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

October 27, 2004

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

SUBJECT: NRC EMERGENCY PREPAREDNESS EXERCISE INSPECTION REPORT 07007001/2004-010 (DFFI) - PADUCAH

Dear Mr. Brown:

On October 1, 2004, the NRC completed an emergency preparedness exercise 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, the 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 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 concluded the exercise was a successful demonstration of your staff's capabilities to implement its Emergency Plan and procedures. However, the inspectors noted weaknesses in communications during a particular scenario incident, and in the amount of information provided by involved staff at the critique for the incident.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html.

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

Sincerely,

/RA/

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

Docket No. 07007001
Certificate No. GDP-1

Enclosure: Inspection Report 07007001/2004-010 (DFFI)

cc w/encl:
R.B. Starkey, Paducah General Manager
S. R. Cowne, Paducah Regulatory Affairs Manager
P. D. Musser, Portsmouth General Manager
S. A. Toelle, Director, Nuclear Regulatory Affairs, USEC
Paducah Resident Inspectors Office
R. M. DeVault, Regulatory Oversight Manager, DOE
G.M. Bazzell, Paducah Facility Representative, DOE
Janice H. Jasper, State Liaison Officer

Distribution w/encl:
G. Mulley, OIG
D. Martin, NMSS
R. Nelson, NMSS
R. Bellamy, RI
C. Evans, RII
D. Ayres, RII
C. Evans, RII
D. Hartland, RII
J. Henson, RII
B. Bartlett, RII
D. Spitzberg, RIV
OE MAIL, OE
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U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No.	07007001
Certificate No.	GDP-1
Report No.	07007001/2004-010
Facility Operator:	United States Enrichment Corporation
Facility Name:	Paducah Gaseous Diffusion Plant
Location:	5600 Hobbs Road P.O. Box 1410 Paducah, KY 42001
Dates:	September 28, through October 1, 2004
Inspectors:	S. R. Caudill, Senior Fuel Facility Inspector R. Gibson, Health Physicist G.A. Wertz, Senior Resident Inspector, BWXT
Approved by:	Jay L. 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 07007001/2004-010(DFFI)

This inspection was an evaluation of the plant staff's performance during the September 29, 2004, biennial exercise of the certificatee's Emergency Plan.

Emergency Preparedness

- The exercise objectives and scenario adequately exercised major elements of the Emergency Plan.

- The inspectors determined that the Incident Commander (IC) and other responding personnel performed in a manner that would have protected the workers' safety and resulted in timely mitigation of the uranium hexafluoride release. Although the certificatee could have been more timely in responding to the injured workers, the emergency squad and medical personnel were able to promptly remove the injured workers from the scene for medical treatment. The inspectors noted a weakness in communications between the responders and the IC during a particular scenario incident.

- Adequate communications between the IC and Emergency Operations Center (EOC) were exhibited. The general emergency response by EOC management and staff was successful in appropriately addressing the two declared emergency action levels and the construction site fire. Emergency conditions were properly evaluated and protective actions appropriately recommended by the EOC. Emergency classification and external notifications were performed according to procedural requirements.

- The critiques were generally effective in identifying exercise problems and suggestions for improvements. Substantive weaknesses identified from the previous exercise did not recur. The inspectors noted a weakness, in that important details about the response to a particular scenario incident were not discussed during the post-exercise critiques.

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

REPORT DETAILS

1. Emergency Preparedness

a. Exercise Objectives and Scenario (88055)

(1) Inspection Scope and Observations

The inspectors reviewed the objectives and scenario for the certificatee's September 29, 2004, biennial graded emergency preparedness exercise and determined that they adequately challenged the various elements of the Emergency Plan. The scenario provided a challenging framework to demonstrate the certificatee's capability to implement the Plan and included participation by various offsite government agencies and local mutual aid organizations.

The scenario included a moderate earthquake which actuated seismic alarms in Building C-331, resulting in a release of uranium hexafluoride (UF_6) from accumulator piping in Building C-310. An additional unrelated emergency simulation involved a fire outside the protected area at a DOE contractor construction site. Both the UF_6 release and fire resulted in injuries to personnel. Controller messages properly provided additional information as needed, and no substantive controller-related problems were observed. The inspectors noted that the 2004 scenario was suitably different from scenarios used during the previous three graded exercises that occurred in 1998, 2000, and 2003.

(2) Conclusions

The inspectors determined that the exercise objectives and scenario adequately and thoroughly exercised major elements of the Emergency Plan.

b. Incident Command Post (88055)

(1) Inspection Scope and Observations

The inspectors observed the certificatee's response at the incident command post established at the southwest end of Building C-310, which was suitably upwind of the release. Response to the scene was by the Incident Commander (IC), the emergency squad, security, fire trucks, ambulance, and offsite medical personnel. The inspectors assessed the certificatee's recognition of abnormal plant conditions, command and control, communications, and overall implementation of the Emergency Plan and procedures.

The IC effectively communicated with the responders to ensure that a valve was closed to isolate a simulated leak from liquid UF_6 accumulator piping. The two workers responsible for securing the release were adequately briefed prior to approaching the isolation valve to ensure a timely entry and exit. The inspectors observed the entry of the responders on the upper floor of Building C-310 and noted they knew exactly where the valve was, and that they closed it and exited the area in a safe manner.

The certificatee's performance in responding to the release was a successful demonstration of an emergency response program maintained in a state of operational readiness, with personnel trained and familiar with procedures for implementing the Emergency Plan. Emergency facilities and equipment were adequate and operational. Coordination with offsite fire and medical responders was effective.

Plant staff effectively staged a post for decontaminating response personnel and injured workers upwind of the release. However, the inspectors observed that the IC and the responding personnel did not establish the proper priority in responding to two injured workers. The inspectors noted that there was a slight delay by plant staff in attending to and decontaminating the injured workers. This observation was communicated to the certificatee for improvement in future drills or exercises.

Subsequent to responding to the simulated UF_6 liquid release at Building C-310, the IC received additional reports that a (simulated) fire was in progress at a DOE contractor construction site that resulted in an injured person. The inspectors determined that communication between the IC and fire chief who responded to the simulated fire was adequate and effective. However, the inspectors observed a weakness in communications between the IC and responders during another scenario incident. This weakness was also noted by plant staff in post-exercise critiques.

(2) Conclusions

The inspectors determined that the IC and other responding personnel performed in a manner that would have protected the workers' safety and resulted in timely mitigation of the UF_6 release. Although the certificatee could have been more timely in responding to the injured workers, the emergency squad and medical personnel were able to promptly remove the injured workers from the scene for medical treatment. The inspectors noted a weakness in communications between the responders and the IC during a particular scenario incident.

c. Emergency Operations Center (88055)

(1) Inspection Scope and Observations

The Plant Shift Supervisor (PSS) effectively evaluated the plant conditions from the simulated earthquake event, declared an Alert Emergency Action Level (EAL), and activated the Emergency Operations Center (EOC) based on the criteria specified in Procedure CP2-EP-EP5045, "Earthquake Emergency." The PSS determined the proper emergency response actions to be taken and requested damage assessments from each building. Building evacuation was requested and an accountability of site personnel was effectively completed. The initial drill notifications to the state and local emergency organizations and the NRC Operations Center were performed within the required time frame.

The EOC Crisis Manager (CM) arrived promptly following the Alert declaration and assumed control of the EOC. The CM correctly upgraded the EAL to a Site Area Emergency based on the criteria in Procedure CP2-EP-EP5055, "Emergency Classification," due the source of the UF_6 leak. Offsite emergency notifications were adequately updated. The EOC determined that no offsite consequences would result from the UF_6 release and focused efforts to ensure adequate protection for site personnel.

Emergency response strategy, priority, and status were prominently posted in the EOC and updated for EOC member cognizance. The CM routinely updated the EOC staff on emergency conditions. Following stabilization of the UF_6 leak, the CM performed an

appropriate hazard assessment and consulted external agencies prior to downgrading the EAL.

(2) Conclusions

Adequate communications between the IC and EOC were exhibited. The general emergency response by EOC management and staff was successful in appropriately addressing the two declared EALs and the construction site fire. Emergency conditions were properly evaluated and protective actions appropriately recommended by the EOC. Emergency classification and external notifications were performed according to procedural requirements.

d. Post-exercise Critiques (88055)

(1) Scope and Observations

Critiques were held in each facility immediately following the exercise. Participants remained in the facility and were actively encouraged to identify positive and negative issues. Critique sheets were provided to participants for their written comments. A controller/evaluator critique was conducted following the participant critiques, and the inspectors also observed a public critique at an offsite facility.

The inspectors observed that the critiques included candid assessments of the various emergency response activities. The inspectors verified that relevant observations, weaknesses, and suggestions for improvement were identified by plant staff and entered into the Corrective Action Program. The inspectors also observed that substantive weaknesses identified from the previous emergency exercise did not recur.

The inspectors identified a weakness in that relevant information from a particular scenario incident was not discussed during the critiques, and that the certificatee management was not aware of this particular information until informed by the inspectors at the pre-exit meeting.

(2) Conclusions

The critiques were generally effective in identifying exercise problems and suggestions for improvements. The inspectors noted that substantive weaknesses identified from the previous exercise did not recur. The inspectors noted a weakness, in that important details about the response to a particular scenario incident were not discussed during the post-exercise critiques.

2. Exit Meeting Summary

The inspectors presented the inspection results to members of the facility management on October 1, 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
* S. Cowne, Nuclear Regulatory Affairs Manager
* P. Jenny, Plant Services Manager
* B. McKinney, Emergency Exercise Coordinator
* S. Penrod, Plant Manager

* Denotes those present at the exit meeting on October 1, 2004.

2. Inspection Procedures Used

IP 88050 Emergency Preparedness

3. Items Opened, Closed, And Discussed

None

4. List Of Acronyms Used

CCF	Central Control Facility
CM	Crisis Manager
DFFI	Division of Fuel Facility Inspection
DOE	Department of Energy
EAL	Emergency Action Level
EOC	Emergency Operations Center
IC	Incident Commander
IP	Inspection Procedure
NRC	Nuclear Regulatory Commission
PSS	Plant Shift Superintendent
UF_6	Uranium Hexafluoride
USEC	United States Enrichment Corporation