



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

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

September 25, 2007

NMED Nos. 060250 and 060608

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. 70-7001/2007-004

Dear Mr. Starkey:

This refers to the inspection conducted from July 1 through August 31, 2007, 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. The NRC resident inspector discussed the findings with members of your staff on September 4, 2007.

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/ J. Pelchat for***

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.

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cc w/encl:

S. Penrod, Paducah General Manager  
P. O. Box 1410  
Paducah, KY 42001

V. Shanks, Paducah Regulatory Affairs Manager  
P. O. Box 1410  
Paducah, KY 42001

W. Jordan, Portsmouth General Manager  
Portsmouth Gaseous Diffusion Plant  
United States Enrichment Corporation  
P. O. Box 628  
Piketon, OH 45661

S. A. Toelle, Director, Nuclear Regulatory Affairs  
United States Enrichment Corporation  
Two Democracy Center  
6903 Rockledge Drive  
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R. M. DeVault, Regulatory Oversight Manager  
Department of Energy  
P. O. Box 2001  
Oak Ridge, TN 37831

G. A. Newtown, Paducah Site Office  
Department of Energy  
P. O. Box 1410  
Paducah, KY 42001

Dewey Crawford, Department of Public Health  
Commonwealth of Kentucky  
200 Fair Oaks Lane  
Frankfort, KY 40601

Distribution w/encl: (See page 3)

R. Starkey, Jr.

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Distribution w/encl:  
M. Raddatz, NMSS  
B. Smith, NMSS  
J. Henson, RII  
J. Pelchat, RII  
M. Thomas, RII

PUBLICLY AVAILABLE       NON-PUBLICLY AVAILABLE       SENSITIVE       NON-SENSITIVE

ADAMS: X Yes      ACCESSION NUMBER: \_\_\_\_\_

OFFICE	RII:DFFI	RII:DFFI	RII:DFFI	RII:DFFI	RII:DFFI	RII:DFFI	
SIGNATURE	JP for 9/25	JP for 9/25	SS 9/18	JJ 9/25	RG 9/24	JP 9/25	
NAME	MThomas	MChitty	SSubosits	JJimenez	RGibson	JPelchat	
DATE	9/ /2007	9/ /2007	9/ /2007	9/ /2007	9/ /2007	9/ /2007	9/ /2007
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

OFFICIAL RECORD COPY

DOCUMENT NAME: C:\FileNet\ML072680444.wpd

**SAFETY INSPECTION REPORT  
AND COMPLIANCE INSPECTION**

1. LICENSEE/LOCATION INSPECTED: United States Enrichment Corporation 6903 Rockledge Road Bethesda, MD 20817  REPORT NUMBER(S):                    2007-004	2. NRC/REGIONAL OFFICE: <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>	
3. DOCKET NUMBER(S): 70-7001	4. LICENSEE NUMBER(S): GDP-1	5. DATE(S) OF INSPECTION: July 1 - August 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	Mary L. Thomas	J. Pelchat for	9/25/07

**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): **2007-004**

3. DOCKET NUMBER(S):

**70-7001**

4. LICENSE NUMBER(S):

**GDP-1**

5. DATE(S) OF INSPECTION:

**July 1 - August 31, 2007**

6. INSPECTOR(S): Mary L. Thomas, Mark Chitty, Richard Gibson, Jose Jimenez, John Pelchat, Steve Subosits, and Matthew Bartlett

7. INSPECTION PROCEDURES USED: 88005, 88035, 88045, 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 held steady at 900 megawatts and 2.0 weight percent 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.

Radiological Waste Management

- The certificatee's radiological waste management (RWM) program described the established goals and means to accomplish the different tasks and responsibilities to meet the federal regulations. Implementing procedures described the different roles and responsibilities for managers and employees. Information presented contained good explanation on how to handle the different waste streams and how to properly classify and characterize each one of them. Observations of the different activities in the plant confirmed that waste streams produced agree with the information stated in the RWM program of the safety analysis report (SAR Vol. 3) and with the procedures.
- Housekeeping in the different waste storage areas, building conditions, area accessibility, postings, illumination and container conditions were meeting requirements in the regulation. Review of containers stored at these buildings confirmed the certificatee is complying with the waste disposal program regarding classification of waste, handling of waste and keeping track of waste location.
- Waste disposal for fissile material and dry active waste is completed by a contractor, Energy Solutions of Utah. Review of waste manifests confirms that certificatee is taking all necessary measures to assess waste package for transportation outside the facility, ensuring they meet all of NRC and DOT requirements for safe handling and transportation of radioactive waste.
- The certificatee provided documentation for the recording of shipment, radiological surveys, isotope concentration and delivery confirmation. Upon request, the certificatee demonstrated the process they would follow in the event of a problem with shipment. The process in place will allow tracking of events and keeping the NRC informed of causes and resolutions for the shipment problem. There have not been any examples recently of problems with shipments.

**Executive Summary (continued)**

- Database kept by the certificatee contains information on all the waste accumulated on site, including its characterization, location on site and path of disposal. Different reports can be generated from the database to assess condition of waste at any given moment in time.
- Self assessment and audits reports for the last year were reviewed to ensure certificatee was properly evaluating their radiological waste management program performance. Areas for review in the assessment included key areas delineated in the RWM Program. For each of these areas critical questions were developed. Answers provided were insightful and provided a good evaluation of the program.
- The certificatee provided documentation for their contract with Energy Solutions. The agreement specified the type of waste to be shipped and its characterization. Limits specified met the federal regulation requirements.

Effluent Control and Environmental Protection

- The certificatee's environmental monitoring program was implemented in accordance with the certificate requirements. Environmental sampling results for soil, vegetation, water and ambient air since the last inspection showed uranium and fluoride activities near background levels in the environment.
- An acceptable quality control program was maintained for analytical measurements of environmental samples. Measurement procedures and sample chain-of-custody requirement were adequate.
- The environmental audit program was consistent with the requirements specified in the certificate application. The environmental program audits were thorough and corrective actions were tracked to resolution.
- The liquid effluent program effectively maintained effluent concentrations below the limits specified in the certificate.
- The gaseous effluent monitoring program was effective in controlling and measuring effluents, and compliant with the requirements of the certificate. The effluent air sampling equipment, including the sample delivery lines, had been properly maintained. Calculated offsite doses were below regulatory limits.

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 inspector reviewed changes in personnel responsibilities and functions that occurred since the last inspection and verified that personnel qualification requirements, education and experience were met. The inspector interviewed certificatee personnel affected by new responsibilities and functions.
- The inspector reviewed several procedures for operations and safety management systems and verified that the procedures were reviewed in the appropriate time frames and approved by the appropriate management. The inspector verified no instances of outdated procedures.
- The audits for the year were conducted as required, covered a wide range of safety and operational areas, and were detailed and thorough. No findings of significance were identified.

**Executive Summary (continued)**

- The inspector reviewed a selection of the most recent minutes from the Plant Operations Review Committee meetings. The inspector found that both nuclear and industrial safety functions were adequately represented in each meeting. The inspector found that the items reviewed were given appropriate consideration and management attention. No findings of significance were identified. The inspector reviewed the effectiveness of the corrective action program. The inspector noted that the computer tracking system of issues (ATRs) allowed the certificatee to capture, categorize, review, assign responsibilities and track issue resolution appropriately. Review of sampled ATRs for the actions taken to resolve the issues demonstrated certificatee was adequately implementing their corrective action program.
- Interviews with plant personnel, review of records and observation of operations confirmed the certificatee's quality assurance program is functioning in accordance with the Quality Assurance Plan.

List of Items Opened, Closed, Discussed

<u>Item Number</u>	<u>Status</u>	<u>Description</u>
Event Report 42866	Closed	Failure of C-333-A No. 3 South Autoclave High Cylinder Pressure System (HCPS). A short circuit in the HCPS instrument signal caused the failure. The HCPS instrument signal wire was determined to have been damaged during replacement of a valve actuator located near the wire seven days earlier. The Certificatee determined that the proximity of HCPS instrument signal wires to valve actuators in all other autoclaves on site were also at risk. HCPS signal wires in all autoclaves were encased in protective coverings. The inspectors had no further questions, this item is closed.
Event Report 42494	Closed	The UF6 release detection system at unit 4 cell 7, in C-333, failed during testing. Corrective actions - the certificatee replaced the control module and the alarm switch for that detection system. In addition, all modules and switches were inspected plant wide for operability and replaced as needed.

