgrade project in the late 1970s was not addressed in the seismic design analysis and calculations used for the certificate bases, engineering staff performed inspections of the C-331/C-333 and C-335/C-337 tie-lines and documented structural issues in Assessment and Tracking Reports (ATRs) 05-4545 and 05-4573. As compensatory action, plant staff revised applicable operations procedures to ensure that the pressure in the tie-lines was maintained below atmosphere.

On July 28, 2006, upon further analysis, engineering staff determined that the tie-lines were not seismically rated as stated in the Safety Analysis Report (SAR) Table 3.15-10, an as-found nonconforming condition. A management decision was made at that time not to repair the tie-line to meet the SAR requirements, accept the nonconforming condition "as-is," and to maintain tie-line pressure below atmosphere. However, the inspectors determined that the certificatee had not completed a 10 CFR 76.68 review of the condition and updated appropriate documents (design, SAR, etc.).

Technical Safety Requirement (TSR) 3.9.1 required, in part, that approved written procedures shall be implemented to cover the activities described in the SAR Section 6.11.4.1 and as listed in Appendix A to the SAR Section 6.11. Appendix A to the SAR Section 6.11, identified changes in facilities and equipment as an activity that shall be covered by written procedures.

Step 6.3.10 of Procedure UE2-TO-NS1032, "Operability Evaluations and Resolution of Degraded And Nonconforming Conditions," required if a nonconforming condition was accepted "as is" and resulted in something different than that described in the certificate, Engineering shall complete a 10 CFR 76.68 review of the condition and update appropriate documents. Contrary to the above, as of October 4, 2006, Engineering did not complete a 10 CFR 76.68 review of a nonconforming condition accepted "as is," tie lines that were not seismically rated as described in SAR Table 3.15-10, and did not update appropriate documents (VIO 70-7001/2006005-01).

Configuration Control

- Flow-down of design changes, equivalency substitutions, and changes to nuclear criticality safety evaluations did not always occur. None of the examples identified were safety significant, but did reflect a lack of rigor in the program. The certificatee intended to revise affected procedures to enhance the process for tracking implementation of engineering changes.

Environmental Protection

- The inspectors verified that no significant environmental program or procedure changes occurred since the last inspection. Internal audits were adequate. Soil, surface water, river sediment, and vegetation samples were being properly monitored, analyzed, and evaluated. The environmental monitoring program was being implemented in accordance with certificate requirements. Measurement procedures and sample chain-of-custody requirement were adequate. Procedures for the collection of samples were sufficiently detailed.

Executive Summary (continued)

Radioactive Waste Management

- The liquid and airborne effluent management program effectively maintained effluent concentrations below the limits specified in the safety analysis report and 10 CFR Part 20. The inspectors verified that no significant changes occurred since the last inspection for the airborne stack sampling systems, outfall sampling stations, and radioactive waste management program.
- The As Low As Reasonably Achievable Program for controlling liquid and airborne releases was effective. In response to exceeding the action level for uranium for the process off-gas stack, the certificatee properly initiated a root cause investigation and implemented effective corrective actions to reduce the uranium concentrations in the air effluent streams from the facility. No regulatory limits were exceeded.

Low-Level Radioactive Waste Storage

- The certificatee was properly implementing on-site storage requirements for waste.

Radioactive Waste Generator Requirements

- Shipment records for solid waste disposal to licensed waste burial facilities were acceptable for determining radioactive nuclide quantities. Shipping manifests were complete and met the requirements of 10 CFR 20 and 61. Procedures were adequate to track waste shipments.

Maintenance and Surveillance

- On August 16, 2006, the inspectors observed the cutout of a solenoid-operated valve, WV-042, in the liquid uranium hexafluoride transfer line in the basement of the C-360, Sample and Transfer Building. A contamination area was established for the work and all personnel assigned to this job were wearing the appropriate personnel protective equipment, including full-face respirators, in accordance with the radiation work permit. A HEPA vacuum cleaner was positioned to capture any material that might be released during the course of the job.

When the mechanic was checking the smoothness of his grinding effort with his right thumb, he dislodged some material in the pipe resulting in the spread of contamination in the work area. In response, the health physics technician performed a survey for removable contamination of the work area under the valve using a large area wipe (masslin) which measured 300,000 cpm. Step 6.4.1.G of Procedure CP2-HP-RP1031, "Radiological Work Permits," required that the certificatee stop radiological work activities in a justifiable and responsible manner when an adverse change in radiological conditions exists.

Instead, the technician expanded the contamination area to include the entire room and the certificatee allowed the work to continue under the existing radiation work permit (RWP). The radiological work activities continued until the maintenance workers encountered a problem with the welder cover gas. After exiting the work area, the maintenance workers and supervisor performed a whole body frisk and determined that their clothes were contaminated.

Subsequently, contamination was discovered on the shoes and company-issued clothing of individuals that were located outside the posted contamination zone in the basement. Contamination had also been spread to the upper levels of C-360. Subsequent surveys determined that several areas outside of the transfer room were contaminated and the level of contamination in the transfer room required that it be designated a high contamination area. The bioassay results for all individuals in the area were below the minimum detectable activity for both uranium and technetium-99.

Technical Safety Requirement 3.9.1 required, in part, that approved written procedures shall be implemented to cover the activities described in the SAR Section 6.11.4.1 and as listed in Appendix A to the SAR Section 6.11. Appendix A to the SAR Section 6.11, identified radiation protection as an activity that shall be covered by written procedures.

Step 6.4.1G of Procedure CP2-HP-RP1031, "Radiological Work Permits," required, in part, that the certificatee stop radiological work activities in a justifiable and responsible manner when an adverse change in radiological conditions exists. Contrary to the above, on August 16, 2006, the certificatee did not stop radiological work activities in a justifiable and responsible manner when an adverse change in radiological conditions occurred during the replacement of valve WV-042 in the C-360 transfer room. Specifically, a health physics technician obtained a masslin wipe of the floor underneath the work location and identified a removable level of contamination of 300,000 counts per minute. After discovery of this adverse radiological condition, the certificatee allowed the radiological work activities to continue. (VIO 70-7001/2006005-02)

Emergency Preparedness

- The inspectors determined that the exercise objectives and scenario adequately and thoroughly exercised major elements of the Emergency Plan. However, the inspectors noted a weakness in that the certificatee pre-staged equipment and areas that were associated with the scenario the day before the exercise.
- The inspectors determined that the Incident Commander (IC) and other responding personnel performed in a manner that would have protected the workers' safety and resulted in timely mitigation of the uranium hexafluoride (UF6) release. The inspectors observed a weakness where several examples of communications between the IC and field personnel and/or the IC and the Emergency Operations Center (EOC) being hampered due to the IC's monitoring of heavy radio traffic and conversation with non-participating personnel that delayed responses from the IC.
- The general emergency response by EOC management and staff was successful in appropriately addressing the declared Emergency Action Level and the switchyard fire. Emergency conditions were properly evaluated and protective actions appropriately recommended by the EOC. Emergency classification and external notifications were performed according to procedural requirements. The inspectors noted a weakness in that the certificatee did not promptly issue a press release concerning the fire in the C-531 switchyard in a timely manner. Approximately two hours elapsed between the onset of the fire and issuance of a press release discussing the fire.
- The critiques were generally effective in identifying exercise problems and suggestions for improvements. Two weaknesses identified from the previous exercise did not recur.

Management Organization and Controls

- Temporary procedures for cell splits were maintained, reviewed, and deleted in accordance with certificate requirements. A system to perform internal reviews and audits to assess the effectiveness of activities affecting safety had been established and implemented.

Items Open, Closed, and Discussed

<u>Item Number</u>	<u>Status</u>	<u>Description</u>
VIO 70-7001/2006005-01	Open	Failure to complete a 10 CFR 76.68 review of the condition and update appropriate documents (design, SAR, etc.) as required by step 6.3.10 of Procedure UE2-TO-NS1032, "Operability Evaluations and Resolution of Degraded And Nonconforming Conditions" for the tie-lines were not seismically rated.
VIO 70-7001/2006005-02	Open	Violation of the radiological control procedure resulting in the contamination of the C-360 transfer room during the replacement of valve WV-042.
Event Report 42763	Open	Failure of High Pressure Fire Water System A-5 in the C-337 process building.