

February 8, 2000

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

SUBJECT: NRC INSPECTION REPORT 70-7001/99017(DNMS)

Dear Mr. Adkins:

On January 24, 2000, the NRC completed a routine resident inspection at your Paducah Gaseous Diffusion Plant. The enclosed report presents the results of this inspection. In addition, this report documents an inspection conducted of your staff's implementation of the security plan for the protection of classified matter at your Advanced Technology Enrichment Facility on December 8, 1999. During the period covered by the inspection report, the conduct of safety-related activities at the Paducah Gaseous Diffusion Plant was generally adequate.

Based upon the information developed during the inspections, the NRC did not identify any cited violations.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be placed in the NRC Public Document Room.

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

Sincerely,

/RA by Monte Phillips Acting for/

Patrick L. Hiland, Chief
Fuel Cycle Branch

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

Enclosure: Inspection Report 70-7001/99017(DNMS)

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J. Adkins

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L. L. Jackson, Paducah Regulatory Affairs Manager
J. M. Brown, Portsmouth General Manager
S. A. Toelle, Manager, Nuclear Regulatory
Assurance and Policy, USEC
Paducah Resident Inspector Office
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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

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

Report No: 70-7001/99017(DNMS)

Licensee: United States Enrichment Corporation

Facilities: Paducah Gaseous Diffusion Plant, and
Advanced Technology Enrichment Facility

Locations: 5600 Hobbs Road
P.O. Box 1410
Paducah, KY 42001

and

125 August Avenue
Suites D and E
Paducah, Kentucky 42003

Dates: December 7, 1999, through January 24, 2000

Inspectors: K. G. O'Brien, Senior Resident Inspector
J. M. Jacobson, Resident Inspector
W. G. Snell, Senior Decommissioning Inspector
J. K. Everly, Senior Facilities Security Specialist
L. M. Numkin, Senior Computer Security Specialist,
C. M. Drummond, Fuel Cycle Inspector

Approved By: Patrick L. Hiland, Chief
Fuel Cycle Branch
Division of Nuclear Materials Safety

EXECUTIVE SUMMARY

United States Enrichment Corporation Paducah Gaseous Diffusion Plant NRC Inspection Report 70-7001/99017(DNMS)

Plant Operations

- The inspectors determined that the plant staff had effectively prepared for and implemented plans which ensured a smooth transition into the Year 2000. (Section 1.1)
- The inspectors determined that the certificatee had completed and implemented the actions required by the Compliance Plan, Issues 19, "Management Controls" and 20, "Safety Review Committees." (Sections 8.1 and 8.2)

Maintenance

- The inspectors determined that a weakness in the control of sprinkler system inspection and maintenance activities, led to a system being declared inoperable and removed from service on two consecutive days. (Section M1.1)

Engineering

- The plant staff performed a thorough investigation of an anomaly with a criticality accident alarm system cluster fault condition in Building C-310 identified by the inspectors. The cause of the anomaly was determined to be a failed relay in the cluster's trouble alarm circuit which was not routinely tested in the field after the cluster installation to ensure the relay was functioning properly. (Section E1.1)

Plant Support

- The inspectors identified inconsistencies between some documents used to implement the health physics program, and in the radiological protection activities of some plant staff. (Section R1.1)
- The inspectors determined that the Advanced Technology Enrichment Facility Security Plan for the Protection of Classified Matter and associated procedures were in compliance with NRC criteria and were being properly implemented. The inspectors also determined that alarms, utilized for the protection of Secret Restricted Data, were successfully tested and remotely transmitted to a 24-hour central alarm station. (Sections S8.1 through S8.4)

Report Details

I. Operations

O1 Conduct of Operations

O1.1 Year 2000 Transition

a. Inspection Scope (88100)

The inspectors reviewed and observed the plant staff's final preparations for the Year 2000 (Y2K) transition. In addition, the inspectors observed plant operations and the activities in the Emergency Operations Center (EOC) during the transition on December 31 and January 1.

b. Observations and Findings

The plant staff developed a number of contingency plans for equipment important to safety, a site staffing plan for the transition, and a list of supplies and repairs necessary to ensure the plant staff had maximum flexibility in responding to a Y2K event. In addition, the plant staff conducted emergency diesel generator tests to ensure a reliable source of backup power for critical control circuits and emergency functions onsite. The plant staff developed a matrix of emergency and off-normal procedures to ensure all the EOC staff understood how the various procedures were interrelated and allow for a more efficient decision-making process should multiple events occur simultaneously. The plant staff also had several pre-transition meetings to review the status of Y2K preparations and to address any last-minute issues or concerns raised by the plant staff.

The inspectors observed the transition on the night of December 31 and noted the transition occurred without incident. The EOC and other process facilities were staffed in accordance with the site staffing plan. The Plant Shift Superintendent (PSS) communicated with the Portsmouth Gaseous Diffusion Plant to determine if any Y2K-related events or abnormalities were identified in the eastern time zone which could impact the Paducah plant one hour later. The inspectors concluded that the plant staff's preparations for the transition and program for testing and modifying software for the Y2K turnover during the previous two years were thorough and effective.

c. Conclusion

The plant staff effectively prepared for and implemented plans to ensure a smooth transition into the Year 2000.

O8 Miscellaneous Operations Issues

O8.1 Compliance Plan Issue 19: Management Controls

a. Inspection Scope (88100)

The inspectors reviewed actions taken by the plant staff to address noncompliances documented as Compliance Plan Issue 19, "Management Controls."

b. Observations and Findings

Compliance Plan, Issue 19, required the certificatee to ensure that all applicable NRC-approved application commitments, that fulfilled regulatory requirements, were incorporated into policies and procedures that were approved and implemented at USEC Headquarters and the plant. Issue 19 further required the certificatee to incorporate reporting relationships, and the qualifications, functions, responsibilities, and authorities for the positions defined in the Safety Analysis Report, Sections 6.1.1.1 through 6.1.1.24 and Figure 6.1-1, into position descriptions.

The inspectors reviewed the certificatee's closure documents for Compliance Plan Issue 19. The closure documents contained a listing of regulatory requirements and those procedures into which the requirements were incorporated. The documentation included signed approval forms which indicated that the policies and procedures had been approved, and were implemented at USEC Headquarters and the plant. Also, the closure documents included the applicable position descriptions, which included the reporting relationships, qualifications, functions, responsibilities, and authorities for each position described.

Based on a review of the materials included in the closure file, the inspectors determined that the certificatee has adequately completed the actions required by the Compliance Plan, Issue 19.

c. Conclusion

The inspectors determined that the certificatee had completed and implemented the actions required by the Compliance Plan, Issue 19. Compliance Plan Issue 19 is now considered closed.

O8.2 Compliance Plan Issue 20: Safety Committees

a. Inspection Scope (88100)

The inspectors reviewed the status of actions taken by the plant staff to address a noncompliance documented as part of the Compliance Plan, Issue 20, "Safety Committees."

b. Observations and Findings

Compliance Plan Issue 20, requires the certificatee to develop a procedure for a Plant Operations Review Committee (PORC) that functions in an advisory capacity to the General Manager on matters related to nuclear safety. The membership, qualifications, meeting frequency and quorum, functions, responsibilities, and required records were to be established in accordance with Safety Analysis Report (SAR), Section 6.2, "Safety Committees." As of the date the Compliance Plan was issued (Revision 3), the certificatee had not reviewed and revised the current charter for the PORC as necessary to ensure compliance with SAR Section 6.2 and Technical Safety Requirement (TSR) 3.10, "PORC."

The inspectors reviewed SAR Section 6.2 and determined that the PORC was required to perform multi-discipline reviews and assessments of plant activities to ensure that these activities were conducted in a safe manner. The inspectors also reviewed TSR Section 3.10 which outlined the membership requirements, functions and responsibilities of the PORC.

The inspectors reviewed the closure file developed for Compliance Plan Issue 20 and associated procedures to determine if the required actions had been effectively completed and implemented. Most of the Compliance Plan Issue 20 required actions involved changes to Procedure UE2-PO-OR1030, "Plant Operations Review Committee," Revision 2 dated January 1, 1997. The inspectors determined that the procedure was compliant with the SAR, Section 6.2 and TSR 3.10, with one weakness. Specifically, TSR 3.10.6, "Records," required PORC records to include: a) results of the activities conducted under the provisions of TSR 3.10; b) recommended approval or disapproval of items considered under TSR 3.10.5; and c) determination of whether each item considered under TSR 3.10.5 requires prior NRC approval before implementation per 10 CFR 76.68 and 76.45. The inspectors noted that the procedure did not expressly include these requirements. The inspectors discussed this weakness with the certificatee and recognized that this information was documented in past PORC meeting minutes. The inspectors also noted that the closure file included information to indicate that the PORC members had received training relative to the procedure.

c. Conclusions

The inspectors determined that the plant staff had appropriately implemented the actions required by Compliance Plan Issue 20, with one weakness. Compliance Plan Issue 20 is now considered closed.

II. Maintenance

M1 Conduct of Maintenance

M1.1 Control of Sprinkler System Inspections and Maintenance

a. Inspection Scope (88102, 88103)

The inspectors reviewed the circumstances surrounding two event reports for Building C-337, Sprinkler System B-1 inoperability. The events were reported on December 8 and 9, 1999.

b. Observations and Findings

On December 8, the PSS reported to the NRC that the Building C-337, System B-1, fire protection sprinkler system had been declared inoperable as a result of a walkdown of the system by the fire protection staff. During the walkdown, the fire protection staff identified five corroded sprinkler heads on the system. Subsequent to the walkdown by the fire protection staff, operations staff initiated the fire patrols required by TSR 2.4.4.5 for an inoperable sprinkler system in a cascade building.

During the next shift, operations staff removed the sprinkler system from service and drained water from the system in order to allow the corroded heads with copper gaskets to

be replaced with new heads with teflon gaskets (currently believed to be resistant to attack by microbes in the sprinkler systems). The plant staff then restored and returned the system to service after appropriate post-maintenance testing was completed.

On December 9, the PSS again reported to the NRC that System B-1 in Building C-337 had been declared inoperable due to the identification of additional corroded heads. As before, the system was removed from service in order to replace the affected heads.

The inspectors discussed with operations and fire protection staff the reasons for declaring the system inoperable and subsequently removed from service on two consecutive days. The plant staff indicated that the consecutive event reports were the result of personnel error and communication inadequacies. Specifically, the fire protection staff did not complete the system walkdown after identifying the initial set of corroded heads. The fire protection staff also did not communicate and the operations staff did not inquire as to the status of the walkdown at the time the inoperable heads were reported. As a result, the system walkdown was completed the following day, resulting in the identification of the additional corroded heads for the system. As a result, the plant staff had to remove the system from service twice to perform maintenance, instead of identifying all the corroded heads associated with the system initially and removing the system from service once for maintenance.

The inspectors noted that the incomplete inspection was a weakness in the plant staff's process for inspecting and maintaining the high-pressure fire water sprinkler systems since the process, as written, allowed the amount of time the fire protection system was unavailable to perform its intended safety function to be increased. In addition, the communications between the fire protection and operations staff indicated an incomplete operations oversight of ongoing surveillance and maintenance activities.

The plant management agreed with the observations that the inspection and maintenance of the Building C-337 sprinkler system had not been conducted with a proper focus on maintaining the availability of a safety system. The plant management indicated that the personnel performing the sprinkler inspections had been briefed on management's expectations that an entire system or quadrant of systems would be inspected in its entirety if there were any indications of corrosion problems. In addition, operations and fire protection staff were to review the inspection and maintenance activities for a system to ensure the amount of time a system was removed from service for repairs would be minimized. Operations management also conducted a review of out-of-service issues involving the fire protection and other system to ensure that all PSS were aware of the level of communications necessary to minimize safety system outage times.

The inspectors noted that the last inspection report identified a somewhat similar issue in that the plant staff removed a sprinkler system from service, performed maintenance, and returned the system to service without addressing a known nonconformance (improperly located branch line). As a result, the system had to be removed from service a second time to correct the nonconformance.

c. Conclusion

The inspectors determined that a weakness in the control of sprinkler system inspection and maintenance activities led to a system being declared inoperable and removed from service on two consecutive days. As a result, the plant management initiated corrective

actions to minimize the amount of time any particular sprinkler system was removed from service.

II. Engineering

E1 Conduct of Engineering

E1.1 Criticality Accident Alarm Cluster Investigation

a. Inspection Scope (88100)

The inspectors reviewed the results of the plant staff's investigation into an intermittent fault condition identified for Building C-310 Criticality Accident Alarm System (CAAS) Cluster H. The condition was identified by the inspectors during routine inspection activities and was tracked as Inspector Followup Item (IFI) 70-7001/99016-03.

b. Observations and Findings

During observation of the final ties and post-modification testing of the Building C-310 CAAS audibility upgrade, the inspectors noted that one of CAAS Cluster H's three modules was in a fault condition. However, the main CAAS console in Building C-300 did not indicate a trouble condition for the cluster as would be expected. Since the other two modules in the cluster were operating normally at the time of the discovery, the cluster itself would have detected an inadvertent criticality and the building had implemented the TSR-required compensatory measures for an inoperable CAAS for the testing. In response to the issue, the plant staff undertook a thorough investigation to discover the cause of the anomaly.

The investigation identified that the cause of the problem was a faulty relay (K-2 relay) in the trouble alarm circuit for the cluster. The plant staff discovered that the K-2 relay contacts were fused, potentially the result of the ongoing modification work and testing in the building. The investigation also identified that the functionality of the K-2 relay was not normally tested after a CAAS cluster was installed in the field. The relay was tested in the shop during re-calibration of the clusters. However, the quarterly surveillance procedures, used to ensure continued operability of the system, did not directly verify the functionality of the trouble circuit through the K-2 relay. As a result, activities in the field could have affected the K-2 relay without the plant staff's knowledge.

Upon identification of the cause, the plant staff reviewed the current status of other installed CAAS clusters. The plant staff determined that the K-2 relays, incorporated into other installed clusters, were tested as a part of the CAAS upgrade project. However, this testing was not done as an overtly specified part of the upgrade process. Instead, the testing was accomplished as a result of informal infield installation monitoring activities requested by the design engineer. Since the installation activities associated with the CAAS upgrade project had been implemented over the last several months, the inspectors questioned whether any other CAAS clusters had been replaced since the installation testing had been performed. Upon further review, the engineering staff determined that several clusters had been replaced. As a result, the K-2 relay for these clusters were tested and determined to be operable. Subsequent to the additional testing, engineering management informed the inspectors that a further review of the process used to define the post-modification testing for the CAAS upgrade would be conducted. As an additional

part of the corrective actions, the plant staff planned to initiate a change to the surveillance procedure to ensure proper routine testing of the K-2 relay. In the interim, the plant management placed a “hold” on the surveillance procedure used to test CAAS clusters following replacement. The “hold” designation required the system engineer to be contacted to ensure that the testing protocol was adequate.

The Quality Assurance Program required activities affecting quality, including post-modification and routine testing, to be performed using procedures appropriate to the circumstances. However, the routine surveillance procedure used to test the CAAS upgrade was not adequate to ensure the continued proper operation of the K-2 relay following either the modification or a routine replacement of a CAAS cluster. The failure of the design modification process to specify an appropriate test of the CAAS cluster K-2 relay following system modifications, and a failure of the surveillance procedure to ensure the K-2 relay, a quality component, functioned as designed is considered a violation of minor safety significance not subject to formal enforcement action. This IFI is now considered closed.

c. Conclusion

The plant staff performed a thorough investigation of an anomaly with a criticality accident alarm system cluster fault condition in Building C-310 identified by the inspectors. The cause of the anomaly was determined to be a failed relay in the cluster’s trouble alarm circuit which was not routinely tested in the field after cluster installation to ensure the relay was functioning properly. The plant staff initiated corrective actions to revise the affected surveillance procedures used to test the relay after field installation of a cluster and to examine the engineering design change process that previously did not ensure that a comprehensive post-modification test was specified for the modification.

V. Plant Support

Radiation Protection

R1.1 Review of Routine Health Physics Practices

a. Inspection Scope (88100)

The inspectors reviewed the annual radiation work permits (RWP) for general activities onsite and observed health physics practices in the field during routine tours of various facilities onsite.

b. Observations and Findings

The annual RWPs provided the protective equipment and clothing required when performing various general routine activities onsite involving a potential exposure to radioactive materials or radioactive contamination. The inspectors noted that the RWPs, although comprehensive, contained some inconsistencies. In particular, the inspectors noted that gloves were required for performing work on one RWP where the transferrable contamination was above contamination area action levels, but not on another RWP with the same transferrable contamination levels. Also, the RWPs indicated that coveralls were required for certain activities, by which the health physics staff meant that anti-contamination coveralls or anti-C’s were required. However, the inspectors noted that generally the term as used among plant staff referred to plant coveralls or “blues,” and that

this term could lead to a misunderstanding among readers of the RWPs. The health physics staff acknowledged the inspectors' comments and indicated that a revision to the RWPs involved would be made to clarify the requirements.

The inspectors noted during routine tours of plant facilities that plant staff were not wearing gloves for work in or near contaminated cell sampling panels. The inspectors noted that at least one of the RWPs involving activities in the cell sampling panels required the use of gloves to prevent hand contamination. However, after review, the plant staff identified to the inspectors that other activities in the same area could be performed without gloves because the potential for transferring contamination was less. The inspectors indicated that the requirements were confusing and could lead to misapplication in the field. The health physics staff acknowledged the inspector's comments and indicated that health physics technicians in the process buildings had been instructed to observe activities in and around the cell sampling panels to ensure the appropriate RWP requirements were being followed.

The inspectors also followed up on an issue that was identified in a number of assessment and tracking reports (ATR). The issue dealt with the identification of a limited number of contaminated areas outside from which the contamination had spread or otherwise surfaced since the site characterization was completed in November 1997. The plant staff had initiated a project to survey the boundaries of the outside contaminated areas in October 1999, and currently planned to have the surveys completed by the end of April 2000. The survey data would then be analyzed to determine the extent of and likelihood for the spread of contamination and the appropriate survey frequency to ensure outside contaminated area boundaries remained appropriately posted and controlled. The inspectors noted that the health physics program did require routine vehicle surveys and personnel entry and exit surveys for those individuals whose duties required access to the outside contaminated areas. The Safety Analysis Report and site procedures did not specify a survey frequency for the outside areas posted as contaminated areas. The inspectors will track the plant staff's resolution of this issue as an Inspector Followup Item (IFI 70-7001/99017-01).

c. Conclusion

The inspectors identified inconsistencies between some documents, used to implement the health physics program, and in the radiological activities of some plant staff. The inspectors also noted efforts by the health physics staff to further define the level of controls necessary to effectively monitor and control the spread of contamination.

S8 Conduct of Security Activities at USEC's Advanced Technology Enrichment Facility

The inspectors conducted an inspection of security activities at USEC's Advanced Technology Enrichment Facility (ATEF), located near the Paducah Gaseous Diffusion Plant.

The security inspection included an assessment of the certificatee's implementation of commitments contained in the ATEF Security Plan for the Protection of Classified Matter. The inspection centered on detailed reviews of four core areas of the security plan:

Physical Security (e.g., exterior locks, access control, and badging procedures); Storage and Control of Classified Matter (e.g., intrusion alarm system, security containers, and incoming classified mail procedures); Classification (e.g., proper classified cover sheets and marking stamps); and Computer Security.

S8.1 Physical Security

a. Inspection Scope

The inspectors examined the facility's physical security and access control practices to ensure compliance with the requirements of the security plan. The inspection included a review of exterior locks, access control, and badges.

b. Observations and Findings

The inspectors observed that the main visitors lobby entrance to the facility was secured by a key-in-knob lock and equipped with alarm contacts. There was also a closed-circuit television camera and intercom in the lobby to allow the office manager/receptionist to view and communicate with visitors. Lastly, it was noted that an intrusion motion sensor was mounted on the ceiling to detect any movement in the lobby. The inspectors noted that the security plan did not rely upon the camera and intercom; however, these devices were noted to enhance the protection of classified material at the facility. The inspectors determined that the physical security measures observed were consistent with NRC requirements and the security plan.

During tours of the facility, the inspectors noted that all employees prominently wore a USEC photo-identification badge that indicated, by badge color, what clearance level the employees possessed. Also, the inspectors were required to sign a visitors log and wear a visitors badge while within the facility. Because the facility has less than 30 employees, NRC regulations and the security plan did not require the employees to wear badges or the facility to maintain a visitor's badge program. However, the inspectors noted that the current practices enhanced the protection of classified material at the facility.

c. Conclusions

The inspectors determined that the facility staff were properly implementing the physical security requirements included in the ATEF Security Plan for the Protection of Classified Matter.

S8.2 Storage and Control of Classified Matter

a. Inspection Scope (81820)

The inspectors examined the facility staff's storage and control of classified matter practices to ensure compliance with the commitments contained in the security plan. The inspection included a review of the construction features of the secure room; physical checks of the classified containers within the secure room; records of lock combinations; and intrusion alarms.

b. Observations and Findings

The inspectors determined that the storage of classified matter at the facility was limited to the "secure room." The secure room relied, in part, on an interior intrusion detection system to protect classified material stored within the room. The inspectors noted that the alarm system consisted of several intrusion motion sensors and a local audible annunciator. During a tour of the area, the inspectors confirmed that the facility staff utilized Standard Form 702's, "Security Container Check Sheets," for the three classified security containers maintained in the secure room. The inspectors also confirmed that the intrusion alarm system functioned properly. An alarm test was conducted and the private company that monitors the alarm system notified the ATEF Facility Security Officer via fax that the alarm was received. The local audible annunciator for the room also properly activated during the alarm test.

During a review of the process and procedures used for the receipt of classified mail at the facility, the inspectors noted that several facility staff possessed an "L" clearance. Since the facility management had requested approval to receive information classified at the Secret Restricted Data (SRD) level, a level requiring a "Q" clearance, the potential existed for an individual with an "L" clearance to access SRD materials. In addition, the inspectors noted that the office manager/receptionist, who was primarily responsible for receipt and distribution of incoming classified mail, was one of the staff members that possessed an "L" clearance. However, because the facility had not yet received any the SRD materials, the potential that an individual with an "L" clearance would gain unauthorized access to SRD materials was very low. Nonetheless, in order to alleviate the possibility, the facility staff revised the mail receipt process to require an individual with a "Q" clearance to receive classified mail. Further, the inspectors were informed that all facility staff currently holding an "L" clearance were scheduled to have their clearances upgraded to a "Q" level.

c. Conclusions

The inspectors determined that the facility staff were properly implementing the storage and control of classified matter requirements contained in the ATEF Security Plan for the Protection of Classified Matter, with one weakness. The weakness, involving measures for the future receipt of classified matter, was corrected during the inspection.

S8.3 Classification

a. Inspection Scope

The inspectors examined the facility's policies and procedures for the classification of information to ensure compliance with the commitments contained in the approved security plan and the appropriate Presidential Executive Order (EO). The inspectors reviewed the procedures for classifying information, preparation of classified documents for transmittal, classification guidance and classified marking stamps.

b. Observations and Findings

Through discussions and observations, the inspectors confirmed that the Facility Security Officer had been briefed on the requirements of EO 12958, "Classified National Security Information." However, proper document cover sheets and marking stamps required for the preparation and handling of classified documents were not available at the facility. The

inspectors also noted that an Authorized Derivative Classifier (ADC) had not been designated for the facility. The inspectors discussed the findings with the facility staff. The facility management concurred with the findings and indicated that proper materials would be obtained and that an ADC would be designated for the facility.

c. Conclusions

The inspectors determined that the facility staff were properly implementing the classification requirements contained in the ATEF Security Plan for the Protection of Classified Matter. A weakness was identified, in that, the facility management had not identified a facility ADC.

S8.4 Computer Security

a. Inspection Scope

The inspectors examined the facility policies and procedures for the processing of classified data on designated stand-alone desktop computers to ensure that data being processed was adequately protected.

b. Observations and Findings

The inspectors reviewed the facility computer security program and associated procedures to ensure that measures were in place to control access to classified stand-alone computers and to protect classified data processed on the computers. At the time of the inspection, the facility did not include any classified computers, since the facility had just opened and had not yet been approved for a permanent facility clearance by the NRC.

The inspectors determined that facility procedures appropriately required classified computer hard drives to be stored in one of the security containers within the secure room. The procedures also required a six-inch separation between classified and unclassified systems/equipment (e.g., telephones, facsimile machines, modems, etc.). The inspectors determined that the security program process and procedures were consistent with NRC requirements.

c. Conclusions

The inspectors determined that the facility staff had developed appropriate procedures to ensure the proper implementation of the computer security requirements contained in the ATEF Security Plan for the Protection of Classified Matter.

F8 Miscellaneous Fire Protection Issues

F8.1 (Closed) Certificatee Event Report 70-7001/97002-21: A sprinkler system pipe (System 27) in Building C-335 was struck by maintenance personnel causing a coupling to leak. The leak initiated a water flow alarm for the system in Building C-300. The system was declared inoperable and the pipe was repaired. A subsequent water flow test was performed to demonstrate the system met the TSR surveillance requirement. No subsequent water alarms were noted. This item is considered closed.

F8.2 (Closed) Certificatee Event Report 70-7001/97002-25: High-pressure fire water system

branch pipe not connected in Building C-331. The plant staff declared the system inoperable and removed it from service in order to properly connect the branch lines. In addition, the plant staff developed and implemented an extensive program to identify and correct other examples of legacy configuration control problems with the fire program sprinkler system. Subsequent walkdowns by the plant staff and random sampling of systems by NRC inspectors have confirmed the corrective actions taken in response to the issue were effective. This item is considered closed.

- F8.3 (Closed) Certificatee Event Report 70-7001/97002-26: High-pressure fire water system branch pipe not connected in Building C-333. The plant staff declared the system inoperable and removed it from service in order to properly connect the branch lines. Subsequent walkdowns by the plant staff and random sampling of systems by NRC inspectors have confirmed the corrective actions taken in response to the issue. This item is considered closed. (See also Section F.8.2)
- F8.4 (Closed) Certificatee Event Report 70-7001/97002-27: High-pressure fire water system inspector test valves installed in Building C-331 without flow restricting devices. The plant staff declared the systems inoperable and removed them from service in order to install the appropriate inspector test valves. The plant staff then performed flow tests of the systems to validate the operability of the systems. Subsequent walkdowns by the plant staff and random sampling of systems by NRC inspectors have confirmed the corrective actions taken in response to the issue. This item is considered closed. (See also Section F.8.2)
- F8.5 (Closed) Certificatee Event Report 70-7001/97002-28: High-pressure fire water system branch pipe not connected in Building C-337. The plant staff declared the system inoperable and removed it from service in order to properly connect the branch lines. Subsequent walkdowns by the plant staff and random sampling of systems by NRC inspectors have confirmed the corrective actions taken in response to the issue. This item is considered closed. (See also Section F.8.2)
- F8.6 (Closed) Certificatee Event Report 70-7001/97002-29: High-pressure fire water (HPFW) system branch lines in Building C-333 and C-337 were not connected. The plant staff declared the systems inoperable and removed them from service in order to properly connect the branch lines. Subsequent walkdowns by the plant staff and random sampling of systems by NRC inspectors have confirmed the corrective actions taken in response to the issue. This item is considered closed. (See also Section F.8.2)
- F8.7 (Closed) Certificatee Event Report 70-7001/97002-30: High-pressure fire water (HPFW) system branch lines in Building C-331 and C-337 were not connected. The plant staff declared the systems inoperable and removed them from service in order to properly connect the branch lines. Subsequent walkdowns by the plant staff and random sampling of systems by NRC inspectors have confirmed the corrective actions taken in response to the issue. This item is considered closed. (See also Section F.8.2)

X1 Exit Meeting Summary

The inspectors presented the inspection results to members of the certificatee's staff and management at the conclusion of the inspection on January 18, 2000. An interim exit meeting was also held between the NRC Security Specialists and the certificatee's staff, located at the ATEF, on December 8, 1999. The certificatee staff acknowledged the findings presented at both meetings. The inspectors asked the certificatee staff whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

PARTIAL LIST OF PERSONS CONTACTED

United States Department of Energy

G. A. Bazzell, Site Safety Representative

United States Enrichment Corporation

- *M. A. Buckner, Operations Manager
- *L. L. Jackson, Nuclear Regulatory Affairs Manager
- *J. A. Labarraque, Safety, Safeguards and Quality Manager
- *S. R. Penrod, Enrichment Plant Manager
- *H. Pulley, General Manager

United States Enrichment Corporation's Advanced Technology Enrichment Facility

- **G. Englert, Design Engineering
- **C. Page, Office Manager
- **S. Thomas, Facility Security Officer
- **J. Thomas, Director
- **B. Stapleton, USEC Corporate Security Officer

U.S. Nuclear Regulatory Commission

- **J. K. Everly, Senior Facilities Security Specialist
- *J. M. Jacobson, Resident Inspector
- **L. M. Numkin, Senior Computer Security Specialist
- *K. G. O'Brien, Senior Resident Inspector

*Denotes those present at the exit meeting January 18, 2000.

**Denotes those present at the interim exit meeting December 8, 1999.

Other members of the plant staff were also contacted during the inspection period.

INSPECTION PROCEDURES USED

- IP 88020: Nuclear Criticality Safety
- IP 88100: Plant Operations
- IP 88102: Surveillance Observations
- IP 88103: Maintenance Observations
- IP 81820: Physical Protection Facility Approval and Safeguarding of National Security Information and Restricted Data

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

70-7001/99017-01 IFI Survey Protocols and Frequencies for Contamination Areas Located Outside of the Site Buildings.

Closed

Compliance Plan Issue 19 Management Controls

Compliance Plan Issue 20 Safety Committees

70-7001/99016-03 IFI Criticality Accident Alarm System Cluster H Fault Light

70-7001/97002-02 CER Human Error Resulting in a Fire Protection System Inoperability

70-7001/97002-25 CER Legacy Fire Protection System Configuration Control Inadequacy

70-7001/97002-26 CER Legacy Fire Protection System Configuration Control Inadequacy

70-7001/97002-27 CER Legacy Fire Protection System Configuration Control Inadequacy

70-7001/97002-28 CER Legacy Fire Protection System Configuration Control Inadequacy

70-7001/97002-29 CER Legacy Fire Protection System Configuration Control Inadequacy

70-7001/97002-30 CER Legacy Fire Protection System Configuration Control Inadequacy

Discussed

NONE

LIST OF ACRONYMS USED

ADC	Authorized Derivative Classifier
ATEF	Advanced Technology Enrichment Facility
ATR	Assessment and Tracking Report
CAAS	Criticality Accident Alarm System
CFR	Code of Federal Regulations
DNMS	Division of Nuclear Materials Safety
EO	Executive Order
EOC	Emergency Operations Center
HPFW	High Pressure Fire Water
IFI	Inspector Followup Item
IP	Inspection Procedure
NMSS	Nuclear Materials Safety and Safeguards
NRC	Nuclear Regulatory Commission
PDR	Public Document Room
PORC	Plant Operations Review Committee
PSS	Plant Shift Superintendent
RWP	Radiological Work Permit
SAR	Safety Analysis Report
SRD	Secret Restricted Data
TSR	Technical Safety Requirement
USEC	United States Enrichment Corporation
Y2K	Year 2000