UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
245 PEACHTREE CENTER AVENUE NE, SUITE 1200
ATLANTA, GEORGIA 30303-1257

January 24, 2012

Mr. Robert Van Namen
Senior Vice President, Uranium Enrichment
United States Enrichment Corporation
Two Democracy Center
6903 Rockledge Drive
Bethesda, MD 20817

SUBJECT: NUCLEAR REGULATORY COMMISSION INSPECTION REPORT NO. 70-7001/2011-005

Dear Mr. Van Namen:

This letter refers to the results of the above-referenced Nuclear Regulatory Commission (NRC) inspection conducted at the United States Enrichment Corporation, Paducah Gaseous Diffusion Plant in Paducah, KY from October 1 through December 31, 2011. The purpose of the inspection was to determine whether activities authorized by your certificate were conducted safely and in accordance with NRC requirements. The NRC inspectors discussed their findings with members of your staff at an exit meeting held on January 6, 2011 for this integrated inspection report.

These inspections were examinations of activities conducted under your certificate of compliance as they relate to safety and compliance with the Commission's rules and regulations. Areas examined during the inspections are identified in the enclosed report. Within these areas, the inspection consisted of a selective examination of procedures and representative records, observations of activities, and interviews with personnel. Based on the results of this inspection, no findings of significance were identified.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and 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 inspection, please contact us.

Sincerely,

/RA/

Joselito O. Calle, Chief
Fuel Facility Inspection Branch 2
Division of Fuel Facility Inspection

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

Enclosure: NRC Inspection Report No. 70-7001/2011-005

cc w/encl: (See Page 3)

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cc w/encl: (See Page 3)

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

ADAMS: **X** Yes ACCESSION NUMBER: ML12024A309 **X** SUNSI REVIEW COMPLETE **X** FORM 665 ATTACHED

OFFICE	RII:/DFFI	RII/DFFI	RII/DFFI				
SIGNATURE	/RA via email/	/RA via email/	/RA/				
NAME	M. Miller	R. Russell	D. Hartland				
DATE	1/23/2012	1/23/2012	1/23/2012	1/ /2012	1/ /2012	1/ /2012	1/ /2012
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

OFFICIAL RECORD COPY DOCUMENT NAME: G:\DNMSII\FFBII\REPORTS\INSPECTION REPORT FOLDER\PADUCAH\PADUCAH REPORT 70-7001-2011-005.DOCX

cc w/encl:
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Director of Paducah Government Services
Paducah Gaseous Diffusion Plant
United States Enrichment Corporation
Electronic Mail Distribution

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Vice President Enrichment Operations
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U.S. NUCLEAR REGULATORY COMMISSION

REGION II

INSPECTION REPORT

Docket No.:	70-7001
Certificate No.:	GDP-1
Report No.:	70-7001/2011-005
Certificate holder:	United States Enrichment Corporation
Facility:	Paducah Gaseous Diffusion Plant
Location:	5600 Hobbs Road, Kevil, KY 42053
Dates:	October 1 through December 31, 2011
Inspectors:	M. Miller, Senior Resident Inspector R. Russell, Resident Inspector
Approved by:	J. Calle, Chief Fuel Facility Inspection Branch 2 Division of Fuel Facility Inspection

Enclosure

EXECUTIVE SUMMARY

United States Enrichment Corporation
Paducah Gaseous Diffusion Plant
Inspection Report 70-7001/2011-005
October 1 – December 31, 2011

U.S. Nuclear Regulatory Commission (NRC) resident inspectors conducted inspections at the Paducah Gaseous Diffusion Plant (PGDP) during normal and off normal shifts in the areas of operational safety and maintenance and surveillance of safety controls. The inspectors performed a selective examination of activities, which was accomplished by direct observation of safety significant activities and equipment, tours of the facilities, interviews, and discussions with personnel, independent verification of safety system status and limiting operation conditions, corrective actions, and review of facility records. No findings of significance were identified. The NRC's program for overseeing the safe operation of uranium enrichment facilities is described in Manual Chapter (MC) 2600, "Fuel Cycle Facility Operational Safety and Safeguards Inspection Program," dated January 27, 2010.

The inspection scope and results for this integrated inspection report were summarized on January 6, 2012, with Michael Bruckner and members of his staff in an exit meeting. The inspectors asked the certificate holder staff whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

Confirmatory Orders Associated with Alternaive Dispute Resolution Process

The inspectors conducted a follow-up inspection to provide assurance that the certificate-holder had implemented and completed the corrective actions required by Confirmatory Orders associated with the Alternative Dispute Resolution (ADR) process, NRC Orders EA-08-280 (classified mailing incident), EA-08-344 (pigtail incident), and EA-06-140 (discrimination case.)

The inspectors found that USEC-PGDP was still in the process of implementating the recommendations from the Report of the Independent Safety Conscious Work Environment (SCWE) Assessment. When USEC-PGDP completes modifying or further developing the SCWE program, the inspectors will complete the followup inspection and document in a future inspection report. (Section 2)

Plant Operations

The inspectors conducted walkdowns in the central control facility, upper cascade, lower cascade, and uranium hexafluoride handling areas and observed appropriate conduct of operations and proper staffing levels. The inspectors interviewed Plant Shift Superintendents, building managers, first line managers, operators, maintenance technicians, and operator trainees on all crews. The inspectors determined operations personnel were knowledgeable of equipment status associated with their assigned facilities and control room personnel activities were commensurate with the plant configuration and plant activities in progress. The inspectors determined corrective action program entries were made to assess operating trends and note out-of-service safety systems. (Section 3)

Maintenance and Surveillance Observations

The inspectors verified maintenance and surveillance activities were performed in a safe manner, testing activities were performed in accordance with procedures, and calibrated measuring and test equipment was used. The inspectors verified test and acceptance criteria were clear and conformed with the technical safety requirements manual, and deficiencies or out-of-tolerance values identified during the testing were documented, reviewed, and resolved. (Section 4)

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

REPORT DETAILS

1. Summary of Plant Status

The certificate holder performed routine operations and maintenance throughout the inspection period. Plant load was maintained at planned power levels and assay was according to the production schedule throughout this inspection period.

2. Confirmatory Orders Associated with Alternaive Dispute Resolution Process

a. Scope and Observations

The inspectors conducted a follow-up inspection to ascertain whether corrective actions have been adequately implemented by USEC as required by the Confirmatory Orders associated with three Alternative Dispute Resolution (ADR) processes: EA-08-280 (classified mailing incident), EA-08-344 (pigtail incident), and EA-06-140 (discrimination case).

The inspectors used the inspection guidance contained in Inspection Procedure 88100 to conduct this follow-up inspection. The inspectors selected a sample of USEC actions required by the Confirmatory Orders, as agreed to in the Alternative Dispute Resolution cases, for review. This inspection consisted of selective, in-office reviews of corrective actions, procedures and representative records, field verifications when appropriate, attendance at Safety Conscience Work Environement training sessions, and interviews with personnel.

The inspectors verified USEC correctly translated the required corrective actions, as agreed to during the Alternative Dispute Resolution and documented in Section V of the confirmatory orders, into the USEC response to the above listed NRC Orders. The inspectors further verified USEC correctly translated the required corrective actions from the orders to the corrective action program.

The inspectors concluded that USEC-PGDP management did assign responsibility for implementing corrective actions, including any necessary changes in procedures and practices. On a sampling basis, the inspectors reviewed corrective actions taken, completion status, and status comments documented in the corrective action program. On a sampling basis, the inspectors reviewed evidence of training completion and procedure revisions agreed to and documented in the Confirmatory Orders.

The inspectors concluded that USEC-PGDP was still in the process of implementating the recommendations from the Report of the Independent Safety Conscious Work Environment Assessment. When USEC-PGDP completes modifying or further developing the SCWE program, the inspectors will complete the follow-up inspection and document the conclusions in a future inspection report.

b. Conclusions

No findings of significance were identified.

3. Plant Operations (Inspection Procedure (IP) 88100)

a. Scope and Observations

The inspectors observed routine operations and conducted walkdowns during this inspection period in the central control facility, the process buildings, the purge and product building, the surge and waste building, the toll transfer and sampling building, and both of the feed vaporization facilities. The inspectors assessed operations personnel alertness and general knowledge of equipment status associated with their assigned facilities. The inspectors conducted interviews with building managers, first line managers, operators, and operator trainees regarding safety training and procedures for handling safety issues.

The inspectors reviewed shift staffing work sheets, observed control room personnel, and determined that proper control room staffing was maintained, access to the control room was properly controlled, and operator behavior was commensurate with the plant configuration and plant activities in progress. The inspectors reviewed control room and plant shift superintendent log books, daily operating instructions, and corrective action program entries to asses operating trends and activities and to note any out-of-service safety systems.

The inspectors toured portions of the cascade and uranium hexafluoride (UF_6) handling areas on a near-daily basis ensuring that the entire plant was toured each month. The inspectors checked general plant areas for unauthorized storage of flammable material or excessive fire loads. While conducting plant tours, the inspectors noted that housekeeping and the legibility of radiological signs were adequate.

The inspectors reviewed the status of the system's operability in the certificate holder's computer tracking system, iPlant. The inspectors also assessed the operability of selected safety equipment by reviewing the lockout-tagout sheets for selected systems. For recent lockout-tagouts, the inspectors verified that the systems were properly returned to the normal configuration. The inspectors selected two safety-related lockout-tagouts in effect and independently verified they were properly prepared and implemented. The inspectors verified the proper selection and placement of tags on breakers, switches, and valves. Additionally, the inspectors verified that tagged components were in the required positions.

The inspectors determined that all required notices to workers were appropriately and conspicuously posted in accordance with 10 CFR 19.11 and 10 CFR 21.6. The inspectors confirmed that the certificate holder met the requirement to conspicuously post copies of NRC Form-3, "Notice to Employees," in sufficient quantities and locations to permit workers engaged in licensed activities to observe them on the way to or from any activity location to which the document was applicable.

The inspectors observed an emergency preparedness drill conducted between the Department of Energy and United States Enrichment Corporation from the perspective of the Emergency Operations Center on November 4, 2011.

b. Conclusions

No findings of significance were identified.

4. Maintenance and Surveillance Observations (IP88102 and 88103)

a. Scope and Observations

For several maintenance activities and surveillance tests, the inspectors observed prejob briefs; verified the latest edition of the procedure was in use; verified the use of an approved work package; and, confirmed the tasks were performed at the required frequency.

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; and measuring and test equipment was within calibration due dates. The inspectors verified technical safety requirements manual limiting conditions for operation were entered, when appropriate; removal and restoration of the affected components were properly accomplished; test and acceptance criteria was clear and conformed with the technical safety requirements manual and the safety analysis report; and, deficiencies or out-of-tolerance values identified during the testing were documented, reviewed, and resolved by appropriate management personnel.

b. Conclusions

No findings of significance were identified.

5. Exit Meetings

The inspectors summarized the inspection scope and results for this integrated inspection report on January 6, 2012, with Mr. M. Buckner and members of his staff. The inspectors asked the certificate holder whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified. No dissenting comments were received from the certificate holder.

SUPPLEMENTAL INFORMATION

1. Partial List of Persons Contacted

Name	Title
Keith Ahern	Production Support Manager
Paul Beane	Nuclear Safety and Quality Manager
Brian Bell	Waste Management and Environmental Control Manager
Mike Boren	Regulatory Compliance and Nuclear Operations
Kent Brandon	Radiochemist
Mike Buckner	Plant Manager
Rickie Byrd	Section Manager
Spencer Childers	Quality Control Manager
Lee Fink	Regulatory Engineer
Dallas Gardner	Regulatory Engineer
Mark Grisham	Health Physics Section Supervisor
Sherrill Gunn	Operations Manager
Robert Helme	Engineering Manager
Tracey Henson	Nuclear Criticality Safety Manager
O.E. Hickman	Radiation Protection Manager
James Lewis	General Manager
Jerome Mansfield	Emergency Management
Charlie Martin	Field Services Manager
Louis Moffatt, II	Cascade Manager
Holly Nelson	Sample Management
Steve Penrod	Vice President Enrichment Operations
John Price	Analytical Laboratory Manager
Vernon Shanks	Regulatory Affairs Manager
Stephen Smith	Security Manager
Diane Snow	Environmental, Safety, and Health Manager
Dave Stadler	Lead, Regulatory Engineer
Jeffery Stephens	Regulatory Engineer
April Tilford	Emergency Management
Craig Willett	Maintenance Manager

2. List of Items Opened, Closed, and Discussed

Opened

70-7001/2011-008	LER	24 Hour Report Due To Detection Of Linear Defect In Side Accumulator The product withdrawal Building C-310 Side Accumulator developed two linear defects in the vessel shell that caused a small UF_6 release on October 21, 2011. The release was contained to the immediate area inside the building. The accumulator was taken out of service for investigation and repair. The report was made as TSR 2.3.5.6 was a design

		feature that required the withdrawal area UF_6 accumulators to have a minimum required metal thickness in accordance with ASME requirements to prevent UF_6 releases. This reportable event was a 24 hour event in accordance with 10CFR 76.120(c)(2)(i). Event Number: 47376; ATR-11-2856; PGDP Event Report No. PAD-2011-19
70-7001/2011-009	LER	Localized loss of a geometry criticality control contingency On October 28, the certificate-holder found, during an annual inspection, that an eyewash drain in Building C-400 was no longer properly sealed around the concrete base and would not prevent solutions from entering the floor drain if challenged. In order for a criticality to occur, a release of greater than a safe mass of uranium onto the floor of C-400 would have had to occur. A solution containing greater than a safe mass would then have had to migrate to the drain, leak into the drain system, and accumulate in an unfavorable geometry. No leakage or release occurred. Double contingency was not maintained because the geometry parameter was not maintained. Event Number: 47483; ATR-11-3171; PGDP Event Report No. PAD-2011-20
70-7001/2011-010	LER	Possible Degradation in High Pressure Fire Water Sprinkler Heads. On December 17, 2011, the certificate-holder found, during routine planned inspections, that several sprinker heads in the product withdrawal area of Building C-310 had visible corrosion on them. Hourly fire patrols were established as required by TSR 2.4.4.5. The sprinkler heads replacement was completed and the system was declared operable on December 30, 2011. Event Number: 47531; ATR-11-3384; PGDP Event Report No. PAD-2011-21

Opened and Closed

None

Closed

None

Discussed

None

3. List of Inspection Procedures Used

88100 Plant Operations
88102 Surveillance Observations
88103 Maintenance Observations