June 22, 2000

Mr. James N. Adkins
Vice President - Production
United States Enrichment Corporation
Two Democracy Center
6903 Rockledge Drive
Bethesda, MD 20817

SUBJECT: PORTSMOUTH INSPECTION REPORT 70-7002/2000006(DNMS) AND NOTICE OF VIOLATION

Dear Mr. Adkins:

On June 2, 2000, the NRC completed a routine resident inspection at your 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 6-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 two 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 first violation is of concern because the plant staff failed to take effective corrective actions in response to previously identified issues and events. It is also indicative of a lack of rigor applied in a number of disciplines. The second violation involved an improper change to the Safety Analysis Report associated with the intent/non-intent procedure review process. The violation for changing the intent/non-intent screening process is of particular concern because it is the primary means available to ensure that the plant staff perform an appropriately focused, safety-centered, multi-disciplinary review of procedure changes.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. The NRC will use your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure 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).

We will gladly discuss any questions you have concerning these observations.

Sincerely,

/RA by Monte Phillips acting for/

Patrick L. Hiland, Chief
Fuel Cycle Branch

Docket No. 70-7002
Certificate No. GDP-2

Enclosures: 1. Notice of Violation
2. Inspection Report 70-7002/2000006(DNMS)

cc w/encls: J. M. Brown, Portsmouth General Manager
P. J. Miner, Manager, Nuclear Regulatory Affairs, Portsmouth
H. Pulley, Paducah General Manager
S. A. Toelle, Manager, Nuclear Regulatory
Assurance and Policy, USEC
Portsmouth Resident Inspector Office
Paducah Resident Inspector Office
R. M. DeVault, Regulatory Oversight Manager, DOE
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NOTICE OF VIOLATION

United States Enrichment Corporation
Portsmouth Gaseous Diffusion Plant

Docket No. 70-7002
Certificate No. GDP-2

During an NRC inspection conducted from April 18, 2000, through June 2, 2000, two 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. Title 10 of the Code of Federal Regulations Part 76.93, "Quality Assurance," requires, in part, that the Corporation establish, maintain, and execute a Quality Assurance Program (QAP).

   Section 2.16 of the QAP, "Corrective Action," requires in part that conditions adverse to quality are promptly identified and corrected as soon as practical.

   Contrary to the above:

   A. The Corporation failed to identify and promptly correct conditions adverse to quality in response to a May 11, 2000, reportable event at the Paducah Gaseous Diffusion Plant. Specifically, the Corporation failed to promptly identify and correct a lack of double contingency for calibration of non-destructive assay (NDA) equipment, identify and correct a non-compliance with the QAP regarding the quality classification of the NDA equipment, and promptly identify the reportability of a deficient nuclear criticality safety evaluation.

   B. The Corporation failed to promptly correct, through February and April 2000 condition adverse to quality corrective action plans, the potential accumulation of unsafe volumes of uranium-bearing solution in Building X-705, resulting in nuclear criticality safety approval (NCSA) non-compliances and subsequent reportable event on May 1, 2000.

   C. The Corporation failed to identify and correct, through a January 1999 significant condition adverse to quality corrective action plan, that instrumentation required to ensure compliance with Technical Safety Requirements was calibrated. The affected instrumentation included a Building X-342 fluorine flow meter, a Building X-343 uranium hexafluoride (UF_6) flow gauge, and some Building X-333 unit datum systems.

   D. The Corporation failed to identify and correct, through a February 1998 significant condition adverse to quality corrective action plan, that shutdown cascade cells maintained at subatmospheric pressure and containing less than a safe uranium mass were not at a UF_6 negative as required by applicable NCSAs.

This is a Severity Level IV violation (Supplement VI). **(VIO 070-07002/2000006-01)**

2. Title 10 of the Code of Federal Regulations Part 76.68, "Plant Changes," permits, in part, that the Corporation may make changes to the plant or plant operations, as described in the Safety Analysis Report without prior Commission approval provided:

1) a written safety evaluation is conducted; 2) the change does not decrease the effectiveness of the plant's safety, safeguards, and security programs, and; 3) the change does not involve a change in any condition of the Certification of Compliance.

The Certificate of Compliance, Item 9 requires the Corporation to conduct its activities in accordance with the Technical Safety Requirements.

Technical Safety Requirement 3.9.2 requires, in part, that each proposed procedure change that constitutes an intent change shall be identified to, and reviewed and approved by, the Plant Operations Review Committee.

Contrary to the above, on September 24, 1999, the Corporation changed Safety Analysis Report Section 6.11.4.4. and removed a requirement to conduct intent/non-intent reviews of all procedure changes: 1) without performing a written safety evaluation of the change; 2) without performing an assessment of the impact on plant safety, safeguards, and security program effectiveness, and; 3) which involved a change to the Certificate of Compliance, by limiting the scope of Technical Safety Requirement 3.9.2 to only those procedure changes that resulted in a Safety Analysis Report change.

This is a Severity Level IV Violation (Supplement VI). **(VIO 070-07002/2000006-02).**

Pursuant to the provisions of 10 CFR 76.60, United States Enrichment Corporation is hereby required to submit a written statement or explanation 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 the Portsmouth Gaseous Diffusion Plant, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each violation: (1) the reason for the violation, or, if contested, the basis for disputing the violation, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken to avoid further violations, and (4) the date when full compliance will be achieved. Your response may reference or include previously docketed correspondence, if the correspondence adequately addresses the required response. If an adequate reply is not received within the time specified in this Notice, an Order or Demand for Information may be issued as to why the certificate should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

The NRC has concluded that information regarding the reasons for Violation 070-07002/2000006-02, the corrective actions taken to correct the violations and prevent recurrence, and the date when full compliance was achieved are already adequately addressed in this Inspection Report. Therefore, a specific response to Violation 070-07002/2000006-02 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 your response as a "Reply to a Notice of Violation," and send it to the address identified above within 30 days of the date of this letter transmitting this 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, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (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 22nd day of June 2000

U.S. NUCLEAR REGULATORY COMMISSION
REGION III

Docket No:	70-7002
Certificate No:	GDP-2
Report No:	70-7002/2000006(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:	April 18, 2000, through June 2, 2000
Inspectors:	D. J. Hartland, Senior Resident Inspector C. A. Blanchard, Resident Inspector K. G. O'Brien, Senior Resident Inspector, PGDP Mary L. Thomas, Fuel Cycle Inspector
Approved By:	Patrick L. Hiland, Chief Fuel Cycle Branch Division of Nuclear Materials Safety

EXECUTIVE SUMMARY

United States Enrichment Corporation
Portsmouth Gaseous Diffusion Plant
NRC Inspection Report 70-7002/2000006(DNMS)

Operations

The inspectors identified examples of failure to promptly identify and take effective corrective action for events and previously identified issues. (Section O1.1)

The inspectors identified inconsistencies with operations staff's handling of anomalous control room alarm conditions and a weakness with plant management's interim corrective actions to address these inconsistencies. In addition, inspectors noted that plant procedures did not address compensatory measures required for non-functioning control room alarms and a methodology to clear the alarms to ensure that other inputs were available until the deficiencies could be corrected. (Section O1.2)

The inspectors identified a weakness in the lack of clear procedural guidance for setting the digital purge cascade load alarms. (Section O1.3)

The inspectors identified examples of faded caution tags and a weakness in the guidance of the governing procedure regarding maintenance of the tags. The inspectors determined that the plant staff's corrective actions were consistent with ensuring the availability and proper use of caution tag information. (Section O1.4)

The inspectors identified a violation, in that, the plant staff deleted from the Safety Analysis Report a Technical Safety Requirement-mandated intent/non-intent assessment of procedure changes in conflict with the requirements of 10 CFR 76.68. As a result, the plant staff also inappropriately made changes to the procedure process which limited the scope of intent/non-intent procedure change assessments to only those procedure changes that also involved a change to the Safety Analysis Report. (Section O1.5)

Maintenance

The inspectors identified a weakness in the tracking and labeling of out-of-service (OOS) fire hydrants. The plant staff developed a repair plan to address several OOS fire hydrants. (Section M1.1)

Engineering

The inspectors identified an unresolved item regarding the plant staff's quality classification of lab equipment relied on for implementation of nuclear criticality safety requirements and non-safety instrumentation used to ensure Technical Safety Requirement compliance. (Section E1.1)

Report Details

I. Operations

O1 Conduct of Operations

O1.1 Corrective Action Deficiencies

a. Inspection Scope (88100)

The inspectors reviewed the adequacy of the plant staff's corrective actions to various issues and events.

b. Observations and Findings

The inspectors identified some examples regarding ineffective corrective actions to events and previously identified issues:

- On May 11, the Paducah Gaseous Diffusion Plant made a 24-hour event notification to the NRC to report a loss of both controls relied on for double contingency. The event involved a non-conservative error in the calibration factor for the non-destructive assay (NDA) equipment used to determine the uranium mass of cascade deposits. Two controls were violated because they involved two independent NDA measurements using the same equipment. The inspectors identified several issues regarding the Portsmouth Plant's review and corrective actions to that event.

  On May 15, during follow-up to the event, the inspectors noted that the Plant Shift Superintendent (PSS) office did not issue a problem report (PR) for the Paducah event because it did not believe that the event had any impact on the Portsmouth Plant. However, the PSS office apparently did not contact nuclear criticality safety (NCS) and NDA personnel for concurrence of that determination. The inspectors discussed the event with NCS and NDA management who became aware of it earlier on May 15, and verified that there was no immediate safety significance as the plant staff had taken action to ensure that the NDA equipment was properly calibrated. However, the inspectors noted that the plant staff had not yet taken immediate action to ensure that double contingency was established during the calibration of the NDA equipment. In response to the inspectors' issues, the plant staff issued a daily operating instruction (DOI) that required independent review of calibration data to verify that NDA equipment was properly calibrated.

  On May 24, during further review, the inspectors determined that the NDA equipment was not classified as augmented quality (AQ)-NCS, but was controlled under the laboratory Quality Assurance Plan as described in Section 5.7 of the Safety Analysis Report (SAR). The lab QA Plan had not been formally reviewed to verify that it satisfactorily implemented applicable requirements of the Quality Assurance Program (QAP). One requirement that was not met was

that the plant staff did not have an approved procedure for calibrating the NDA equipment. Further review of this issue is provided in Section E1.1 of this report. In response to the inspectors' issues, the plant staff placed a hold on the use of the NDA equipment until an approved procedure was prepared.

On May 25, the inspectors raised an issue regarding the reportability of the issue due to an apparent deficient nuclear criticality safety evaluation (NCSE). The inspectors believed that the existing NCSE was deficient because it did not analyze the scenario regarding the possible loss of two controls due to a calibration error of the NDA equipment. In response, the plant staff erroneously reported the event as a loss of a single control due to a failure to maintain independent NDA measurements. After further discussion with the plant staff, the report was revised to characterize it as a deficient NCSE for Nuclear Criticality Safety Approval (NCSA)-PLANT013, "Batching Solutions and Solids."

The inspectors concluded that the plant staff's review and corrective actions to this issue were inadequate in that NRC intervention was required to ensure that compensatory measures were taken to maintain double contingency and compliance with the QAP, and that the deficient NCSE was reported as required.

- On April 28, the Commitment Management Manager issued PR 00-02234 to document an issue regarding an apparent adverse trend regarding non-compliance with NCSA-705_075, "Inadvertent Containers," in Building X-705. In response, building management discontinued fissile operations and initiated a training stand down.

  Subsequently, the plant staff performed walkdowns of the building and identified 20 examples of non-compliances with the NCSA that resulted in a reportable event to the NRC. Some of the violations were related to the improper use of plastic bags which could have resulted in the collection of uranium-bearing solution in an unsafe geometry. The inspectors had previously identified similar issues regarding plastic wrapped around miscellaneous parts that was deformed or was cut open to allow solution to collect as documented in Inspection Reports 70-7002/2000001 and 2000002. Although the plant staff determined that those issues were not in violation of the NSCA, the inspectors noted that the staff did not take effective action to identify/prevent the subsequent non-compliances.

- During the inspection period, the inspectors identified three examples of instrumentation used by the plant staff to maintain compliance with the Technical Safety Requirements (TSRs) that was not calibrated. Specific examples included an non-safety (NS) flow meter in Building X-343 used by operators to verify that the tie line to Building X-333 was maintained below atmospheric pressure when the Uranium Hexafluoride (UF_6) Smoke Detection System was inoperable as required by TSR 2.2.3.3, an NS metering device used to control flow of fluorine in Building X-342, and multi-point calibration of some AQ unit datum systems in Building X-333 required by TSR 2.2.3.13. As immediate corrective action, the plant staff declared the affected systems inoperable and initiated the actions required by the applicable TSRs.
  The inspectors had previously raised issues regarding the use of uncalibrated

instrumentation as documented by inspector follow-up item (IFI) 70-7002/99001-02. As corrective action to that item, plant management formed a team to identify instruments relied on to maintain compliance with the TSRs that were not calibrated and include them in the plant's automated scheduling system. The action was documented as complete per PR 99-0473 on July 23, 1999, but apparently failed to include the above instrumentation.

- On June 2, the inspectors raised an issue regarding the implementation of NCSA- 0326_013, "Cascade Operations in the X-326 Building,"NCSA-0330_004, "Cascade Operations in the X-330 Building," and NCSA-0333_015, "Cascade Operations in the X-333 Building." The NCSAs required that within 8 hours after cascade equipment was shutdown and with the system at a UF_6 negative, the system was required to be pressurized with dry air at greater than or equal to 14 psia. The purpose of the requirement was to maintain moderation control as part of the double contingency principle. The other control was mass that was maintained, in part, by performing an NDA on equipment that was shutdown due to symptoms related to wet air in-leakage to ensure that a greater than safe mass did not exist.

  The inspectors noted that plant procedures required that shutdown cells that were not at a UF_6 negative be maintained at subatmospheric pressure to prevent outgassing. Such cells with leaks could pressure up and would have to be evacuated periodically to maintain them subatmospheric. By evacuating the cells, the inspectors noted that a UF_6 negative could unknowingly be reached in violation of the NCSAs. In response, the plant staff verified that there were no shutdown cells with less than safe mass deposits that were not buffered with dry air as required by the NCSA. The plant staff also made a 24-hour event notification to the NRC.

  The plant staff had previously taken action to ensure that weekly samples were taken to ensure that a fluorinating environment was maintained for greater than safe masses not at a UF_6 negative. This action was in response to a violation identified by the inspectors, as documented in Inspection Report 70-7002/98003. The inspectors concluded that the corrective actions to that violation were inadequate, in that they did not consider cells that contained less than safe mass.

10 CFR 76.93, "Quality Assurance," requires, in part, that the Corporation establish, maintain, and execute a Quality Assurance Program. Section 2.16 of the Quality Assurance Program, "Corrective Action," requires, in part, that conditions adverse to quality are promptly identified and corrected as soon as practical. The failure to promptly identify and correct the conditions adverse to quality discussed above is **a Violation of 10 CFR 76.93 (VIO 70-7002/2000006-01).**

c. Conclusions

The inspectors identified examples of failure to promptly identify and take effective corrective action for events and previously identified issues.

O1.2 Control Room Alarms

a. Inspection Scope (88100)

The inspectors reviewed the operations staff's handling of control room alarm anomalies.

b. Observations and Findings

The inspectors noted that over the past few months the operations staff had experienced problems with the continuous illumination of some control room alarms (standing alarms). Specifically, the inspectors noted that several of the vented cavity alarm lights were illuminated but that operators had silenced the audible alarms in area control rooms (ACRs) of Buildings X-333 and X-330. The function of the vented cavity alarms were to alert the operators of cascade compressor seal problems.

Vented cavity alarms could be caused by a number of factors: plugging of instrument lines, a bad differential pressure switch, incorrect valve lineup, vented cavity heater failure, and a failure of some cell expansion joint buffers which could lead to a minor UF_6 release. The inspectors noted that these vented cavity alarm inputs were on a common alarm circuit and, when one alarm was locked-in, other alarm inputs on the alarm circuit were unavailable in the ACRs. In addition, the inspectors noted NS standing alarms for the low assay withdrawal (LAW) high/low buffer system used to detect expansion joint failures in Building X-333 and the actuation of the fire protection system in Switch Yard X-530.

The inspectors reviewed the plant staff's compensatory measures to address standing alarms. The inspectors identified inconsistences in the plant staff's issuance of PRs to document the NS alarms. In addition, the inspectors identified lack of compensatory actions to address the NS standing alarms and an approved procedure for clearing the alarm to ensure that other inputs were available. Specifically, Procedure XP-US-FO1112, "Out-of-Service/Inoperable Systems, Structure, or Components Tracking," provided a process for tracking out-of-service quality equipment but no procedural process existed for addressing NS alarms. However, some areas of the plant were using the guidance in Procedure XP2-US-FO1112 to track NS locked-in alarms and other inoperable NS equipment. In addition, the inspectors reviewed some operations off-normal procedures and noted that some did not include specific compensatory measures to address different control room alarms.

The inspectors reviewed the SAR to determine the safety significance of several of the identified standing alarms. The inspectors noted the lock-in alarms identified were predominately production related but aided operators in identifying precursors to a system failure which had the potential to result in a safety system actuation. Specifically, vented cavity and LAW high/low buffer alarms identified system failures that could lead to a minor UF_6 release. However, the inspectors noted the SAR accident analysis did not rely upon any of the lock-in alarms identified for operator actions to mitigate an accident.

The inspectors reviewed the plant staff's corrective action to address standing alarms. Following the NRC identification, plant management initiated a plant wide review to identify standing alarms. This effort resulted in the identification of several additional NS locked-in alarms. In addition, plant management initiated PR 00–2508 to develop a long term corrective action plan which included evaluating compensatory actions to address standing alarms and a methodology for clearing alarms to ensure that other inputs were available until the deficiencies could be corrected. However, the inspectors noted that plant management had not established clear interim guidance to address NS standing alarms and some operators were not clear on whether a PR was required for NS standing alarms. In discussions with the inspectors, plant management stated that verbal interim guidance was discussed with building management but agreed that written guidance should have been issued to ensure consistent actions to address standing alarms. A DOI was issued on May 25 to provide that guidance. Plant management's corrective actions to address alarm response guidance and status control for NS standing alarms is an **Inspection Follow-up Item (IFI 70-7002/2000006-02).**

c. Conclusion

The inspectors identified inconsistencies with operations staff's handling of anomalous control room alarm conditions and a weakness with plant management's interim corrective actions to address these inconsistencies. In addition, inspectors noted that plant procedures did not address compensatory measures required for non-functioning control room alarms and a methodology to clear the alarms to ensure that other inputs were available until the deficiencies could be corrected.

O1.3 Purge Cascade Load Alarm Setting Guidance

a. Inspection Scope (88100)

The inspectors observed Building X-326 ACR activities and reviewed procedural guidance on setting purge cascade load alarms.

b. Observations and Findings:

During routine Building X-326 ACR tours, the inspectors noted that the criteria for setting the purge cascade load alarms was unclear. In discussions with the inspectors throughout the inspection period, operators expressed different criteria for setting the load alarm high and low set-points for the purge cascade. Specifically, early in the inspection period one operator commented that building management was evaluating what should be the correct set-point guidance for the newly installed adjustable digital load alarms which replaced the disc-type load alarms in January 2000. Another operator stated that operators were to adjust the load alarms as close as possible to the normal motor load but did not give any specific criteria. Later in the inspection period, an operator explained that the load alarms needed to be set at 10 percent above and below the nominal motor load but explained that this criteria could not be established in the purge cell where the front was located due to fluctuations in motor amperage.

In discussions with each operator, the inspectors noted that the operators were knowledgeable that the SAR exempted the purge cascade from the requirement to set the load alarms at 10 percent above and below the nominal motor load. In addition, the operators expressed that the load alarms could aid in detecting a precursor to an equipment failure. The inspectors observed that the load alarms were set between 30 to 40 percent above and below nominal motor load as required for isotopic cells operating below atmospheric pressure. However, the operators were not aware that there was a DOI that established the criteria for setting the digital purge cascade load alarms.

On May 22, the inspectors discussed with Building X-326 management the guidance for setting load alarms. Procedure XP4-CO-CN2102B, "Normal Cell Operations in X-326," instructed the operator to adjust the high set-point as determined by building management. In discussions with the inspectors, the Building X-326 Manager explained that a load alarm set-point criteria DOI was issued and discussed with all operators on February 2, 2000. The inspectors reviewed the DOI and noted that the guidance was not quantitative. Specifically, the DOI instructed the operators to set the load alarms as close as possible to the current motor load reading without the alarms becoming a nuisance. Following the discussion with the inspectors, the Building X-326 Manager issued a DOI that established additional guidance that included numeric values for guidance and briefed operators on the new guidance. On May 25, Engineering Evaluation EVAL-NS2000-263 articulated additional guidance which was being incorporated into Procedure XP4-CO-CN2104B at the conclusion of the inspection period.

The inspectors reviewed the accident analysis section of the SAR for operator response to load alarms to mitigate a purge cascade accident scenario and other documentation that described the operation of the purge cascade. The inspectors noted that the SAR Section 4.1.2 evaluated potential accident scenarios in the purge cascade but did not credit operator response to load alarms to mitigate an accident scenario as did the isotopic section. In addition, SAR section 3.1.2 describes the operation of the purge cascade but does not describe the load alarms. However, plant management explained that SAR Section 3.1.2 would be revised to include a description of the function of the load alarms.

c. Conclusion

The inspectors identified a weakness in the lack of clear procedural guidance for setting the digital purge cascade load alarms.

O1.4 Caution Tags

a. Inspection Scope (88100)

The inspectors reviewed ongoing operations in Building X-344.

b. Observation and Findings:

While reviewing ongoing operations in Building X-344, the inspectors observed caution tags on some equipment which were faded. As a result, neither the caution tag number nor the instructions were clearly legible. The inspectors discussed the findings with building management who attempted to identify the tag number and purpose through a review of the building caution tag log. Following an extensive review of the log, a building manager determined that one of the tags was originally placed on the equipment in 1996.

The inspectors reviewed Procedure XP2-SH-IS1034, "Caution Tags," and determined that the building management was responsible for logging and maintaining issued caution tags. However, the procedure did not specify how the tags should be maintained or the periodicity for re-inspecting the tags to ensure their effectiveness. The inspectors discussed this finding with operations management. Subsequent to the discussions, operations management documented the issue in the problem reporting system; initiated a review of caution tags maintained in other plant buildings; and developed a plant procedure change to improve the available guidance for logging, inventorying, and maintaining plant caution tags.

c. Conclusions:

The inspectors identified examples of faded caution tags and a weakness in the guidance of the governing procedure regarding maintenance of the tags. The inspectors determined that the plant staff's corrective actions were consistent with ensuring the availability and proper use of caution tag information.

O1.5 Changes to Plant Operating Procedures

a. Inspection Scope (88100)

The inspectors reviewed the changes made to the SAR and procedure development, review, and approval process, UE2-PS-PS1031, “UE Procedure Control Process.”

b. Observations and Findings

In response to issues discussed in NRC Inspection Report 70-7001/2000001(DNMS) and 70-7001/2000003 (DNMS) The inspectors reviewed an evaluation performed to authorize an SAR change to the procedure development, review, and approval process, UE2-PS-PS1031, “UE Procedure Control Process.” The inspectors noted that the evaluation did not appear to have assessed whether the procedure modification was an intent or a non-intent change to the procedure. Technical Safety Requirement (TSR) 3.9.2 required the Plant Operations Review Committee (PORC) to review all intent changes to procedures. The inspectors noted that the procedure change removed a requirement previously added by plant management to address safety issues identified by the Department of Energy. The change process did not include a discussion of how the previous safety concerns would be resolved without reliance on the changed requirement.

Based upon the changes made to the procedure development, review, and approval process, the inspectors reviewed the SAR Request for Application Change X-00-0287, "Changes to Procedure Development, Review, and approved process that effect SAR section review responsibilities and TPQAP (UEO-1041, SAR 6.3.5.2.3, SAR 6.11)," approved September 24, 1999. The inspectors noted that this SAR change deleted a requirement in SAR Section 6.11.4.4, "[Procedure] Reviews," for an intent/non-intent screening of all new and revised procedures. As a result, the revised section only required new or revised procedures to receive a 10 CFR 76.68, "Safety Analysis Report," change review. The inspectors also determined that evaluations performed to authorize this SAR change had not evaluated the impact of deleting the intent/non-intent screening requirement. In addition, the evaluations did not identify that the SAR change indirectly eliminated a SAR requirement to implement a TSR-required PORC review of intent changes to procedures. Specifically, the revised SAR criteria limited PORC review of procedure changes to only those procedure changes that also required an SAR change. However, TSR 3.9.2 required the PORC to review all procedure changes that constituted an intent change, irrespective of whether the change required an SAR change or not. As a result of the SAR change and the subsequent procedure process changes, the inspectors determined that the plant staff had not explicitly conducted intent change reviews for procedures changed since September 1999. In addition, the inspectors noted, through a small sampling review of changes conducted since September 1999, that documentation of the change reviews was insufficient to determine if the reviews of safety-related procedure changes, an activity affecting quality, had been properly performed.

The inspectors discussed the apparent failure to perform an intent evaluation of the procedure change with operation, procedures, and regulatory staff. The inspectors were informed that an intent evaluation of the procedure had been completed as a part of the procedure revision form using the plant change review process. The inspectors reviewed the referenced materials and noted that the reviews mentioned by the plant staff were not intent change evaluations. Instead, the referenced materials included a screening and Safety Analysis Report change evaluation process. Specifically, the referenced materials required the evaluator to determine if the proposed procedure change was a change to the plant or plant operations as described in the SAR. The referenced materials did not require the evaluator to evaluate whether the change was an intent change. Procedural instructions and training for the referenced evaluation materials required that a procedure change had to result in a change to the Safety Analysis Report (SAR) for the change to be considered an intent change. The inspectors noted that this approach was inconsistent with TSR 3.9.2 which required both SAR and procedural intent changes to be identified, based upon different criteria, and to be approved by PORC. The plant staff indicated the current procedure change process, which did not include a safety evaluation of procedure changes independent of the SAR, was modified in 1999 following PORC-approved changes to the SAR.

Title 10 of the Code of Federal Regulations Part 76.68, "Plant Changes," permits, in part, that the Corporation may make changes to the plant or plant operations, as described in the Safety Analysis Report without prior Commission approval provided: 1) a written safety evaluation is conducted; 2) the change does not decrease the effectiveness of the plant's safety, safeguards, and security programs, and; 3) the change does not involve a change in any condition of the Certification of Compliance.

The Certificate of Compliance, Item 9 requires the Corporation to conduct its activities in accordance with the Technical Safety Requirements. Technical Safety Requirement 3.9.2 requires, in part, that each proposed procedure change that constitutes an intent change shall be identified to, and reviewed and approved by, the Plant Operations Review Committee. The plant staff's change to Safety Analysis Report Section 6.11.4.4 which removed a requirement to conduct intent/non-intent reviews of all procedure changes: 1) without performing a written safety evaluation of the change; 2) without performing an assessment of the impact on plant safety, safeguards, and security program effectiveness, and; 3) which involved a change to the Certificate of Compliance, by limiting the scope of Technical Safety Requirement 3.9.2 to only those procedure changes that resulted in a Safety Analysis Report change, is **a Violation (VIO 070-07002/2000006-02).**

The inspectors discussed this finding with operation procedures, and regulatory staff. Subsequent to the discussions and after the close of the inspection period operation, procedures, and regulatory staff initiated the intent/non-intent change; revised the procedure, UE2-PS-PS1031, to match the previous wording; and initiated a RAC to re-instate the words in the SAR. These changes were forwarded to and discussed with the inspectors. The inspectors found that these changes adequately resolved the violation.

c. Conclusion

The inspectors identified a violation, in that, the plant staff deleted from the Safety Analysis Report a Technical Safety Requirement-mandated intent/non-intent assessment of procedure changes in conflict with the requirements of 10 CFR 76.68. As a result, the plant staff also made changes inappropriately to the procedure development, review, and approval process which limited the scope of intent/non-intent procedure change assessments to only those procedure changes that also involved a change to the Safety Analysis Report. The inspectors determined that the plant staff's corrective actions were consistent with ensuring that evaluations will assess whether procedure modifications are intent or non-intent changes.

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 each of the events following submittal, as applicable.

Number	Date	Status	Title
37006	5/15/00	Closed	Notification to another federal agency Ohio Environmental Protection Agency; Reportable quantity of oil released to holding pond.

NRC reviewed this event and have no further issues. No 30-day report to the NRC is

required.

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 NCS concerns associated with the report at the time of the initial verbal notification. Any significant issues emerging from these reviews are discussed in separate sections of this report or in future inspection reports.

Number	Date	Title
36906	4/19/00	24-Hour Report - NCS violation, Sample containers were brought into Building X-710 Laboratory without being scanned to determine the amount of uranium present
36938	4/27/00	24-Hour Report - NCS violation, Forklift seat cushion with a slit cover which could have absorbed solution in an unsafe geometry was found in Building X-705
36943	4/28/00	24-Hour Report - NCS violation, Burnable waste drum was left unattended with the lid ajar in Building X-705
36949	5/1/00	4-Hour Report - NCS violation, Insulation around a pipe in Building X-705 was found to be not sealed and able to absorb solution in an unsafe geometry
36951	5/1/00	24-Hour Report - NCS violation, 22 Inadvertent container violations in Building X-705
36968	5/3/00	24-Hour Report - NCS violation, Cloth dripping with oil was found in a dry active waste container in Building X-705
36969	5/3/00	24-Hour Report - NCS violation, Inadvertent container with unfavorable geometry was identified in Building X-705
37033	5/25/00	24-Hour Report - NCS violation, NCSE failed to bound credible scenario regarding calibration of NDA equipment
37047	5/31/00	24-Hour Report - NCS violation, Contaminated metal was stored within two feet of converters outside Building X-700
37052	6/2/00	24-Hour Report - NCS violation, Shutdown cells could have been brought to UF_6 negative but not buffered to above atmospheric pressure

O8.3 (Closed) VIO 70-7002/99015-01: Failure to Switch Cascade Purge Chemical Traps and Perform Required Uranium Emission Surveillances for the Top Cascade Purge

The plant staff determined that the operators were not clear on criteria for switching the

chemical traps because the criteria was not clearly articulated or consistent in the implementing procedures. As corrective actions, operators were retrained on the criteria for switching the chemical traps and implementing procedures were revised. The inspectors noted that the revised implementing procedures clearly established consistent criteria and that operators were knowledgeable of the criteria for switching the chemical traps. In addition, the inspectors reviewed the chemical trap log books and emission data and noted that the plant staff had taken emission samples and replaced the chemical traps in accordance with the procedural requirements. This item is closed.

II. Maintenance

M1 Conduct of Maintenance Activities

M1.1 Inoperable Fire Hydrant Review

a. Inspection Scope (88103)

The inspectors reviewed out-of-service (OOS) fire fighting equipment and the plant staff's actions to address OOS fire hydrants.

b. Observations and Findings

On May 17, the inspectors toured the Fire Station X-1007 and noted 27 fire hydrants and other fire fighting components listed as inoperable on a blackboard adjacent to the control room. In discussion with the inspectors, fire fighters explained that the blackboard was the primary method that they used to track OOS fire fighting equipment. As a follow-up, the inspectors discuss with the PSS an issue with the tracking of the fire fighting components.

In response to the inspectors' concern, the PSS developed a walk down/verification package directing fire department personnel to verify that OOS fire hydrants were appropriately placarded, had OOS permits issued, and ensured all operable hydrants had passed their current inspection and were in service and available for use. The result of the verification identified five OOS fire hydrants not placarded and three OOS fire hydrants which required permits. In addition, the plant staff issued PR00-2547 which identified that plant procedures did not provide instruction on providing placards on OOS fire hydrants. The purpose for the placards was to ensure that the response of fire fighters was not delayed by attempting to hook up a hose to an OOS hydrant during an emergency.

The inspectors reviewed the SAR to determine the safety significance of approximately 10 percent of the fire hydrants OOS. The inspectors noted that the SAR accident analysis did not credit the use of fire hydrants to extinguish an analyzed fire. However, the inspectors noted that fire fighters used two fire hydrants during the December 9, 1998, fire in Building X-326. In discussions with the inspectors, plant management explained that the quantity of OOS fire hydrants was excessive and developed a plan of action to repair the OOS fire hydrants. However, the inspectors noted that OOS hydrants were not located adjacent to cascade buildings.

c. Conclusions

The inspectors identified a weakness in the tracking and labeling of OOS fire hydrants. The plant staff developed a repair plan to address an issue regarding several OOS fire hydrants.

M8 Miscellaneous Maintenance Issues

M8.1 (Closed) Event Report 35875: The Building X-343 South Tails Crane Hoist Brake Actuated While Lifting a 10-ton Liquid UF_6 Cylinder Out of Autoclave Number 6

The plant staff identified that a hoist motor heater was incorrectly installed which caused the hoist circuit breaker to trip below the desired level. The NS hoist motor heater did not require the rigor of the quality class configuration control process. In response to this finding, the hoist motor breaker and overload devices were added to the enhanced commercial controls requirement process for increased procurement and installation controls. The inspectors will continue to track the configuration control of liquid cranes with IFI 70-7002/99007-02. This item is closed.

M8.2 (Closed) Event Report 36352: Cascade Automatic Data Processing Smoke Detector S16 Alarmed in Process Building X-330

The plant staff determined that the safety system actuated from a minor outgassing of UF_6 caused by a leak in a copper tubing purge. The plant staff observed that the purge line had rubbed against a heated housing support after it separated from a compression fitting. The root cause was a tubing hanger screw that vibrated loose and caused the tubing to sag and separate from the fitting. The tubing leak was repaired. The inspectors have no further issues and this item is closed.

III. Engineering

E1 Conduct of Engineering

E1.1 Classification of Safety-Related Equipment

a. Inspection Scope (88101)

The inspectors reviewed the plant staff's quality classification for equipment and instrumentation relied on to ensure compliance with certificate requirements.

b. Observations and Findings

During review of issues discussed in Paragraph O1.1 of the report, the inspectors identified discrepancies regarding the classification of some equipment and instrumentation required to ensure compliance with NCS and TSRs.

- The inspectors noted that NDA equipment used to quantify uranium mass as required by applicable NCSAs was not classified as AQ-NCS, but was controlled

under the laboratory QA Plan as described in Section 5.7 of the SAR. The lab QA Plan had not been formally reviewed to verify that it satisfactorily implemented applicable requirements of the QAP. One requirement that was not met was that the plant staff did not have an approved procedure for calibrating the NDA equipment.

- The inspectors also noted that some instrumentation used to ensure compliance with TSRs was classified as NS. The plant staff had previously developed an enhanced commercial controls requirement (ECCR) program to ensure the quality of those NS components. The inspectors noted that the ECCR Program was not described in the certificate documents.

Further inspector review of the plant staff's quality classification of lab equipment relied on for implementation of NCS requirements and NS instrumentation used to ensure TSR compliance is **an unresolved item (URI 70-7002/200006-03).**

c. Conclusions

The inspectors identified an unresolved item regarding the plant staff's quality classification of lab equipment relied on for implementation of NCS requirements and NS instrumentation used to ensure TSR compliance.

IV. Management Meetings

X1 Exit Meeting Summary

The inspectors presented the inspection results to members of the facility management on June 2, 2000. 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

J. Anzelmo, Work Control Manager
*M. Brown, General Manager
*D. Couser, Training Manager
*J. Cox, Site & Facility Support Manager
L. Fink, Commitment Management Manger
S. Fout, Operations Manager
*R. Helme, Engineering Manager
*R. Lawton, Safety, Safeguards & Quality Manager
*P. Miner, Regulatory Affairs Manager
P. Musser, Enrichment Plant Manager
*R. Smith, Production Support Manager
K. Tomko, Environmental, Safety & Health Manager
M. Wayland, Maintenance Manager

*Denotes those present at the exit meeting on June 2, 2000.

INSPECTION PROCEDURES USED

IP 88100:	Plant Operations
IP 88101	Configuration Control
IP 88103:	Maintenance
IP 90712:	In-office Reviews of Written Reports on Non-routine Events

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened	Item Type	Summary
70-7002/2000006-01	VIO	Failure to promptly identify and correct conditions adverse to quality.
70-7002/2000006-02	IFI	Corrective actions to address alarm response guidance and status control for NS standing alarms.
70-7002/2000006-03	URI	Review of the plant staff's quality classification of lab equipment relied on for implementation of NCS requirements and NS instrumentation used to ensure TSR compliance.
Closed		
70-7002/99015-01	VIO	Failure to switch cascade purge chemical traps and perform required uranium emission surveillances for the top cascade purge.

35875	CER	The Building X-343 South Tails Crane hoist brake actuated while lifting a 10-ton liquid UF_6 cylinder out of Autoclave Number 6.
36352	CER	Cascade Automatic Data Processing smoke detector S16 alarmed in Process Building X-330.
37006	CER	Notification to another federal agency (Ohio Environmental Protection Agency); reportable quantity of oil released to holding pond.

Discussed

None

LIST OF ACRONYMS USED

ACR	Area Control Room
AQ	Augmented Quality
CER	Certificate Event Report
CFR	Code of Federal Regulations
DNMS	Division of Nuclear Material Safety
DOI	Daily Operating Instruction
ECCR	Enhanced Commercial Controls Requirement
IFI	Inspection Follow-up Item
LAW	Low Assay Withdrawal
NCS	Nuclear Criticality Safety
NCSA	Nuclear Criticality Safety Approval
NCSE	Nuclear Criticality Safety Evaluation
NDA	Non-destructive Assay
NRC	Nuclear Regulatory Commission
NS	Non-safety
OOS	Out of Service
PERR	Public Electronic Reading Room
PR	Problem Report
psia	Pounds per square inch atmosphere
PSS	Plant Shift Superintendent
QAP	Quality Assurance Program
RAC	Request for Application Change
SAR	Safety Analysis Report
TPQAP	Transportation and Packaging Quality Assurance Program
TSR	Technical Safety Requirements
UF_6	Uranium Hexafluoride
URI	Unresolved Item
USEC	United States Enrichment Corporation
VIO	Violation