

April 6, 2001

Mr. J. M. Brown
Vice President - Operations
United States Enrichment Corporation
Two Democracy Center
6903 Rockledge Drive
Bethesda, MD 20817

SUBJECT: PORTSMOUTH INSPECTION REPORT 07007002/2001-003(DNMS)
AND NOTICE OF VIOLATION

Dear Mr. Brown:

On March 26, 2001, the NRC completed a routine resident inspection 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, the inspectors discussed the findings with members of your staff.

Areas examined during the six week inspection period are identified in the report. Within these areas, the inspection consisted of a selective examination of procedures and representative records, interviews with personnel, and observations of activities in progress.

Based on the results of the inspection, the NRC has determined that three violations of NRC requirements occurred. The violations are cited in the enclosed Notice of Violation (Notice), and the circumstances surrounding the violations are described in detail in the enclosed report. The violations are of concern because the root cause for all of the violations can be traced to inattention to detail by and poor communication among your staff.

The NRC has concluded that information regarding the reason for the violations, the corrective actions taken and planned, and the date when full compliance will be achieved is already adequately addressed in the enclosed inspection report. Therefore, you are not required to respond to these violations unless the description therein 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 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosures will be available **electronically** for public inspection in the NRC Public Document Room or from the *Publicly Available Records (PARS) component of NRC's document system (ADAMS)*. ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/NRC/ADAMS/index.html> (the Public Electronic Reading Room).

J. Brown

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We will gladly discuss any questions you have concerning this inspection.

Sincerely,

/RA/

Monte P. Phillips, Acting Chief
Fuel Cycle Branch

Docket No. 07007002
Certificate No. GDP-2

Enclosures: 1. Notice of Violation
2. Inspection Report 07007002/2001-003(DNMS)

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H. Pulley, Paducah General Manager
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Portsmouth Resident Inspector Office
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NOTICE OF VIOLATION

United States Enrichment Corporation
Portsmouth Gaseous Diffusion Plant

Docket No. 07007002
Certificate No. GDP-2

During an NRC inspection conducted from February 13, 2001, through March 26, 2001, three violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG-1600, Revision 1, the violations are listed below:

1. Technical Safety Requirement 3.9.1 requires, in part, that written procedures shall be prepared, reviewed, approved, and implemented for activities described in Appendix A to Safety Analysis Report (SAR) Section 6.11.

Appendix A of SAR 6.11 describes replacement of autoclave gaskets as activities for which procedures shall be implemented.

Section 6.1 of Procedure XP4-TE-MM4711, "Replacing Viton Ring And Viton Shim On Autoclaves," requires that an "as-found" pressure decay test be performed prior to replacing the o-ring.

Contrary to the above, on March 13, 2001, plant staff did not perform an "as-found" pressure decay test prior to replacing the o-ring on Autoclave No. 3 in Building X-344.

This is a Severity Level IV violation (Supplement VI). **(VIO 07007002/2001-003-01)**

2. Technical Safety Requirement 3.9.1 requires, in part, that written procedures shall be prepared, reviewed, approved, and implemented for activities described in Appendix A to Safety Analysis Report (SAR) Section 6.11.

Appendix A of SAR 6.11 describes investigations and reporting as activities for which procedures shall be implemented.

Section J.1 of Appendix D of Procedure UE2-RA-RE1030, "Nuclear Regulatory Event Reporting," requires that a safety system failure be reported within 24 hours of discovery.

Contrary to the above, plant staff did not report to the NRC, within 24 hours of discovery, a safety system (o-ring) failure that occurred on Autoclave No. 3 in Building X-344 resulting in a steam discharge outside the autoclave on March 13, 2001.

This is a Severity Level IV violation (Supplement VI). **(VIO 07007002/2001-003-02)**

3. Technical Safety Requirement 3.9.1 requires, in part, that written procedures shall be prepared, reviewed, approved, and implemented for activities described in Appendix A to Safety Analysis Report (SAR) Section 6.11.

Appendix A of SAR 6.11 describes work control as an activity for which procedures shall be implemented.

Section 6.9.2.K of procedure XP2-GP-GP1030, "Work Control Process," requires, upon completion of the job, that the responsible work group remove any MDT(s) [material deficiency tags] or stickers identified and include in the work package. Section 6.11.1.H

of Procedure XP2-GP-GP1030 requires, upon completion of the job, that the maintenance First Line Manager shall review the work package for closeout and ensure the MDT(s) have been removed and included in the work package. Section 6.11.3.G of Procedure XP2-GP-GP1030 requires that the operations FLM review the completed work package to ensure that MDT(s) or stickers identified in the work package have been removed.

Contrary to the above, as of March 14, 2001, an MDT was hung in December 2000 on the surge drum room temperature recorder at cold recovery in Building X-333, but had not been removed nor included in the work package when the job was completed; nor had the FLM ensured that the MDTs identified in the work package had been removed.

This is a Severity Level IV violation (Supplement VI). **(VIO 07007002/2001-003-03)**

The NRC has concluded that information regarding the reasons for the violations, the corrective actions taken and planned to correct the violations and prevent recurrence, and the date when full compliance will be achieved are already adequately addressed in this Inspection Report. Therefore, a specific response to these violations is not required. However, you are required to submit a written statement or explanation, pursuant to 10 CFR 76.70, 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 response as a "Reply to a Notice of Violation," and send it to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555 with a copy to the Regional Administrator, Region III, and a copy to the NRC Resident Inspector at Portsmouth, 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 denial, to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001.

Because your response will be placed in the NRC Public Electronic Reading Room (PERR), to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PERR without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, 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 basis for your claim of withholding (for example, explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.790(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 6th day of April, 2001

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No: 07007002
Certificate No: GDP-2

Report No: 07007002/2001-003(DNMS)

Facility Operator: United States Enrichment Corporation

Facility Name: Portsmouth Gaseous Diffusion Plant

Location: 3930 U.S. Route 23 South
P.O. Box 628
Piketon, OH 45661

Dates: February 13, 2001, through March 26, 2001

Inspectors: David J. Hartland, Senior Resident Inspector
Stephen R. Caudill, Resident Inspector
J. K. Everly, Senior Facilities Security Specialist
L. M. Numkin, Senior Computer Security Specialist
W. J. Tobin, Senior Security Inspector, Region II
E. J. Johannemann, Physical Protection Specialist
D. A. Holman, Physical Security Inspector, Region II
K. Davis, Physical Security Inspector, Region II

Approved By: Monte P. Phillips, Acting Chief
Fuel Cycle Branch
Division of Nuclear Materials Safety

EXECUTIVE SUMMARY

United States Enrichment Corporation Portsmouth Gaseous Diffusion Plant NRC Inspection Report 07007002/2001-003(DNMS)

Operations

The inspectors concluded that plant staff's error in not performing the pressure decay test and also not reporting the safety system failure in a timely manner was due to inattention to detail and poor communications. Plant management took appropriate corrective action to address the issue. (Section O1.1)

The inspectors concluded that the operators failed to identify a standing alarm on the Low Assay Withdrawal panel in Area Control Room No. 1 due to inattention to detail while placing the affected loop in service. Plant management took appropriate corrective action to address the issue. (Section O1.2)

Maintenance

The inspectors identified that plant staff did not ensure that material deficiency tags were removed as required by plant procedure after completing maintenance activities. Plant management took appropriate corrective action to address the issue. (Section M1.1)

Engineering

The inspectors concluded that an interim basis for double contingency for the abandoned calciner in Building X-705 was maintained as required by the certificate. However, the inspectors identified a lack of rigor in Nuclear Criticality Safety staff's initial documented basis and untimeliness in resolving the disposition of the calciner. (Section E1.1)

Plant Support

Security personnel were knowledgeable of their duties and responsibilities. Strengths were identified in the arming and background investigation of the security force. Vehicle barriers exceeded NRC requirements. Keys were of a high security caliber which also exceeded NRC criteria. The accountability of nuclear material being analyzed in Building 710 was in addition to controls required by the NRC. The inspectors questioned the adequacy of searches for containers of nuclear material. Upon learning of the inspectors' observation, security management's corrective actions were responsive and thorough. There were no compliance issues identified. (Section S1.1)

Implementation of the Security Plan for the Protection of Classified Matter and associated procedures were in compliance with NRC criteria. Security event reports were adequately reviewed and reported to the NRC. In addition, a security event that was previously reported involving classified and unclassified transmission lines was reviewed and officially closed-out by the inspectors. (Section S1.2)

The inspectors concluded that the overall implementation of the computer security program was adequate. When issues were identified, corrective actions were immediately taken. Plant personnel were knowledgeable of requirements and procedures, and generally performed duties well. (Section S1.3)

Report Details

I. Operations

O1 Conduct of Operations

O1.1 Untimely Report of Safety System Failure

a. Inspection Scope (88100)

The inspectors identified and followed up on an untimely notification of a safety system failure in Building X-344.

b. Observations and Findings

The inspectors reviewed Problem Report (PR) PTS-01-01225, which identified the failure of the o-ring on Autoclave No. 3 in Building X-344. The inspectors noted that the Plant Shift Superintendent (PSS) documented on the PR that the failure was not reportable. The inspectors questioned whether an as-found leakage test had been conducted for the failed o-ring, since the PR indicated that the failure occurred while the autoclave was in service. The o-ring provided a seal between the autoclave head and shell, and failure while in service would have constituted loss of containment integrity of the autoclave.

During followup, the PSS confirmed that the o-ring failure did occur while the autoclave was in an applicable mode of operation and subsequently made a belated 24-hour verbal notification to the NRC to report the safety system failure. In addition, the PSS determined that an as-found test of the o-ring was not conducted before replacement because plant staff believed that the test would have failed, as the o-ring was discovered to have about a 1/4" gap in it. However, Procedure XP4-TE-MM4711, "Replacing Viton Ring And Viton Shim On Autoclaves," required that an "as-found" test be performed on the o-ring prior to it's being replaced.

Technical Safety Requirement 3.9.1 required, in part, that written procedures shall be prepared, reviewed, approved, and implemented for activities described in Appendix A to Safety Analysis Report (SAR) Section 6.11. Appendix A of SAR 6.11 described investigations and reporting and replacement of autoclave gaskets as activities for which procedures shall be implemented. In addition, Section J.1 of Appendix D of Procedure UE2-RA-RE1030, "Nuclear Regulatory Event Reporting," required that a safety system failure be reported within 24 hours of discovery. Also, Section 6.1 of Procedure XP4-TE-MM4711, "Replacing Viton Ring And Viton Shim On Autoclaves," required that an "as-found" pressure decay test be performed prior to replacing the o-ring. Contrary to the above, plant staff did not perform an "as-found" pressure decay test prior to replacing the o-ring. This is a **violation (VIO 07007002/2001003-01)**. In addition, contrary to the above, plant staff did not report to the NRC, within 24 hours of discovery, a safety system (o-ring) failure that occurred on Autoclave No. 3 in Building X-344 on March 13. This is a **violation (VIO 07007002/2001003-02)**.

Plant staff determined that the root cause for these violations was poor communications among operations staff and inattention to detail by the PSS office. As corrective action, plant management issued a lessons learned memorandum to stress the importance of

adherence to procedures and attention to detail in reviewing problem reports. PSS management also took action to require that the review by the oncoming shift of PRs generated the previous shift be documented in the PSS logbook.

c. Conclusions

The inspectors concluded that plant staff's error in not performing the pressure decay test and also not reporting the safety system failure in a timely manner was due to inattention to detail and poor communications. Plant management took appropriate corrective action to address the issue.

O1.2 Standing Alarm On Low Assay Withdrawal Panel

a. Inspection Scope (88100)

The inspectors observed conduct of operations to verify compliance with certificate requirements.

b. Observations and Findings

On March 14, while observing routine operations in Area Control Room No. 1 in Building X-333, the inspectors reviewed the status of standing alarms on the Low Assay Withdrawal (LAW) annunciator panel. During discussion with the operators, the inspectors learned that four of the five standing alarms were legitimate and were attributed to a loop that was not in service at the time. However, when the inspectors asked about the other non-safety related alarm, "Station A Temperature Low," the operators were not aware of the status and referred to the applicable alarm response procedure.

Upon further review, the operators determined that the alarm was not working properly. The affected loop had been placed in service earlier that day, but the alarm did not clear during the heat-up as it should have. The operators took appropriate compensatory action to monitor the temperature periodically until repairs were initiated. Operations management initiated PR PTS-01-01354 to document the inattention to detail and issued a lessons learned memo to applicable personnel.

c. Conclusion

The inspectors concluded that the operators failed to identify a standing alarm on the Low Assay Withdrawal panel in Area Control Room No. 1 due to inattention to detail while placing the affected loop in service. Plant management took appropriate corrective action to address the issue.

O8 Miscellaneous Operations Issues

O8.1 Certificatee Event Reports (90712)

The certificatee made the following operations-related event reports during the inspection period. The inspectors reviewed any immediate safety concerns indicated at the time of the initial verbal notification. The inspectors will evaluate the associated written reports for the events following submittal, as applicable.

<u>Number</u>	<u>Date</u>	<u>Status</u>	<u>Title</u>
37756	2/15/01	Open	Safety System Actuation, Building X-343 Autoclave No. 2 High Condensate Level Shutoff.
37759	2/16/01	Open	Safety System Actuation, Building X-343 Autoclave No. 1 High Condensate Level Shutoff.
37803	3/01/01	Open	Safety System Actuation, Building X-333 LAW Station Smokehead.
37833	3/13/01	Open	Safety System Failure, Building X-344 Autoclave No. 3 O-Ring failure during operation.

O8.2 Bulletin 91-01 Reports (97012)

The certificatee made the following reports pursuant to Bulletin 91-01 during the inspection period. The inspectors reviewed any immediate Nuclear Criticality Safety (NCS) concerns associated with the report at the time of the initial verbal notification. Any significant issues emerging from the review are discussed in separate sections of this report or will be discussed in future inspection reports.

<u>Number</u>	<u>Date</u>	<u>Title</u>
37767	2/20/01	24-Hour Report - NCS violation; Nuclear Criticality Safety Approval (NCSA) was determined to be deficient due to a calculation error.
37813	3/07/01	24-Hour Report - NCS violation; review determined that there was no active NCSA for a Plutonium-239 source stored in Building X-326.

O8.3 (Closed) Event Report 36763 (ER 00-02): Manual actuation of the Building X-342 autoclave pigtail line isolation system due to a small uranium hexafluoride out gassing. Plant staff determined that the root cause of the event was that thermal and mechanical stresses applied to the pigtail assembly caused a seal at the bulkhead connection to develop a small leak. An engineering evaluation was performed that concluded that existing procedural controls for leak testing the connections after hook-up were adequate. The inspectors noted that the event was an isolated occurrence and this item is closed.

O8.4 (Closed) VIO 2000006-01B: Failure to promptly correct the potential accumulation of unsafe volumes of uranium bearing solution in Building X-705, resulting in non-compliances with NCSA requirements. Plant staff determined that the root cause was that the corrective actions to previous violations were directed at specific aspects of restoring compliance and were, therefore, narrowly focused. As corrective action, plant

staff performed a facility stand down, conducted self-assessments, revised appropriate NCSAs to reduce the areas in the building where the controls were applicable, and posted the affected areas. The inspectors have no further issues and this item is closed.

II. Maintenance

M1 Conduct of Maintenance Activities

M1.1 Failure to Remove Maintenance Deficiency Tags

a. Inspection Scope (88103)

The inspectors observed maintenance work to ensure that activities were performed in accordance with certificate requirements.

b. Observations and Findings

During routine walkdowns of the cascade buildings during the inspection period, the inspectors noted several material deficiency tags (MDTs) hanging on plant equipment that appeared no longer to be related to active deficiencies. The latest, identified on March 14, was an MDT that was hanging on the surge drum room temperature recorder at cold recovery in Building X-333, an AQ-NCS component. The tag was hung in December 2000, but during followup by plant operations, certificatee personnel determined that the maintenance to correct the deficiency had been completed.

Technical Safety Requirement 3.9.1 requires, in part, that written procedures shall be prepared, reviewed, approved, and implemented for activities described in Appendix A to Safety Analysis Report (SAR) Section 6.11. Appendix A of SAR 6.11 describes work control as an activity for which procedures shall be implemented. Section 6.9.2.K of Procedure XP2-GP-GP1030, "Work Control Process," requires, upon completion of the job, that the responsible work group remove any MDT(s) or stickers identified and include the MDTs or stickers in the work package. Section 6.11.1.H of procedure XP2-GP-GP1030 requires, upon completion of the job, the maintenance First Line Manager shall review the work package for closeout and ensure the MDT(s) have been removed and included in the work package. Section 6.11.3.G of Procedure XP2-GP-GP1030 requires that the operations FLM review the completed work package to ensure that MDT(s) or stickers identified in the work package have been removed. However, as of March 14, 2001, an MDT was hung in December 2000 on the surge drum room temperature recorder at cold recovery in Building X-333, but had not been removed nor included in the work package when the job was completed; nor had the FLM ensured that the MDTs identified in the work package had been removed. This is a **violation (VIO 07007002/2001-003-03)**.

The inspectors determined that the potential safety significance of not removing MDTs when maintenance was completed was that operators did not have an accurate status of the material condition of plant equipment. In addition, if the same deficiency was to recur, another maintenance work request might not be generated because it would be assumed that one already existed in the system.

The inspectors discussed the apparent widespread problem with operations management. In response, plant staff generated PR PTS-01-01276 to document this latest example and initiated walkdowns of plant facilities to identify and remove outdated MDTs. Approximately 40 percent of tags were identified to be invalid in the cascade buildings and 20 percent were removed in Building X-705. No significant numbers were identified in other facilities. In addition, plant management issued a lessons learned memo to applicable personnel to stress the importance of removing MDTs after completing maintenance activities.

c. Conclusions

The inspectors identified that plant staff did not ensure that MDTs were removed as required by plant procedure after completing maintenance activities. Plant management took appropriate corrective action to address the issue.

III. Engineering

E1 Conduct of Engineering

E1.1 Abandoned Calciner

a. Inspection Scope (88100)

The inspectors reviewed NCS staff's disposition of an abandoned calciner in Building X-705.

b. Observations and Findings

On March 20, during a tour of Building X-705 and discussion with plant staff, the inspectors noted an abandoned calciner that had not been used for several years that was not covered by a documented NCSA. During followup review, the inspectors noted that the same concern had been identified by plant staff in January 1999 and a notification made to the NRC at that time. In the anomalous condition report, NCS documented that the issue did not represent a significant safety concern because it was believed that all material was processed through the calciner prior to halting operation. The report documented that a visual inspection confirmed there was evidence of only a dusting of material spread out in the main tube.

The inspectors determined that the NCS staff was taking credit for mass in the documentation of the report, in addition, the NCS staff was also taking credit for interaction as an interim control, although this was not documented in the report. The inspectors determined that this was acceptable because the plant staff had bounded the area off to prevent the introduction of other fissile material from being stored in the immediate area of the calciner. As such, the certificatee had established an acceptable basis for safety, although this was not documented. Given these two controls, one documented and one not, an interim basis for double contingency had been demonstrated until an NCSA was developed.

During followup review, the inspectors noted that in July 1999, plant staff performed a non-destructive assay survey that determined that the calciner contained 876+/-438 grams of Uranium-235 at an assay of approximately 30 percent. The inspectors noted

that this represented a greater than safe mass; however, NCS staff did not review the assumptions made in the anomalous condition report to determine if they were still valid and did not revise the basis for safety as necessary.

After followup discussions, NCS staff agreed to prepare an engineering evaluation to update their documented basis. EVAL-NS-2001-0157, dated March 26, 2001, referenced the Department of Energy (DOE) Final SAR which stated that the calciner was identical to the calciners currently operating under NRC regulations except for minor differences. Therefore, the evaluation concluded that the abandoned calciner remained in a safe condition based on the geometry of the tube. The interaction control discussed above was also credited. The inspectors reviewed the evaluation and concluded that an interim basis for double contingency was maintained. At the end of the inspection period, plant staff was pursuing either developing an NCSA for the calciner or turning the equipment over to DOE. Plant staff was also reviewing existing procedural guidance for adequacy to ensure that the interim basis for maintaining, or action taken to recover, double contingency was documented when anomalous conditions were encountered.

c. Conclusions

The inspectors concluded that an interim basis for double contingency for the abandoned calciner was maintained as required by the certificate. However, the inspectors identified a lack of rigor in NCS staff's initial documented basis and untimeliness in resolving the disposition of the calciner.

E8 Miscellaneous Engineering Issues

E8.1 (Closed) VIO EA 97-448: Failure to submit an amendment to the certification application as required by Compliance Plan Issue 2. In response, plant staff submitted a plan and schedule for completing the SAR Chapter 3 update and a certificate amendment request to add a new condition related to the update. The inspectors will use Compliance Plan Issue 2 to track the completion of the update and this item is closed.

E8.2 (Closed) Compliance Plan Issue 40, "Operational/Safety System Trip Redundancy:" The description of noncompliance for this issue was a review of operational trips and alarms that may have existed that were set to avoid the actuation of associated safety systems. In some cases, the trips or alarms would have performed the same function as the safety system actuation based on the same monitored parameter and the same equipment actuated. In a letter to the NRC dated October 1, 1996, plant staff documented the results of system design review that concluded that there were no operational trips that actuated the same equipment as safety systems. The inspectors had no further issues and this item is closed.

IV. Plant Support

S1 Conduct of Security and Safeguards Activities

S1.1 Physical Security

a. Inspection Scope (81820)

The inspectors examined access control practices and badging and visitor control procedures to ensure compliance with the requirements of the Classified Matter Plan (CMP) and Physical Security Plan (PSP). The inspection included a review of physical barriers, locks and keys, and personnel access control and badges.

b. Observations and Findings

The inspectors reviewed the site access control program by interviewing plant personnel and individual protective force personnel, observing activities and tests, and reviewing applicable procedures. Gates, vehicle barriers, and drive gate portals were observed to be intact and adequately manned. While observing officers performing controlled access area (CAA) exit vehicle searches, the inspectors discussed with four officers their procedure and process for such searches. The officers stated that the purpose of the search was to look for contraband and weapons. No officer volunteered that he was searching for nuclear material or fuel containers. When security management was informed of this issue, action was taken to photograph all material containers used in the enrichment process and to hold training sessions with the officers as to exactly what were the objects of their search. The inspectors did not observe any searches involving suspicious containers nor cylinders that were contrary to Section 5.2 of the PSP.

The inspectors examined selected lengths of the 10-mile CAA fence line, and found it to be topped with angled barbed wire, and the fence fabric was intact and was not compromised by erosion or disrepair. Officers on patrol were accompanied by the inspectors and found to be knowledgeable of their duties and responsibilities. Vehicle barriers (jersey bouncers) were strategically placed inside the CAA and at personnel and vehicle gates. The inspectors reviewed the security shift log, located in the communication center, which documented a vehicle accident on February 22 that resulted in damage to a portion of the CAA fence. The inspectors noted that officers responded appropriately, as did the local police, and a compensatory post was established until adequate repairs were made to the fence line.

All officers were screened and cleared at the "L" clearance level, and a complete background investigation was conducted prior to unescorted access authorization. Officers were armed with a handgun under DOE authorization and training. The officers re-qualified annually with the weapon they were assigned and carried. The inspectors visited the Pike County Sheriff and found him to be well versed on the facility and aware of his responsibilities under the memorandum of understanding with the certificatee.

Plant personnel and visitors were properly identified, registered, badged, and escorted as required. Personnel security clearances and the need for unescorted access to the CAA of the plant for the inspectors were properly verified and, in one instance where an inspector forgot his badge, a proper temporary badge was issued as required by the CMP. The inspectors determined that the types, design, fabrication, and destruction of

security identification badges were consistent with the approved security plan commitments. The inspectors reviewed procedures for issuing badges and determined that they were accurate. The inspectors also confirmed the proper use of forms, retention periods for records, and proper storage of badging materials. The badge computer database was reviewed at the badging office and at the main drive gate. Both terminals were found to be consistent with Procedure XP2-SS-SS1059, "Personnel Security Program."

The inspectors toured numerous buildings and facilities onsite for the explicit purpose of identifying any theft or diversion vulnerabilities. These areas included enrichment, laboratory, recovery, storage, tailings and withdrawal functions and operations. The inspectors identified no such paths. Inside Building X-710, the inspectors observed an additional material control and accountability measure in the functioning of the Nuclear Material Inventory System. Each sample container entering each laboratory was weighed, numbered, tracked, and coded (in terms of uranium concentration) throughout the building such that the location of each was known on a real time basis. This was in addition to the Dynamic Inventory Material Accounting System which met NRC requirements.

The inspectors also conducted an after-hours walk through of the CAA to determine if it qualified as a continuous 24-hour operation. End of the day security checks of classified repositories would not be required if continuous 24-hour operations existed. After touring Buildings X-104, X-700, X-710, and X-720, the inspectors observed less than 20 individuals, most of whom had no line of sight to classified storage areas. In some cases, there were buildings with classified assets where no individuals were detected. Based on the results of the walk through, the inspectors determined that the CAA did not qualify as a 24-hour operation. The inspectors confirmed that end of the day security checks were being conducted as required.

The inspectors reviewed the storage and control of keys to the site's classified and sensitive administrative areas that were being maintained in the Protective Force Headquarters (Building X-104). The inspectors observed strict key controls at both the CAA barrier as well as at various buildings and internal storage facilities. Keys issued by security were accounted for at each shift change and audited on a monthly frequency. An annual audit of all keys assigned to operations personnel was also conducted as required by plant procedures. The keys were of a cut and configuration that they exceeded NRC criteria for number and positioning of the pins.

c. Conclusions

The inspectors did not identify any regulatory issues. Several strengths were noted. The licensees' response to a potential vulnerability was immediate and sufficient to preclude reoccurrence.

S1.2 Storage and Control of Classified Matter

a. Inspection Scope (81820)

The inspectors examined the storage and control of classified matter practices to ensure adequate protection for classified matter being handled in connection with the gaseous diffusion process. The inspection included a review of the Security Education Program;

the Foreign Ownership, Control, or Influence (FOCI) Program; physical checks of classified containers/vaults; documentation involving security containers; and reports to the NRC (i.e., 30-day loggable security event notifications).

b. Observations and Findings

The inspector's review of the process by which classified material was being handled consisted of interviews with plant staff, observations of activities, and evaluations of procedures. While observing various classified security containers/vaults in Buildings X-104, X-112, X-344, and X-710, the inspectors were able to confirm that Standard Form 702's, "Security Container Check Sheets," were being completed in accordance with the requirements contained in the approved CMP. The inspectors also noted that all Standard Form 700's, "Security Container Information," reviewed indicated that the combinations to these classified storage facilities were in compliance with the CMP requirements in that no combinations were overdue to be changed.

While observing the classified waste room in Building X-104, the inspectors noted that there was a window covered with a metal grate located on the exterior wall of the room that could allow visual access from outside the building. Given that some of the classified waste was being openly stored in the room, the inspectors believed that a potential security risk existed. The inspectors discussed this matter with the plant security staff, who initiated a work request to have the window covered from the inside with 3/4 inch plywood. The inspectors verified that this installation was completed on February 26.

The inspectors reviewed the Portsmouth Security Education Program, including Procedure XP2-SS-SS1036, "Security Orientation, Classification and Education," and determined that the plant was in compliance with the requirements contained in the CMP. The FOCI program was also reviewed and found to adequately meet the requirements contained in the CMP.

The inspectors reviewed security-related loggable events for the period June 1, 2000, through January 31, 2001. The inspectors reviewed any immediate security concerns at the time of the initial receipt of the events. The inspectors did not identify any significant issues or compromises of classified information. The inspectors noted that plant staff determined the root cause for the events and initiated appropriate corrective actions.

The inspectors examined a Communications Security (COMSEC) issue that was first reported to the NRC on December 1, 2000. The issue involved a classified computer system known as the Dynamic Materials Control and Accountability System (DYMCAS). At the time of the report, the certificatee was not sure whether the system's configuration complied with national security requirements.

The inspection of this COMSEC issue consisted of discussions with plant security staff, evaluation of procedures and security documents, and observation of the system configuration. The inspectors physically examined cables and wire lines located in tunnels below the plant site that connected the system to various buildings within the CAA. The inspectors also reviewed DOE orders and National Security Agency (NSA) documents to determine if a situation existed that was contrary to the CMP requirements or national security requirements. Because the DYMCAS system was owned by DOE, the certificate holder requested that DOE make a determination regarding the system's

configuration, despite the fact that the system was predominantly located in leased space. After reviewing DOE's response to the certificate holder's request and analyzing certain NSA documents, the inspectors accepted DOE's assessment that the DYMCAS system configuration was not in violation of national security requirements.

c. Conclusions

The inspectors determined that no violations or deviations of commitments existed with respect to the Portsmouth CMP in the area of storage and control of classified matter and, specifically, with the configuration of the DYMCAS system.

S1.3. Computer Security (IP 81820)

a. Inspection Scope

The inspectors reviewed the methods for processing classified data on mainframe computer systems, local area networks, and designated stand-alone personal computers to ensure that classified data being processed was adequately protected.

b. Observations and Findings

The inspectors reviewed the Computing and Telecommunication Security Program to ensure that there were measures in place to control access and protect the classified systems. Since the last classified matter inspection (June 1999), plant staff had declassified approximately nine classified systems. The remaining systems consisted of one classified mainframe computer, one classified local area network, seven classified stand-alone microcomputers, and one memory typewriter. Each remaining system was operating under an approved computer security plan which formally documented the measures used to control access and protect the classified systems and the information.

These approved computer security plans continued to be accredited at 3-year intervals to ensure that the systems were in compliance with the requirements contained in the "Master Automatic Data Processing (ADP) Security Plan For Microcomputer Resources Processing Classified Information at the Portsmouth Gaseous Diffusion Plant." The accreditation also verified that the protective features and assurances of these systems continued to be effective. All systems' plans reviewed were found to be current.

While reviewing the DYMCAS terminal in Building X-112, the inspectors noted an instance in the classified network terminal use where equipment employed for classified processing could easily have been too close to an unclassified telecommunication line/jack/instrument (in this case a telephone). The Master ADP Security Plan required that telephone wires, unclassified data communication lines, or unclassified transmission lines of any type were not to be placed within six inches of a classified microcomputer system. In this particular instance where the inspectors noted a possible abridgement, immediate action was taken by plant staff to remove the telephone from its jack and plant management took appropriate corrective action to prevent recurrence.

c. Conclusions

The inspectors concluded that the overall implementation of the computer security program was adequate. When issues were identified, corrective actions were

immediately taken. Plant staff were knowledgeable of requirements and procedures, and generally performed duties well.

P8 Miscellaneous Plant Support Issues

- P8.1 (Closed) Compliance Plan Issue 19, "Packaging and Transportation:" The description of the noncompliance for this issue was NRC review and approval of the Radioactive Material Packaging and Transportation Quality Assurance Program submitted per the requirements of 10 CFR Part 71. NRC approval of the program was documented in a letter dated March 21, 1996, and this item is closed.

V. Management Meetings

X1 Exit Meeting Summary

The inspectors presented the inspection results to members of the facility management on March 26, 2001. The facility staff acknowledged the findings presented and indicated concurrence with the facts, as stated. The inspectors asked the plant staff whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

PARTIAL LIST OF PERSONS CONTACTED

United States Enrichment Corporation

- *P. Musser, General Manager
- *J. Anzelmo, Plant Services Manager
- S. Casto, Outage Manager
- D. Couser, Training & Procedures Manager
- L. Cutlip, Engineering Manager
- D. Fosson, Operations Manager
- *S. Fout, Enrichment Plant Manager
- *R. Lawton, Nuclear Safety & Quality Manager
- *P. Miner, Regulatory Affairs/Commitment Management Manager
- D. Rogers, Acting Work Control Manager
- R. Smith, Plant Support Manager
- M. Wayland, Maintenance Manager

*Denotes those present at the exit meeting on March 26, 2001.

INSPECTION PROCEDURES USED

- IP 88100: Plant Operations
- IP 88103: Maintenance
- IP 90712: In-Office Reviews of Written Reports on Non-routine Events
- IP 81820: Physical Protection Facility Approval and Safeguarding of National Security Information and Restricted Data

ITEMS OPENED, CLOSED, AND DISCUSSED

<u>Opened</u>	<u>Item Type</u>	<u>Summary</u>
37756	CER	Safety System Actuation, Building X-343 Autoclave No. 2 High Condensate Level Shutoff.
37759	CER	Safety System Actuation, Building X-343 Autoclave No. 1 High Condensate Level Shutoff.
37803	CER	Safety System Actuation, Building X-333 LAW Station Smokehead.
37833	CER	Safety System Failure, Building X-344 Autoclave No. 3 O-Ring failure occurred during operation.
<u>Closed</u>		
36763 (ER 00-02)	CER	Manual actuation of the Building X-342 autoclave pigtail line isolation system due to a small uranium hexafluoride out gassing
07007002/2001-003-01	VIO	Failure of plant staff to perform an "as-found" pressure decay test prior to replacing the o-ring on Autoclave 3 in Building X-344
07007002/2001-003-02	VIO	Failure of plant staff to make a 24-hour report after discovery of a safety system failure
07007002/2001-003-03	VIO	Numerous examples of MDTs hung that had not been removed nor included in the work package when the job was completed; nor had the FLM ensured that the MDTs identified in the work package had been removed.
07007002/2000-006-01B	VIO	Failure to promptly correct the potential accumulation of unsafe volumes of uranium bearing solution in Building X-705, resulting in non-compliances with NCSA requirements
97-448 (EA)	VIO	Failure to submit an amendment to the certification application as required by Compliance Plan Issue 2
Compliance Plan Issue 40		Operational/Safety System Trip Redundancy
Compliance Plan Issue 19		Packaging and Transportation

Discussed

None

LIST OF ACRONYMS USED

ADAMS	Agencywide Documents Access and Management System
ADP	Automatic Data Processing
CAA	Controlled Access Area
CER	Certificate Event Report
CFR	Code of Federal Regulations
CMP	Classified Matter Plan
COMSEC	Communications Security
DNMS	Division of Nuclear Material Safety
DOE	Department of Energy
DYMCAS	Dynamic Materials Control and Accountability
FOCI	Foreign Ownership, Control, or Influence
GDP	Gaseous Diffusion Plant
IFI	Inspection Follow-up Item
LAW	Low Assay Withdrawal
MDT	Material Deficiency Tag
NCS	Nuclear Criticality Safety
NCSA	Nuclear Criticality Safety Approval
No.	Number
NRC	Nuclear Regulatory Commission
NSA	National Security Agency
PARS	Publicly Available Records
PERR	Public Electronic Reading Room
PORTS	Portsmouth
PR	Problem Report
PSP	Physical Security Plan
PSS	Plant Shift Superintendent
SAR	Safety Analysis Report
TSR	Technical Safety Requirements
URI	Unresolved Item
USEC	United States Enrichment Corporation
VIO	Violation