July 5, 2012

EN47176, EN47310, EN47483

Mr. Robert Van Namen
Sr. Vice President - Uranium Enrichment
United States Enrichment Corporation
6903 Rockledge Drive
Bethesda, MD 20817

SUBJECT: INSPECTION REPORT NO. 70-7001/2012-202

Dear Mr. Namen:

The U.S. Nuclear Regulatory Commission (NRC) conducted a routine, scheduled, and announced criticality safety inspection June 4-7, 2012, at the Paducah Gaseous Diffusion (Paducah) facility in Paducah, Kentucky. The purpose of the inspection was to determine whether activities authorized by your certificate involving special nuclear material were conducted safely and in accordance with regulatory requirements. Throughout the inspection, observations were discussed with your staff. An exit meeting was held on June 7, 2012, during which inspection observations and findings were discussed with your management and staff.

The inspection, which is described in the enclosure, focused on the most hazardous activities and plant conditions; the most important controls relied on for safety and their analytical basis; and the principal management measures for ensuring controls are available and reliable to perform their functions relied on for safety. The inspection consisted of analytical basis review, selective review of related procedures and records, examinations of relevant nuclear criticality safety (NCS)-related equipment, interviews with NCS engineers and plant personnel, and facility walkdowns to observe plant conditions and activities related to safety basis assumptions and related NCS controls.

Based on the inspection, NRC has determined that a Severity Level IV violation of NRC requirements has occurred. The violation was evaluated in accordance with the NRC Enforcement Policy included on the NRC's web site at www.nrc.gov; select **Public Meetings and Involvement**, then **Enforcement**. The violation is being cited in the enclosed Notice of Violation (Notice), and the circumstances surrounding it are described in detail in the subject inspection report. The violation is being cited in the Notice because it was identified as the result of an event. The violation being cited as a Serverity Level IV violation is the failure to maintain double contingency for the C-310 #5 scale pit.

NRC has concluded that information regarding the reason for the violation, the corrective actions taken to correct the violation and prevent recurrence and the date when full compliance was achieved is already adequately addressed on the docket in the enclosed inspection report. Therefore, you are not required to respond to this letter unless the description herein does not accurately reflect your corrective actions or your position. In that case, or if you choose to provide additional information, you should follow the instructions specified in the enclosed Notice.

In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390 of NRC's "Rules of Practice," a copy of this letter and the enclosure will be available in the public electronic reading room of the NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html.

If you have any questions concerning this report, please contact Sheena Whaley of my staff at (301) 492-3200, or via e-mail to Sheena.Whaley@nrc.gov.

Sincerely,

/RA/

Thomas G. Hiltz, Chief
Technical Support Branch
Division of Fuel Cycle Safety
and Safeguards
Office of Nuclear Material Safety
and Safeguards

Docket No. 70-7001

Enclosures:
1. Notice of Violation
2. Inspection Report No. 70-7001/2012-202

cc: G. Bazzell, PGDP
R. DeVault, U.S. Department of Energy
J. Jasper, State Liaison Officer
W. Jordan, United States Enrichment Corporation (USEC)
S. Penrod, PGDP
V. Shanks, PGDP
S. Toelle, USEC

In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390 of NRC's "Rules of Practice," a copy of this letter and the enclosure will be available in the public electronic reading room of the NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html.

If you have any questions concerning this report, please contact Sheena Whaley of my staff at (301) 492-3200, or via e-mail to Sheena.Whaley@nrc.gov.

Sincerely,

/RA/

Thomas G. Hiltz, Chief
Technical Support Branch
Division of Fuel Cycle Safety
and Safeguards
Office of Nuclear Material Safety
and Safeguards

Docket No. 70-7001

Enclosures:
1. Notice of Violation
2. Inspection Report No. 70-7001/2012-202

cc: G. Bazzell, PGDP
R. DeVault, U.S. Department of Energy
J. Jasper, State Liaison Officer
W. Jordan, United States Enrichment Corporation (USEC)
S. Penrod, PGDP
V. Shanks, PGDP
S. Toelle, USEC

DISTRIBUTION:

FCSS r/f	JCalle, RII	RRussell, RII
KMcCallie, RII	TLiu, FCSS	TSippel, FCSS

ML12177A029

OFFICE	FCSS/TSB	FCSS/TSB	FCSS/UEB	FCSS/TSB
NAME	SWhaley	TPowell	TRichmond	THiltz
DATE	7/03/12	7/05/12	7/03/12	7/05/12

OFFICIAL RECORD COPY

NOTICE OF VIOLATION

USEC-PGDP
Paducah, Kentucky

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

During a U.S. Nuclear Regulatory Commission (NRC) inspection conducted from June 4-7, 2012, a violation of NRC requirements was identified. In accordance with the NRC Enforcement Policy, the violation is listed below:

> Certificate Condition No. 9 of Certificate GDP-1 requires the conduct of operations in accordance with the Technical Safety Requirements that are contained in Volume 4, Revision 112 of the Application, dated August 11, 2008, and supplements thereto.
>
> Technical Safety Requirement 3.11.5 requires, in part, that the double contingency principle, as described in the Safety Analysis Report (SAR), shall be used as the basis for the design and operation of processes using fissionable materials.
>
> Section 5.2.2.3 of the Application [SAR-Paducah Gaseous Diffusion Plant] states, in part, that the "Paducah Gaseous Diffusion Plant nuclear criticality safety program applies this principle [double contingency] by implementing controls either on two different parameters or by implementing two controls on one parameter" and "if two controls are implemented for one parameter the violation or failure scenarios of the controls shall be independent."
>
> Contrary to the above, on and before September 30, 2011, the certificate failed to maintain one leg of double contingency, as described in the SAR, for the C-310 #5 scale pit. Specifically, the geometry parameter limit in the scale pit was violated due to the failure of Scale Pit Water Dectection Alarm to detect chronic accumulation of water.

This is a Severity Level IV violation. (Enforcement Policy 6.2)

The NRC has concluded that information regarding the reason for the violation, the corrective actions taken to correct the violation and identify the extent of condition, and the date when full compliance was achieved is already adequately addressed and is documented in the attached inspection report. However, you are required to submit a written statement or explanation pursuant to Title 10 of the *Code of Federal Regulations* 2.201, if the description therein does not accurately reflect your corrective actions or your position. In that case, or if you choose to respond, clearly mark your response as a "Reply to a Notice of Violation, NOV 70-7001-2012-202-01" and send it to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852-2738, with copies to the Chief, Technical Support Branch, FCSS/NMSS and the Regional Administrator, U.S. Nuclear Regulatory Commission, Region II, within 30 days of the date of the letter transmitting this Notice of Violation (Notice).

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 Commisison, Washington, DC 20555-0001.

If you choose to respond, 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. Therefore, to

the extent possible, the response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the Public without redactions. In accordance with 10 CFR 19.11, you may be required to post this Notice within two working days.

Dated this 5th day of July, 2012.

U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS

Docket No.:	70-7001
Certificate No.:	GDP-01
Report No.:	70-7001/2012-202
Certificate Holder:	United States Enrichment Corporation
Location:	Paducah, Kentucky
Inspection Dates:	June 4-7, 2012
Inspectors:	Sheena Whaley, Criticality Safety Inspector Tamara Powell, Criticality Safety Inspector
Approved by:	Thomas G. Hiltz, Chief Technical Support Branch Division of Fuel Cycle Safety and Safeguards Office of Nuclear Material Safety and Safeguards

Enclosure 2

EXECUTIVE SUMMARY

United States Enrichment Corporation
Paducah Gaseous Diffusion Plant
NRC Inspection Report 70-7001/2012-202

Introduction

The staff of the U.S. Nuclear Regulatory Commission (NRC) performed a routine, scheduled, and announced criticality safety inspection of the Paducah Gaseous Diffusion Plant (PGDP) in Paducah, Kentucky, from June 4-7, 2012. The inspection included an onsite review of certificate programs dealing with plant operations, the nuclear criticality safety (NCS) program, audits and inspections, and NCS-related corrective actions. The inspection focused on risk-significant fissile material processing activities, including those in Buildings C-310, C-333, C-335, C-337, C-360, C-400, C-409, C-709, C-710, C-720, and C-745-X.

Results

- A Severity Level IV violation was identified regarding the failure to maintain double contingency for the C-310 #5 scale pit.
- No safety concerns were identified regarding the certificate holder's NCS program.
- No safety concerns were identified regarding the certificate holder's NCS walkthroughs, self-assessments, surveillances and audits.
- No safety concerns were identified during walkdowns of the facility and operations.
- No safety concerns were noted regarding the certificate holder's NCS evaluations.
- No concerns were identified regarding certificate holder's criticality accident alarm system (CAAS) coverage of fissile material operations.

REPORT DETAILS

1.0 Summary of Plant Status

The U.S. Enrichment Corporation enriches uranium for domestic and international customers at the PGDP. In conjunction with routine enrichment activities, the certificate holder performs laboratory operations, cleaning and decontamination services, and maintenance and support activities. During the inspection, the certificate holder was performing routine enrichment and support operations.

2.0 Nuclear Criticality Safety Program (IP 88015)

a. Inspection Scope

The inspector reviewed the certificate holder's NCS program. The inspector evaluated the adequacy of the program to assure the safety of fissile material operations. The inspector interviewed certificate managers, NCS engineers, system engineers, and facility operators during document review and facility walkdowns. The inspector reviewed NCS's administrative procedures and selected NCS controls to determine whether the procedures adequately implemented the NCS program described in the certificate. The inspector reviewed selected aspects of the following document:

- CP2-EG-NS1031, "Nuclear Criticality Safety," Revision 10, dated April 30, 2012

b. Observations and Findings

The inspector observed that the certificate holder had an NCS program which was independent from production and was implemented through written procedures. The inspector determined that the certificate holder's NCS program was conducted in accordance with written administrative procedures that reflected the program described in the certificate.

c. Conclusions

No safety concerns were identified regarding the certificate holder's NCS program.

3.0 Nuclear Criticality Safety Inspections, Audits and Investigations (IP 88015)

a. Inspection Scope

The inspectors reviewed records of previously-completed certificate holder surveillances, walkthroughs, audits, and self-assessments. The inspectors reviewed selected aspects of the following documents:

- Self-Assessment C28-SA-11-06, "Implementation of NCSE 070 and NCSA GEN-043," dated December 22, 2011
- 11-WS-002, "NCS Walkthrough for C-720," dated August 11, 2011
- 11-WS-004, "NCS Walkthrough of the Waste Storage Facilities," dated September 30, 2011

- 11-WS-005, "NCS Walkthrough for C-745 Storage Yards," dated September 29, 2011
- 12-WS-001, "NCS Walkthrough of the C-360 Facility," dated March 21, 2012
- 12-WS-002, "NCS Walkthrough of the C-409 Facility," dated May 29, 2012
- CP2-BM-CI1030, "Paducah Self-Assessment," Revision 8, dated January 9, 2012
- CP4-EG-NS1107, "Nuclear Criticality Safety Oversight Program," Revision 3, dated November 14, 2011

b. Observations and Findings

The inspectors determined that certificate holder's NCS engineers observed plant operations to determine adequacy of implementation of NCS requirements and ensured that implementation weaknesses were identified and entered into the corrective action system. The inspectors observed that the certificate holder's NCS walkthroughs and assessments were conducted within the required time limit and were performed in accordance with written procedures. The inspectors noted that the walkthroughs and assessments were performed by NCS engineers who: (1) reviewed NCS issues from previous audits; (2) reviewed the adequacy of control implementation; (3) reviewed plant operations for compliance with certificate holder's requirements, procedures, and postings; and (4) examined equipment and operations to determine that past evaluations remained adequate.

c. Conclusions

No safety concerns were identified regarding the certificate holder's NCS walkthroughs, self-assessments, surveillances and audits.

4.0 Nuclear Criticality Safety Event Review and Follow-up (IP 88015)

a. Inspection Scope

The inspectors reviewed recent internally- and externally-reported NCS-related events. The inspectors reviewed selected aspects of the following documents:

- CP4-EG-NS1104, "NCS Engineer Response to Emergency Off Normal and Process Upset Conditions," Revision 2, dated February 22, 2012
- Issue ID C11/02414, "SX/WA Pump Disassembly NCS Spacing Violation," dated 8/19/11
- NCS Anomalous Condition Incident Report 11-007, Revision 0, dated 8/19/2011 [for EN47176]
- Issue ID C11/02901, "C-310 Scale Pit for Position 5," dated 9/30/11
- NCS Anomalous Condition Incident Report 11-011, Revision 0, dated 9/30/2011 [for EN47310]
- Issue ID C11/03501, "C-400 Floor Drain Inspection," dated 11/28/11
- NCS Anomalous Condition Incident Report 11-012, Revision 0, dated 11/28/2011 [for EN47483]
- ATRC-11-1962, "NCS Sample Labeling Violation," dated August 1, 2011
- ATRC-11-2282, "Overfilling of Liquid Uranium Salvage Carboy," dated August 29, 2011
- ATRC-11-2420, "NCSA-GEN-015," dated September 13, 2011

- ATRC-11-2426, “Carboy Cart Moved Without Securing Carboy Cap,” dated September 14, 2011
- ATRC-11-3414, “Several ATRCs in Production Support Warrant Comprehensive Review,” dated December 21, 2011
- ATRC-12-0040, “Datum Pump Disassembly NCS Violation,” date January 6, 2012
- ATRC-12-0755, “Normetex Oil Samples,” dated March 20, 2012
- ATRC-12-1193, “Legacy Equipment,” dated May 8, 2012
- ATRC-12-1195, “Water Leak from C-360 Autoclave Vessel,” dated May 8, 2012

b. Observations and Findings

The inspector determined that internally-events were investigated in accordance with written procedures, and appropriate corrective actions were assigned.

Event Notice 47176

On August 29, 2011, during disassembly of a single Seal Exhaust/Wet Air pump in building C-400, it was discovered that pump housing subcomponents (i.e. two piston slides and a cam) were placed within 2 feet of the internal oil separators. Nuclear Criticality Safety Approval (NCSA) GEN-011 requires a minimum 2-foot edge-to-edge spacing between pump housing subcomponents and internal oil separators. The purpose of this control is to ensure interaction between grossly contaminated fissile items is minimized during movement and storage. The other control relied upon is the geometry of the pump subcomponents, which was maintained. The inspectors reviewed the event during the inspection. Although NCSA GEN-011 only credits the interaction and geometry controls, mass is also controlled for cleaning of pumps. NCSA-045 requires removal of any oil (and therefore fissile material) prior to removal of a pump and transport to C-400 for cleaning. Additionally, NCSE-045 evaluated an assembled pump full of slugged oil under credible normal and abnormal condtions is subcritical. Since there were still two independent controls, double contingency was maintained. However, there was a loss of a credited NCS control.

The inspectors determined that this issue was of minor safety significance, the issue was corrected, and that it constitutes a violation of minor significance that is not subject to enforcement action in accordance with Section 2.2.2 of the Enforcement Policy. This event notification is closed.

Event Notice 47310

On September 30, 2011, during the routine monthly scale pit water detection system test for the C-310 #5 scale position, an employee noticed that the visual water detection alarm for scale pit #5 was illuminated at the local alarm panel but no audible alarm was sounding. The employee contacted the area control room (ACR) and it was determined that the alarm indication in the ACR was not indicating an alarm condition as expected. The alarm in the ACR is a safety related item (SRI).

The scale pit inspection cover was removed and water was found in the pit. The employee noted that the water appeared to be at the top of the water detection system cable tray which is approximately at 1” off the floor (less than 50 gallons of water). However the water depth was not measured so the exact depth reached is unknown.

The pit contains a sump pump because excessive water in the pit (>3.68") is considered an unfavorable geometry condition. The employee checked the circuit breaker for the sump and found that it had tripped. Once the breaker was re-set, the sump pumped the water out of the pit.

There had been over three inches of rain over the weekend of 9/24/11-9/25/11 which is enough to reach the scale cart rails such that water could get into the pit. However, operators stated that they inspected the pit and no water was found, although the inspection was not recorded. Operators did not recall seeing the alarm panel light illuminated for that time period, either.

PGDP staff determined that the most likely source of water could have been from the C-310 building steam system which had been repaired and returned to service after the weekend. Typically when returning the system back to service, some leaks occur. After discovering the water in the scale pit, a condensate leak was found outside the building. The water had drained to the concrete pad outside the building and then along the scale cart rails, eventually finding its way into the #5 scale cart pit. Once this leak was fixed, no additional water was found in the scale pit.

Because the C-310 Scale Pit Water Detection Alarm in the ACR did not function as credited, it is in violation of NCSE 032 (NCSA 310-004). Since one leg of double contingency was lost, this was reported to the NRC as a 24-hour Event Report in accordance with NRC BL 91-01 Supplement 1.

The inspectors evaluated the event in accordance with the Enforcement Policy for fuel cycle facility non-compliances. Enforcement Policy 6.2(d)(2) defines a Severity Level IV violation as "a failure of safety systems or controls occurs such that an acceptable safety margin has not been maintained, but the failure does not result in a Severity Level I, II, or III violation." The inspectors concluded that failure to maintain double contingency as required by the Safety Analysis Report (SAR) demonstrated failure to maintain acceptable safety margin and was, a Severity Level IV violation. The inspectors noted that the pipe transporting liquid Uranium Hexafluoride (UF6) through the area was extremely robust and that there is an active design feature that controls the low voltage UF6 detection/interlock system at each withdrawl station. The certificate holder maintains procedures requiring immediate action in the event of a UF6 release. The inspectors determined that the combination of monel pipe integrity, the UF6 detection/interlock system, and the low probability that operators would not interrupt the leak before sufficient fissile material accumulated made the likelihood of criticality in the situation on the order of highly unlikely. The inspectors concluded that the failure to establish double contingency as required by the SAR did not result in a substantial increase in the likelihood of potential criticality in this situation and, therefore, did not meet the requirements for a Severity Level I, II, or III violation. The failure to establish double contingency in the C-310 #5 scale pit is **Violation (VIO) 70-7001-2012-202-01**. Event 47310 is closed to VIO 70-7001-2012-202-01.

The inspectors noted that the certificate holder's corrective actions for the loss of double contingency included:

- Immediate action was taken to re-set the sump circuit breaker and pump water out of the #5 scale pit and perform visual, documented checks of the pit.

- Initiated work to power the #5 scale pit sump without the use of a Ground Fault Circuit Interrupters (GFCI) since the GFCI is prone to trip in moist environments.
- Initiated the repair of the annuncinator panels for #3, #4, and #5 scale pits when the extent of conditions investigation found that these alarms would also not stay activiated when an alarm condition exists.
- Initiated modification to the water detection alarms to separate safety-related alarms from non-safety alarms.
- Developed lessons-learned from the event focusing on understanding the operation or silencing of alarms and following alarm response procedures.

The inspectors determined that double contingency for the C310 #5 scale pit had been established in accordance with procedures and that the violation could be closed without additional certificate holder response. This violation will be administratively closed in the next inspection report unless the certificate holder provides additional information in response to the violation which requires further NRC follow-up.

Event Notice 47483

During annual inspection of the C-400/C-409 floor drains and sumps according to procedure CP4-CU-CH6021, a chemical operator identified that an eye wash drain (#147 near the C-400 spray booth) was no longer properly sealed around the concrete base and would not prevent solutions from entering the unfavorable geometry drain system if challenged. NCSA CHM-001 requires specific drains to be sealed to prevent the accumulation of fissile material in the unsafe geometry drain system. In violation of NCSA CHM-001, the poured concrete base surrounding the eye wash drain #147 in C-400 was discovered to be broken loose from the floor so that it could no longer provide a seal against spilled uranium solution getting into the drain system. The fissile material of concern is from the spray booth operations where large items are decontaminated, or from the tanks which store the solution from the spray booth operations. The other control relied upon is a mass control based upon the integrity of the system to prevent a release of greater than a safe mass.

The inspectors reviewed the event during the inspection. Although NCSA CHM-001 only credits the geometry and mass controls discussed above, mass is also controlled by the spray booth which can contain about four inches of solution, and the geometrically favorable floor pan under the storage tanks for the spray booth solution should a tank leak. Since two independent controls remained, double contingency was maintained. However, there was a loss of a credited NCS control.

The inspectors determined that this issue was of minor safety significance, the issue was corrected, and that it constitutes a violation of minor significance that is not subject to enforcement action in accordance with Section 2.2.2 of the Enforcement Policy. This event notification is closed.

c. Conclusions

A Severity Level IV violation was identified regarding the failure to maintain double contingency in the C-310 #5 scale pit.

No additional safety concerns were identified regarding the certificate holder's internal

event reporting, investigation, and correction actions.

5.0 Plant Activities (IP 88015)

a. Inspection Scope

The inspectors performed plant walkdowns to review activities in progress and to determine whether risk-significant fissile material operations were being conducted safely and in accordance with regulatory requirements. The inspectors verified the adequacy of management measures for assuring the continued availability, reliability, and capability of safety-significant controls relied upon by the certificate holder for controlling criticality risks to acceptable levels. The inspectors performed walkdowns of Buildings C-310, C-333, C-335, C-337, C-360, C-400, C-409, C-709, C-710, C-720 and C-745X.

b. Observations and Findings

The inspectors verified that controls identified in the NCS analyses reviewed were adequate to assure safety. The cognizant NCS engineers were knowledgeable and able to explain the basis for changes in operations and controls.

c. Conclusions

No safety concerns were identified during walkdowns of the facility and operations.

6.0 Nuclear Criticality Safety Evaluations and Analyses (IP 88016)

a. Inspection Scope

The inspectors reviewed NCS analyses to determine that criticality safety of risk-significant operations were ensured through engineered and administrative controls with adequate safety margin, including preparation and review by qualified staff. The inspector accompanied NCS and other technical staff on walkdowns of NCS controls in selected plant areas. The inspectors reviewed selected aspects of the following documents:

- CP4-EG-NS1101, "NCS Evaluations and Approvals," Revision 10, dated March 21, 2012
- NCSE 032, "Product and Side Withdrawal in the C-310 Building," Revision 14, dated September 1, 2011
- NCSE 042, "Operation and Maintenance of the C-360, C-333A and C-337A Autoclaves," Revision 10, dated September 1, 2011
- NCSE 050, "UF_6 Transfer Operations in C-360," Revision 7, dated September 1, 2011
- NCSE 070, "Operation and Maintenance of Autoclave Facility Process Piping, Evacuation Drums, and Relief Drums," Revision 7, dated March 17, 2011
- NCSE 072, "1S Cylinder Receipt and Analysis," Revision 4, dated March 29, 2012
- NCSE-125 Revision 00, and associated NCSA-710-012 Revision 00, "Gas Source Mass Spectrometer Stations in C-710 Laboratory," dated 10/6/11

- NCSE-103 Revision 03, and associated NCSA CHM-001 Revision 04, "C-400 and C-409 Floor Drains and Containment Parts," dated 12/28/11.

b. Observations and Findings

The inspectors reviewed NCS Approvals; NCS Evaluations; and supporting calculations for new, changed, and other selected operations. Within the selected aspects reviewed, the inspector determined that the analyses were performed by qualified NCS engineers, that independent reviews of the evaluations were completed by qualified NCS engineers, that subcriticality of the systems and operations was assured through appropriate limits on controlled parameters, and that double contingency was assured for each credible accident sequence leading to inadvertent criticality. The inspectors determined that NCS controls for equipment and processes assured the safety of the operations. NCS analyses and supporting calculations demonstrated adequate identification and control of NCS hazards to assure operations within subcritical limits.

c. Conclusions

No safety concerns were noted regarding the certificate holder's NCS evaluations.

7.0 Criticality Alarm System (IP 88017)

a. Inspection Scope

The inspectors reviewed documentation of criticality accident alarm detector coverage, interviewed engineering and maintenance staff, and performed facility walkdowns to determine the adequacy of the certificate holder's criticality alarm system.

b. Observations and Findings

The inspectors determined that the certificate holder had installed and maintained a system of criticality detectors that were capable of monitoring fissile material operations at the facility and reliably detecting the minimum accident of concern.

c. Conclusions

No concerns were identified regarding certificate holder's CAAS coverage of fissile material operations.

8.0 Open Item Follow-up

None

9.0 Exit Meeting

The inspector communicated the inspection scope and results to members of PDGP's management and staff throughout the inspection and during an exit meeting on June 7, 2012. PGDP's management and staff acknowledged and understood the findings as presented.

SUPPLEMENTARY INFORMATION

1.0 Items Opened, Closed, and Discussed

Items Opened

VIO 70-7001/2012-202-01	Failure to demonstrate that the double contingency principle was maintained for the C-310 scale pit.

2.0 Event Reports Reviewed

EN47176	Seal Exhaust/Wet Air Pump.	**Closed**
EN47310	C-310 Scale Pit Water Detection Alarm.	**Closed**
EN47483	C-400/C409 Floor Drains.	**Closed**

3.0 Inspection Procedures Used

IP 88015	Nuclear Criticality Safety Program
IP 88016	Nuclear Criticality Safety Evaluations and Analyses
IP 88017	Criticality Alarm Systems

4.0 Partial List of Persons Contacted

USEC

M. Boren	Nuclear Regulatory Affairs
R. Helme	Manager, Engineering
T. Henson	Manager, Nuclear Criticality Safety
L. Jackson	Manager, Operations
M. Keef	Plant Manager
J. Lewis	Manager, Maintenance
S. Penrod	General Manager
D. Quigley	Scheduling WWM
V. Shanks	Manager, Nuclear Regulatory Affairs
D. Snow	Manager, H&S
D. Stadler	Senior Engineer, Nuclear Regulatory Affairs
M. Wilson	Engineer, NCS

NRC

Sheena Whaley	Criticality Safety Inspector, Headquarters
Tamara Powell	Criticality Safety Inspector, Headquarters

All attended the exit meeting on June 7, 2012.

Attachment

5.0 List of Acronyms and Abbreviations

ADAMS	Agency-Wide Document Access and Management System
CAAS	criticality accident alarm system
CFR	Code of Federal Regulation
DOE U.S.	Department of Energy
EN	Event Notice
IP	inspection procedure
NCS	nuclear criticality safety
NCSA	nuclear criticality safety approval
NCSE	nuclear criticality safety evaluation
SAR	safety analysis report
UF_6	uranium hexaflouride
USEC	U. S. Enrichment Corporation (certificate holder)
VIO	violation