UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET SW SUITE 23T85
ATLANTA, GEORGIA 30303-8931

April 15, 2004

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

SUBJECT: NRC INSPECTION REPORT 07007001/2004-002(DFFI) - PADUCAH

Dear Mr. Brown:

On March 19, 2004, the NRC completed a routine resident inspection at the Paducah Gaseous Diffusion Plant. The purpose of the inspection was to determine whether activities authorized by the certificate were conducted safely and in accordance with NRC requirements. At the conclusion of the inspection on March 25, 2004, the NRC inspectors discussed the findings with members of your staff.

This inspection consisted of an examination of activities conducted under your certificate as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your certificate. Areas examined during the routine resident inspection are identified in the enclosed report. Within these areas, the inspection consisted of a selected examination of procedures and representative records, observations of activities in progress, and interviews with personnel.

Based on the results of this inspection, the NRC has determined that one Severity Level IV violation with three examples of NRC requirements occurred. This violation is being treated as a Non-Cited Violation (NCV), consistent with Section VI.A of the Enforcement Policy. This NCV is described in the subject inspection report. If you contest the violation or significance of this NCV, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001, with a copies to the Regional Administrator, Region II, and the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001, and the NRC Resident Inspector at the Paducah Gaseous Diffusion Plant.

In accordance with 10 CFR 2.390 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/reading-rm/adams.html (the Public Electronic Reading Room).

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

Sincerely,

/RA/

Jay Henson, Chief
Fuel Facility Inspection Branch 2
Division of Fuel Facility Inspection

Docket No. 07007001
Certificate No. GDP-1

Enclosure: Inspection Report 07007001/2004-002(DFFI)

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U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No.:	07007001
Certificate No.:	GDP-1
Report No.:	07007001/2004-002
Facility Operator:	United States Enrichment Corporation
Facility Name:	Paducah Gaseous Diffusion Plant
Location:	Paducah, KY
Dates:	February 7 through March 19, 2004
Inspectors:	Bruce L. Bartlett, Senior Resident Inspector Mary L. Thomas, Resident Inspector
Approved by:	Jay Henson, Chief Fuel Facility Inspection Branch 2 Division of Fuel Facility Inspection

Enclosure

EXECUTIVE SUMMARY

United States Enrichment Corporation
Paducah Gaseous Diffusion Plant
NRC Inspection Report 07007001/2004-002

This inspection included aspects of certificatee operations, maintenance, and engineering. The report covered a six-week period of resident inspection activities, radiation protection and transportation, including follow-up to issues identified during previous inspections.

Operations

Routine operations activities were conducted in accordance with written procedures. Routine communications among operators were adequate. Nuclear criticality safety requirements were adequately addressed during routine operations activities. The certificatee demonstrated poor communications prior to performing a Criticality Accident Alarm System (CAAS) breaker operation, and degraded fire protection equipment was being treated inconsistently across the plant site (Paragraph 1.a).

The failure of the preventive maintenance program to properly process new preventive maintenance requests combined with the failure of the cognizant engineer to monitor the progress of the change led to the failure to replace the CAAS uninterruptable power supply (UPS) batteries in Feed Vaporization Facility C-333A prior to their failure (Paragraph 1.b).

Maintenance

Maintenance and surveillance activities were conducted appropriately and in accordance with approved procedures. Acceptance criteria contained in surveillance procedures were adequate and, when required, Assessment and Tracking Reports (ATRs) were initiated. A certificatee representative stated they would evaluate the voluntary usage of IEEE 450-1995, as part of monitoring the health of the station batteries (Paragraph 2).

Plant Support

The inspectors determined that the certificatee staff responsible for radioactive material receipt inspections required to be performed by 10 CFR 20.1906(c), no later than three hours following receipt, understood the regulation. The inspectors identified a minor violation of a procedure for radioactive material receipt inspections and a minor violation of two procedures for the failure to transfer quality records to Records Management (Paragraph 3.a).

The inspectors determined that the certificatee was completing required surveys prior to removing uranium hexafluoride (UF_6) cylinders from exclusive use open transport vehicles. In addition, the inspectors discussed the discrepancy in a certificatee procedure such that surveys of the bottom sides of the cylinders might not have been completed prior to removing UF_6 cylinders from exclusive use open transport vehicles (Paragraph 3.b).

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

REPORT DETAILS

1. Plant Operations

a. Conduct of Operations - Routine Operations Activities

(1) Inspection Scope (88100)

The inspectors observed routine operations activities and discussed routine operations with staff and management. In addition, the inspectors reviewed the applicable area control room (ACR) log books and routine surveillance forms. The inspectors observed operators respond to various alarms and reviewed the following documents:

- ATRC-03-3000, NCSA GEN-09 for the operation of Negative Air Machines (NAM) requires non-fissile NAM HEPA filter installation to be verified by a second person;
- CP2-CO-CN2030, "Inspection, Removal, Installation, and Handling of Uranium Contaminated Cascade Equipment," Revisions 11, 14, and 15;
- CP3-CO-CO1020, "Control Room Activities," Revision 3;
- CP4-CO-CA2001A, "Weekly Lube Oil and Hydraulic Checks," Revision 9;
- CP4-CO-CA6024, "Lube Oil Pit Emergency Sump Pump Test," Revision 5;
- CP4-CO-CN2004, "Cell Evacuation," Revision 21;
- CP4-CO-CN2035, "Operation of the C-310 Burp Station and the Sodium Fluoride Trapping System (North Traps)," Revision 11;
- CP4-CO-CN2035a, "Operation of the C-310 Burp Station and the Sodium Fluoride Trapping System (South Traps)," Revision 10;
- CP4-CO-CN2075, "Operation of Cascade RCW Systems," Revision 14;
- CP4-CO-CN6054d, TSR Surveillance, C-360 Autoclave Pressure Decay Test," Revision 13;
- CP4-CO-CN6069, "Periodic Regulatory Checks," Revision 27;
- CP4-CU-CH2137, "C-409 High Assay Uranium Precipitation Operations," Revision 16;
- CP4-GP-BG2108, "Negative Air Machine and In-Place HEPA System Internal Inspection and Filter Replacement," Revision 4;
- NCSA [Nuclear Criticality Safety Approval] CAS-002, "Operation of the Uranium Enrichment Cascade," Revision 9;

- NCSA CAS-011, “Shutdown of the Cascade With or Without Inventory,” Revision 9;

- NCSA GEN-09, “Operation and Maintenance of Negative Air Machines,” Revision 0;

- NCSA GEN-10 “Removal and Handling of Contaminated Equipment from the Cascade at PGDP,” Revision 2;

- NCSA 409-001, “C-409 Uranium Precipitation,” Revision 4; and

- NCSE [Nuclear Criticality Safety Evaluation] 048, “C-310 Cylinder Burp Station,” Revision 2.

(2) Observations and Findings

The inspectors observed routine operations in the cascade buildings and area control rooms, the feed vaporization facility, product and tails withdrawal facilities, and the central control facility. The appropriate nuclear criticality safety requirements were implemented for the routine activities observed. The operations staff were alert and generally knowledgeable of the current status of equipment associated with their assigned facilities.

- On March 10, 2004, routine power switching operations were being conducted that affected Feed Vaporization Facility C-333A. The operators prepared for this evolution by ensuring that all autoclaves had been fed out and were empty. However, the operators failed to notify the Plant Shift Supervisor (PSS) and thus the Criticality Accident Alarm System (CAAS) Uninterruptable Power Supply (UPS) for the C-333A electronic CAAS horn was not monitored. When the switching evolution occurred the UPS battery failed immediately. The failure to notify the PSS of the switching evolution resulted in a brief delay of the initiation of Technical Safety Requirement (TSR) action requirements while the PSS attempted to determine the cause of the CAAS trouble alarm received in the Central Control Facility C-300.

- During routine tours of the main process buildings, the inspectors noted discrepancies in how degradation of some fire related equipment was being controlled. Each of the process buildings have multiple lubricating oil systems, each of which has a lube oil pit. Each pit had a sump pump designed to remove water and oil from the pit following a postulated fire. The sump pump was designed to be self-priming and had a check valve internal to the pump to contain a water/glycol mixture allowing the pump to self-prime. The certificatee had a repetitive problem with the check valves leaking allowing the priming mixture to leak out. This leakage has occurred even with new check valves.

  The inspectors observed that in Process Building C-333 that sump pumps with degraded check valves had work order tags, but were otherwise available for automatic operation. In Process Building C-335, sump pumps with degraded

check valves had work order tags but were removed from service with their control switches placed in off. Certificatee personnel held discussions with the sump pump vendor who stated that the sump pumps should be able to self-prime even with most of the internal fluids missing and the check valve leaking. The certificatee tested several pumps and verified they self-primed without most of their internal fluids. The certificatee planned on performing additional testing, and completing an engineering analysis to verify the pumps were capable of performing their intended function with the leaking check valves. In the meantime, the sump pumps with the leaking check valves were made available for automatic operation.

The safety significance of the discrepancy was minimal because the vendor stated that those pumps that were still in automatic operation would self-prime even with most of the fluid missing. The pumps that had been removed from service had no alternate fire suppression system available. In addition, the probability of a conflagration requiring the use of the sump pumps was low, and the on-site fire brigade was available to place foam or other fire fighting material on a postulated lubricating oil fire. Also, no regulatory requirement dictates a specific reliability or availability factor for these components.

(3) Conclusions

Routine operations activities were conducted in accordance with written procedures. Routine communications among operators were adequate. Nuclear criticality safety requirements were adequately addressed during routine operations activities. There were poor communications prior to performing a CAAS breaker operation and degraded fire protection equipment was being treated inconsistently across the plant site.

b. Operational Status of Facilities and Equipment

(1) Inspection Scope (88100, 88102, 88103)

The inspectors performed routine follow up to the March 10, 2004, power switching operation which resulted in the failure of the CAAS UPS in C-333A. The inspectors assessed previous similar events and the certificatee's corrective actions.

(2) Observations and Findings

In February of 2003, certificatee personnel concluded that CAAS UPS batteries needed a regular preventive maintenance (PM) replacement program. The conclusion was based upon a number of the then recent failures of UPS batteries when called upon during testing activities. Even though these batteries were within the vendor's recommended life of three to five years (based upon service conditions) the batteries were failing approximately four years after installation. Preventive maintenance recommendations (PMRs) 03-791 through 03-796 were initiated by the system engineer in order to add the battery replacement task to the PM program.

The processing of the PMR's was delayed and even though they had been submitted in September of 2003, as of the March 10, 2004, failure the PMR's had not been

processed. Compounding the failure of the PM program to process the PMRs was the failure of the engineer who initiated the PMRs to monitor their status. This was partially due to the engineer's personnel error in failing to monitor the PMR's progress and due to the changing of system engineers leading to the failure of the new system engineer to understand the need to check the PMRs status.

The certificatee initiated ATRC-04-0993 to document the failure of the PMRs to be processed and immediately replaced the batteries in the three remaining CAAS UPSs that had not already been replaced. In addition, certificatee personnel performed a test in accordance with procedure to assess the ability of the CAAS horn system to alert plant personnel even with the inoperable horn at C-333A. The test successfully demonstrated that even with the one inoperable horn at C-333A, that plant personnel would have been able to hear other nearby horns as required by the TSRs and regulations.

(3) Conclusions

The failure of the preventive maintenance program to properly process new PM requests combined with the failure of the cognizant engineer to monitor the progress of the change led to the failure to replace the CAAS UPS batteries in C-333A prior to their failure.

c. Miscellaneous Operations Issues

(1) Miscellaneous Open Item Closures (92701)

(Closed) CER 39870: A piece of removed process gas equipment item in the Maintenance and Stores Building, C-720, did not receive proper independent mass verification. The group mass was required to be independently verified to always be within safe mass limits. The uranium mass on the inventory log sheet was zero pounds for this item, while the GEN-010 tag on the item indicated 284 pounds at 1.38% enrichment. In addition several items were tagged with GEN-010 tags that had information lined out and corrected, appearing to violate the independent verification on the equipment item mass. As a result of this event, the certificatee took immediate corrective actions to remediate these issues. However, while closing this event the inspectors found additional issues with two items in separate groups. One item did not have an inventory sheet as required by procedure CP2-CO-CN2030, Revision 11, Form CP-22176 "UH Equipment Group Inventory." The procedure had subsequently been revised to no longer require an inventory sheet on each item. A second item had been added to another group in 2001, lined through properly, and removed in 2002, but was present in 2004. The mass for these two items was zero pounds, thus these issues were not reportable in accordance with Bulletin 91-01.

Since the certificatee staff self-identified the violation associated with the failure to follow procedural requirements and implemented corrective actions to prevent recurrence, the inspectors determined the procedural violation should be categorized as a Non-Cited Violation (NCV) consistent with Section VI.A.8 of the NRC Enforcement Policy. (NCV 07007001/2004002-01a)

(Closed) CER 39887: Approximately ⅛ inch layer of water was discovered in the bottom of NAM [Negative Air Machine] 2000-4 in the Product Withdrawal Building, C-310, truck alley. The truck alley is on a downward slope and the NAM was sitting at the bottom of the slope, thus water entered the bottom of the NAM during heavy rains. The use of NAMs on spraying/wet operation where intake could contain droplets of moisture is prohibited by NCSA GEN-09. This control prevents uranium from being washed off the filters into an unsafe configuration in the bottom of the NAM. Because water did not reach the level of the filter media, no uranium was washed off. The certificatee took corrective actions to raise the NAM up onto a stand to prevent water from heavy rains entering the NAM. In addition, the certificatee installed separate NAM hoses for each burp station with nozzle holders to keep the nozzle open orientated in the downward position when not in use to prevent water entering the NAM. The inspectors verified that these corrective actions were appropriate and had been implemented.

Since the certificatee staff self-identified the violation associated with the failure to follow nuclear criticality safety requirements and implemented corrective actions to prevent recurrence, the inspectors determined the procedural violation should be categorized as a Non-Cited Violation (NCV) consistent with Section VI.A.8 of the NRC Enforcement Policy. (NCV 07007001/2004002-01b)

(Closed) CER 40139: The Recirculating Cooling Water (RCW) Supply valve for Process Building C-333 Unit 6 Cell 2 was not positioned correctly for the current condition of the cell. On September 3, 2003, this cell was in a fluorinating environment in accordance with the requirements of NCSA CAS-002. It was determined that the cell needed to have a UF_6 negative obtained for maintenance work. The UF_6 negative was initiated without removing the fluorinating environment by closing the Even RCW Supply valve, tagging both the Supply and Return valve, and without performing the independent checks for valve position, as required by NCSA CAS-002. Once the UF_6 negative was obtained, the cell transitioned to NCSA CAS-011 without satisfying the RCW isolation controls of that NCSA. Both RCW isolation controls require that the RCW Supply valve be tagged closed and that the RCW Return valve be tagged open and both valves independently verified to be positioned correctly.

The inspectors reviewed the applicable documentation and discussed this event with the Process Building C-333 building manager. The inspectors determined that the event occurred because of the change in scope of the maintenance work and that the operator involved had recently transferred to Process Building C-333 from Process Building C-331. Process Buildings C-333 and C-337 have two condensers per cell, while Process Buildings C-331 and C-335 have one condenser per cell. The operator did not remember there were two condensers per cell in Process Building C-333 and, therefore, did not remove the fluorinating environment from the cell before transitioning the cell to a UF_6 negative. Corrective actions were taken to tag the Even RCW Supply valve closed and the Odd RCW Return valve open. The valve position of both valves was independently verified. The coolant moisture content was checked and was less than minimum detectable moisture. These actions placed the system back in compliance with NCSA CAS-011. Future work on the fissile cells in Process Building C-333 will be treated as infrequently performed tests and evolutions.

Since the certificatee staff self-identified the violation associated with the failure to follow nuclear criticality safety requirements and implemented corrective actions to prevent recurrence, the inspectors determined the procedural violation should be categorized as a Non-Cited Violation (NCV) consistent with Section VI.A.8 of the NRC Enforcement Policy. (NCV 07007001/2004002-01c)

(Closed) CER 40151: Inadequate incorporation of NCSA requirements for Negative Air Machines, into a procedure. Procedure CP4-GP-BG2108 to replace HEPA [High Efficiency Particulate] filters in negative air machines (NAM) did not include control 33 of NSCA GEN-09, "NAM/fixed HEPA filter replacement shall be verified and signed by two individuals after each filter change to ensure that the correct filters are selected from a list of approved filters and the filters are installed correctly." The NCS staff intended that non-fissile NAMs could be used in potentially fissile operations in an emergency. The inspectors reviewed procedure CP4-GP-BG2108 to verify that it had been revised to apply to all NAM filter changes, either non-fissile or potentially fissile. This item is closed.

2. Conduct of Maintenance and Surveillance

a. Maintenance and Surveillance Activity Reviews

(1) Inspection Scope (88102 and 88103)

For the maintenance and surveillance activities listed below, the inspectors verified one or more of the following: activities observed were performed in a safe manner; testing was performed in accordance with procedures; measuring and test equipment was within calibration; Technical Safety Requirement Limiting Conditions for Operations were entered, when appropriate; removal and restoration of the affected components were properly accomplished; test acceptance criteria were clear and conformed with the Technical Safety Requirements and the Safety Analysis Report; and any deficiencies or out-of-tolerance values identified during the testing were documented, reviewed, and resolved by appropriate management personnel.

- Work Order (WO) 0011768, C-337 Unit 4, Cell 9 "B" valve troubleshoot and repair;
- WO 0314295, Replace all battery cells in C-333 Battery room 6;
- WO 0400406, Perform Autoclave High Pressure Decay Test on C-360 Autoclave Number 1;
- WO 0400406, Perform Autoclave High Pressure Decay Test on C-360 Autoclave Number 1;
- WO 0401788, Perform autoclave head to shell alignment, clean O-ring groove, and replace O-ring. Perform work according to procedure CP3-GP-GP4109 on C-360 Autoclave Number 3;

- CP3-GP-GP4109, “Alignment check of UF_6 Autoclave Head to Shell, O-Ring Check and Replacement, and Knife Switch Stop Block Check and Repair,” Revision 4;

- CP3-GP-GP4111, “Workmanship Standards for Welding and Fabrication Repair,” Revision 1;

- CP4-GP-IM6281, “C-360 (Upgrade) - UF_6 Low Cylinder Pressure, UF_6 High Cylinder Pressure, and Cylinder Roll Interlock Systems Calibration and Functional Test,” Revision 5;

- WO 0402155, Perform autoclave alignment preventative maintenance, replacing O-ring as necessary, according to procedure CP3-GP-GP4109. Clean O-ring groove for engineering inspection on C-360 Autoclave Number 1;

- WO 0402207, Replace O-ring, clean O-ring groove for engineering inspection on C-360 Autoclave Number 2;

- WO 0402591, Perform autoclave head to shell alignment and adjust the shell as needed on C-360 Autoclave Number 2;

- WO 0402800, Replace secondary cylinder relief rupture disc and holder; replace gaskets only on primary cylinder relief rupture disc on C-360 Autoclave Number 4;

- CP2-CO-CN2033, “Operation and Maintenance of Autoclave Surge/Relief Drums and Process Piping in Autoclave Buildings,” Revision 7;

- CP4-GP-IM6277, “C-360 (Upgrade) - UF_6 Cylinder Relief System Calibration and Functional Testing,” Revision 1;

- CP4-GP-MM4116, “Rupture Disc Replacement for Safety and Non-Safety Systems, Revision 4;

- WO 0403453, C-335 Process Gas Leak Detection (PGLD) head YE-27 will not fire;

- WO 0403762, Replace O-ring following repair of roll motor gearbox on C-360 Autoclave Number 4;

- WO 0404040, Replace O-ring on C-360 Autoclave Number 3; and

- WO 0404343, C-337 PGLD head YE-13 will not reset.

(2) Observations and Findings

The inspectors observed that the certificatee staff effectively implemented work control practices and associated radiological controls during the above listed maintenance activities. No significant issues or concerns were identified.

During the review of WO 0314295, “Replace all battery cells in C-333 Battery Room 6,” the inspectors assessed the post maintenance testing (PMT) requirements. The inspectors observed that the PMT addressed inter-cell resistence checks, voltage checks, electrolyte levels and other appropriate items but did not address load testing. The batteries in Process Building C-333 were not safety related and were not required to be load tested, nevertheless; load testing was a standard practice.

As described in IEEE 450-1995, “Recommended Practice for Maintenance, Testing, and Replacement of Vented Lead-Acid Batteries for Stationary Applications,” Section 5.1, “An acceptance test of the battery should be made either at the factory or upon initial installation as determined by the user....” The battery bank had not been load tested at the factory and the IEEE would have recommended that it be tested following installation.

The inspectors reviewed the Safety Analysis Report, Technical Safety Requirements, design basis requirements and other regulatory documents and confirmed there were no technical or regulatory requirements to load test battery banks upon installation, even those that were safety related. The verification test was not due because of the accident analysis requirement that the batteries only supply voltage long enough to trip open the breakers supplying power to the cascade motors.

The Unit 6 battery bank was being replaced approximately eight years after installation instead of the normally expected 15 year life for this type of battery. Elevated temperatures in the area around the battery bank resulted in a shortened life span. The inspectors’ review of the certificatee’s records indicated that many battery banks on site had a shortened life span due to elevated temperatures. The battery cells that were being replaced had many cracks and crevices on their cases even though their voltage met the acceptance criteria. A service load test as described in IEEE 450-1995, Section 5.3, could have verified the battery’s ability to meet the applicable requirements, in addition to helping to predict battery life.

The certificatee stated that it was their policy to monitor cell/battery voltage as there was no load profile requirement for the various stationary batteries. A certificatee representative stated that the certificatee would consider the use of IEEE 450-1995 as part of the monitoring the health of the batteries.

(3) Conclusions

Maintenance and surveillance activities were conducted appropriately and in accordance with approved procedures. Acceptance criteria contained in surveillance procedures were adequate and, when required, Assessment and Tracking Reports (ATRs) were initiated. A certificatee representative stated that the certificatee would evaluate the voluntary usage of IEEE 450-1995, as part of monitoring the health of their station batteries.

3. Plant Support

a. Radioactive Material Receipt

(1) Inspection Scope (83822)

The inspectors assessed whether the certificatee was meeting the three hour time limit set forth in 10 CFR 20.1906(c) for monitoring receipt of radioactive material. The inspectors reviewed the following documents:

- ATRC-04-1164, Material Management failed to transfer quality records to Records Management;
- ATRC-04-1265, Procedure CP4-MA-SR1103 is more restrictive than 10 CFR 20.1906 for DOT excepted packages;
- CP4-HP-RP2101, "Performance of Radiological Surveys," Revision 5;
- CP4-HP-RP2105, "Surveys for Receipt and Shipment of Radioactive Material," Revision 7;
- CP4-MA-SR1103, "Processing and Handling of Material," Revision 3; and
- UE2-TO-RM1030, "Records Management Program," Revision 4

(2) Observations and Findings

The inspectors discussed the regulation, 10 CFR 20.1906(c), with certificatee staff responsible for receipt inspections of radioactive material. The inspectors also discussed the flow-down of this regulation into the certificatee's procedures. Through these discussions and observations of receipt of radioactive material, the inspectors were able to verify that the certificatee staff responsible for such inspections understood the regulation. However, during the inspectors' review of the Notification of Radioactive Material Delivery (NRMD) records in the Receiving Section of the Maintenance and Stores Building, C-720, the inspectors noted that from December 4, 2002 until September 10, 2003, there were six instances when Health Physics (HP) was not contacted until either later on the day the material was delivered or they were contacted the day after the material was delivered. In each case, once contacted, HP arrived within three hours to perform the required monitoring. Assessment and Tracking Reports (ATR) were written for the December 4, 2002, the February 18, 2003, the March 31, 2003, and the August 15, 2003 issues, but not the March 27 or the September 10, 2003 issues. The ATR numbers are: ATRC-02-5406, ATRC-03-0559, ATRC-03-0965, ATRC-03-2597, respectively. In addition, the materials received in the subject ATRs were in excepted packages as defined by Department of Transportation regulations. This in turn meant that the packages did not meet the NRC 10 CFR 20.1906 Type A packaging limits, and were therefore not required by NRC regulations to be monitored within 3 hours. The inspectors determined that this was a minor violation of procedure CP4-MA-SR1103 as the ATR written on December 4, 2002 indicated that a

procedure revision was necessary to remove the unnecessary requirement to monitor all radioactive material packages, including unlabeled packages. The action item to revise the procedure was extended twice, the new schedule date is August 7, 2005. The certificatee indicated to the inspectors that this scheduled date would be revised.

In addition, while reviewing the NRMD records the inspectors noted that there were two years worth of records and questioned the Receiving manager about this. These records were quality records in accordance with procedure CP4-MA-SR1103, and, as such, were required to be transferred to Records Management every 90 days or by Turnover Agreement in accordance with procedure UE2-TO-RM1030. The NRMD records were being kept in a fire safe file cabinet in Maintenance and Stores Building, C-720. An ATR was written on March 24, 2004, ATRC-04-1164 on this issue. The inspectors determined that the failure to transfer the quality records to Records Management was a minor violation of procedures CP4-MA-SR1103 and UE2-TO-RM1030.

(3) Conclusions

The inspectors determined that the certificatee staff responsible for radioactive material receipt inspections, required to be performed by 10 CFR 20.1906(c), no later than three hours following receipt understood the regulation. The inspectors identified a minor violation of a procedure for radioactive material receipt inspections and a minor violation of two procedures for the failure to transfer quality records to Records Management.

b. Receipt Inspection of UF_6 Cylinders

(1) Inspection Scope (83822)

The inspectors assessed whether the certificatee was completing required surveys prior to removing UF_6 cylinders from exclusive use open transport vehicles.

(2) Observations and Findings

During the inspectors review of procedure CP4-HP-RP2105, “Surveys for Receipt and Shipment of Radioactive Material,” the inspectors noted that there was a discrepancy between the requirements of Steps 8.1.1A and the “NOTE” in Step 8.1.6 such that surveys of the bottom sides of the cylinders may not have been completed prior to removing UF_6 cylinders from exclusive use open transport vehicles. Step 8.1.1A required the user to “**Ensure** (emphasis added) that required surveys are complete prior to removing UF_6 cylinders from exclusive use open transport vehicle.” Whereas, the “NOTE” in Step 8.1.6 stated “**If possible,** (emphasis added) a survey is performed before unloading a vehicle or railcar used for exclusive shipments of radioactive material.” The inspectors discussed the procedure discrepancy with the Health Physics (HP) Manager and the HP Supervisor assigned to Shipping and Transfer. In addition, the inspectors determined that certain UF_6 feed cylinders are transported to the Paducah Gaseous Diffusion Plant on exclusive use open transport vehicles. Through discussions with the HP Supervisor assigned to Shipping and Transfer, and observations of the receipt inspections, the inspectors verified that the bottoms of the

cylinders were surveyed prior to removing them from their open exclusive use transport vehicle. Both the HP Manager and the HP Supervisor assigned to Shipping and Transfer agreed that there was a discrepancy in procedure CP4-HP-RP2105. The HP Manager also stated that he would clarify the procedure.

(3) Conclusion

The inspectors determined that the certificatee was completing required surveys prior to removing UF_6 cylinders from exclusive use open transport vehicles. In addition, the inspectors discussed the discrepancy in a certificatee procedure such that surveys of the bottom sides of the cylinders may not have been completed prior to removing UF_6 cylinders from exclusive use open transport vehicles.

4. Exit Meeting Summary

The inspectors presented the inspection results to members of the facility management on March 25, 2004. The inspectors asked the certificatee staff whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

ATTACHMENT

1. PARTIAL LIST OF PERSONS CONTACTED

United States Enrichment Corporation

*R. Starkey, General Manager
*K. Ahern, Schedule Manager
*S. Cowne, Nuclear Regulatory Affairs Manager
*L. Crowdus, Materials Supervisor
*M. Boren, Nuclear Regulatory Affairs
*D. Harrall, Maintenance Electrical Management
*R. Helme, Engineering Director
*E. Hickman, Health Physics Group Manager
*L. Jackson, Operations Manager
*P. Jenny, Plant Support Manager
*M. Keef, Production Support Manager
*J. Labarraque, Quality Assurance
*D. McCarty, Packaging and Transportation
*M. Mack, Operations
*S. Penrod, Plant Manager
*S. Toelle, Director, Nuclear Regulatory Affairs, USEC
*J. Vogelsang, Procurement & Materials Management

* Denotes those present at the exit meeting on March 25, 2004.

2. INSPECTION PROCEDURES USED

IP 88100	Plant Operations
IP 88101	Configuration Control
IP 88102	Surveillance Observations
IP 88103	Maintenance Observations
IP 88105	Management Organization and Control
IP 92700	Onsite Followup of Written Reports of Nonroutine Events at Power Reactor Facilities
IP 92701	Follow-up

3. LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Item Number	Status	Type	Description
70-7001/04-02-01a	Open	NCV	A piece of removed process gas equipment item in Bldg. C-720 did not receive proper independent mass verification in violation of NCSA GEN-010.

Item Number	Status	Type	Summary
70-7001/04-02-01b	Open	NCV	Approximately 1/8 inch layer of water was discovered in the bottom of NAM [Negative Air Machine] 2000-4 in the Bldg. C-310 truck alley in violation of NCSA GEN-09.
70-7001/04-02-01c	Open	NCV	The Recirculating Cooling Water (RCW) Supply valve for C333 Unit 6 Cell 2 was not positioned correctly for the current condition of the cell, in violation of NCSA CAS-011.
39870	Closed	CER	A piece of removed process gas equipment item in Bldg. C-720 did not receive proper independent mass verification in violation of NCSA GEN-010.
39887	Closed	CER	Approximately 1/8 inch layer of water was discovered in the bottom of NAM [Negative Air Machine] 2000-4 in the Bldg. C-310 truck alley in violation of NCSA GEN-09.
40139	Closed	CER	The Recirculating Cooling Water (RCW) Supply valve for C333 Unit 6 Cell 2 was not positioned correctly for the current condition of the cell, in violation of NCSA CAS-011.
40151	Closed	CER	Inadequate incorporation of NCSA requirements for Negative Air Machines, into a procedure.
70-7001/04-02-01a	Closed	NCV	A piece of removed process gas equipment item in Bldg. C-720 did not receive proper independent mass verification in violation of NCSA GEN-010.
70-7001/04-02-01b	Closed	NCV	Approximately 1/8 inch layer of water was discovered in the bottom of NAM [Negative Air Machine] 2000-4 in the Bldg. C-310 truck alley in violation of NCSA GEN-09.
70-7001/04-02-01c	Closed	NCV	The Recirculating Cooling Water (RCW) Supply valve for C333 Unit 6 Cell 2 was not positioned correctly for the current condition of the cell, in violation of NCSA CAS-011.

4. LIST OF ACRONYMS USED

ACR	Area Control Room
ADAMS	Agencywide Documents Access and Management System
ATR(s)	Assessment and Tracking Report(s)
CAAS	Criticality Accident Alarm System
CER	Certificatee Event Report
CFR	Code of Federal Regulations
DOE	Department of Energy
GDP	Gaseous Diffusion Plant
HP	Health Physics
NAM	Negative Air Machines
NCS	Nuclear Criticality Safety
NCSE/A	Nuclear Criticality Safety Evaluation/Approval
NCSA	Nuclear Criticality Safety Approval
NCV	Non-cited Violation
NRC	Nuclear Regulatory Commission
NRMD	Notification of Radioactive Material Delivery
PARS	Publicly Available Records
PDR	Public Document Room
PGDP	Paducah Gaseous Diffusion Plant
PM	Preventive Maintenance
PMR	Preventive Maintenance Recommendations
PMT	Post Maintenance Testing
PSS	Plant Shift Superintendent
RCW	Recirculating Cooling Water
TSR	Technical Safety Requirement
UF_6	Uranium Hexafluoride
UPS	Uninterruptable Power Supply
USEC	United States Enrichment Corporation
WO	Work Order