

March 25, 2011

Mr. Steven A. Toelle, Director
Nuclear Regulatory Affairs
U. S. Enrichment Corporation
2 Democracy Center
6903 Rockledge Drive
Bethesda, MD 20817

SUBJECT: APPROVAL OF CERTIFICATE AMENDMENT REQUEST RELATED TO
REVISION TO TECHNICAL SAFETY REQUIREMENTS 2.6.4.1, CRITICALITY
ACCIDENT ALARM SYSTEM (NON-CASCADE FACILITIES), PADUCAH
GASEOUS DIFFUSION PLANT

Dear Mr. Toelle:

By letter dated March 15, 2011 (Agencywide Documents Access and Management System [ADAMS] Accession No. ML110810610), the United States Enrichment Corporation (USEC) submitted a certificate amendment request (CAR) requesting a modification to the Certificate of Compliance for the Paducah Gaseous Diffusion Plant (PGDP). The proposed change would revise PGDP's Technical Safety Requirements (TSR) by removing the C-728 Motor Cleaning Facility from the Applicability table of TSR 2.6.4.1a, which is used for TSR 2.6.4.1b Applicability.

The staff completed the review of the CAR and found the proposed revision to be acceptable. The staff's Certificate Evaluation Report is contained in Enclosure 1. Enclosure 2 contains Revision 8 to the PGDP's Certificate of Compliance, reflecting the revision approved for this request. The approval of this CAR is documented in the PGDP Certificate of Compliance, GDP-1, by adding a reference to the March 15, 2011, letter from USEC.

Neither an environmental assessment nor an environmental impact statement is required for the proposed action because the requested amendment is subject to the categorical exclusion provided in Title 10 of the *Code of Federal Regulations* (10 CFR) 51.22(c)(19) and will not have a significant impact on the human environment.

In accordance with 10 CFR, Section 2.390 of the U.S. Nuclear Regulatory Commission's (NRC's) Rules of Practice, a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records System component of the NRC's ADAMS. ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

If you have any questions regarding this action, please contact Ms. Tilda Liu at 301-492-3217 or via e-mail at Tilda.Liu@nrc.gov.

Sincerely,

/RA/ THiltz for

Michael D. Tschiltz, Deputy Director
Fuel Facility Licensing Directorate
Division of Fuel Cycle Safety
and Safeguards
Office of Nuclear Material Safety
and Safeguards

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

Enclosures:
As stated

cc:
Mr. Vernon Shanks, USEC-Paducah
Paducah Gaseous Diffusion Plant
PO Box 1410
Paducah, KY 42001

Mr. Randall M. DeVault
U.S. Department of Energy – Oak Ridge
PO Box 2001
Oak Ridge, TN 37832

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DATE	3/22/2011	3/ 22 /2011	3/ 25 /2011	3/ 25 /2011

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DOCKET NUMBER: 70-7001

CERTIFICATE NUMBER: GDP-1

CERTIFICATE HOLDER: United States Enrichment Corporation
Paducah Gaseous Diffusion Plant
Paducah, Kentucky

SUBJECT: COMPLIANCE EVALUATION REPORT FOR CERTIFICATE
AMENDMENT REQUEST REGARDING REVISION TO
TECHNICAL SAFETY REQUIREMENTS 2.6.4.1, CRITICALITY
ACCIDENT ALARM SYSTEM (NON-CASCADE FACILITIES)

1.0 PROPOSED CHANGES

By letter dated March 15, 2011 (Agencywide Documents Access and Management System [ADAMS] Accession No. ML110810610), the United States Enrichment Corporation (USEC or certificate holder) submitted a certificate amendment request (CAR) to the U.S. Nuclear Regulatory Commission (NRC) regarding its Paducah Gaseous Diffusion Plant (PGDP). The proposed CAR would revise PGDP's Technical Safety Requirements (TSR) by removing the C-728 Motor Cleaning Facility from the Applicability table of TSR 2.6.4.1a, which is used for TSR 2.6.4.1b applicability.

2.0 BACKGROUND

The proposed revision is in response to a planned plant change that transitions the C-728 facility from a USEC-leased status to a U.S. Department of Energy (DOE)-retained, or de-leased, status. USEC stated, in its letter dated March 15, 2011, that C-728 has not been used as a motor cleaning facility since USEC began operations at PGDP in 1993. C-728 has been used to store potentially fissile materials in the past. Once de-leased, C-728 will not contain any NRC-regulated materials or operations. The facility is currently empty awaiting turnover to DOE.

3.0 DISCUSSION

Pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 76, "Certification of Gaseous Diffusion Plants," certificate holders are required by 10 CFR 76.87(c) to include in their technical safety requirements, appropriate references to procedures and/or equipment that address criticality prevention. Regulatory Guide (RG) 3.71, "Nuclear Criticality Safety Standards for Fuels and Material Facilities," was developed to provide guidance on complying with these portions of the NRC's regulations. RG 3.71 describes procedures for preventing nuclear criticality accidents in operations that involve handling, processing, storing, and/or transporting special nuclear material at fuel and material facilities.

American National Standards Institute (ANSI)/American National Standard (ANS)-8.3-1997, Section 3.3, Glossary of Terms, defines that "excessive radiation dose" is any dose to personnel corresponding to an absorbed dose from neutrons and gamma rays equal to or greater than 0.12 Gy (12 rad) in free air. ANSI/ANS-8.3-1997, Section 4.2.2, states that: "A criticality alarm system meeting the requirements of this standard shall be installed in areas where personnel would be subject to an excessive radiation dose." Furthermore, ANSI/ANS-8.3-1997, Section 6.4, states: "Field observations shall establish that criticality alarm signals are

functional throughout all areas where personnel could be subject to an excessive radiation dose.” RG 3.71 endorsed the guidelines contained in ANSI/ANS-8.3-1997.

In its letter dated March 15, 2011, USEC stated that C-728 was originally included in the applicability of TSRs 2.6.4.1a and 2.6.4.1b because it was used for fissile material storage. The basis statements supporting TSRs 2.6.4.1a and 2.6.4.1b are not being changed as a result of this revision.

As discussed above, the 12-rad zone is defined in ANSI/ANS-8.3 as an “excessive radiation dose.” Personnel in all locations that could be subject to an excessive radiation dose must be protected by means of alarms to signal evacuation. Therefore, if there were a nearby building where a criticality event could cause an excessive dose such as Building C-728, per USEC’s analysis, an audible alarm signal would continue to be needed.

The affected area around C-728 is within the 12-rad boundary for NRC-regulated fissile operations in C-720. C-720 is composed of Maintenance and Stores Building and Appurtenant Structures. USEC stated that it will continue to own the CAAS components in C-728 (i.e., horns and rotating beacons slaves to the C-720 CAAS) and continue the operation, maintenance, and performance of TSR testing and surveillance requirements. USEC further stated that the horns and beacons in C-728 will remain as part of the overall PGDP plant system.

Therefore, because C-728 is not used to store fissile material and USEC will continue to maintain an audible alarm system to meet applicable RG 3.71 guidance, the staff finds that the proposed change to remove the C-728 Motor Cleaning Facility from the Applicability table of TSR 2.6.4.1a, would continue to ensure continued reliability and safe operation of the facility and is, therefore, acceptable.

4.0 ENVIRONMENTAL REVIEW

Issuance of the requested amendment to Certificate of Compliance GDP-1 is subject to the categorical exclusion provided in 10 CFR 51.22(c)(19) and will not have a significant impact on the human environment. Therefore, in accordance with 10 CFR 51.22.b, neither an environmental assessment nor an environmental impact statement is required for the proposed action.

5.0 CONCLUSION

Based on its review and evaluation of the information provided by USEC in its CAR, dated March 15, 2011, the staff finds that the proposed revision to Applicability table of PGDP TSR 2.6.4.1a, which is used for TSR 2.6.4.1b, “Applicability,” would not have a significant increase in risk to the workers and would continue to provide adequate protection of public health, safety, safeguards, security, and the protection of the environment. Therefore, the staff concludes that the proposed revision is acceptable and consistent with 10 CFR 76.87(c).

PRINCIPAL CONTRIBUTOR

T. Liu, Office of Nuclear Material Safety and Safeguards