August 9, 2007

Mr. Stephen A. Toelle
Director, Nuclear Regulatory Affairs
United States Enrichment Corporation
2 Democracy Center
6903 Rockledge Drive
Bethesda, MD 20817

SUBJECT: REVISION TO TECHNICAL SAFETY REQUIREMENTS SECTIONS TO ADD URANIUM HEXAFLUORIDE RELEASE DETECTION CONTROLS FOR INTERBUILDING TIE-LINES AT THE PADUCAH GASEOUS DIFFUSION PLANT (TAC L52588)

Dear Mr. Toelle:

By letter dated July 5, 2007, the United States Enrichment Corporation (USEC) submitted a Certificate Amendment Request (CAR) regarding the Certificate of Compliance for the Paducah Gaseous Diffusion Plant (PGDP). This CAR proposes to revise Technical Safety Requirements (TSR) Section 2.4.4.1 to establish uranium hexafluoride (UF_6) leak detection controls for interbuilding (C-331/C-333) tie-lines.

During higher power operations, the tie-lines may operate above atmospheric pressure. However, the TSR requires that any area within the cascade operating above atmospheric pressure must have operational UF_6 smoke detectors. The operational capability to operate the tie-lines above atmospheric pressure was approved during initial certification of PGDP. There is no change in overall risk to public health and safety. The tie-line smoke detectors must be installed and operational and the TSRs modified prior to increasing cascade power levels.

The installation of the smoke detectors will not result in an increased risk to public health and safety, and the issuance of this amendment would not be inimical to either the common defense and security of the United States, or the maintenance of a reliable and economical domestic source of enrichment services as required by 10 CFR 76.22; therefore, this amendment request is approved. Within the CAR, you identified, and the staff has taken note of, structural deficiencies related to Seismic qualification of the tie-line, that must be addressed prior to greater than atmospheric operations within the tie-line.

The Certificate Evaluation Report of the proposed changes to your certificate has been completed, and is attached as Enclosure 1. Enclosure 2 contains Revision 12 to your Certificate of Compliance.

If there are any questions regarding this action, please contact the Project Manager, Michael G. Raddatz, via telephone at (301) 492-3108, or via email, to mgr@nrc.gov

In accordance with 10 CFR 2.790 of the Nuclear Regulatory Commission's (NRC) "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, component of NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA, by P. Habighorst for/

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

Docket No.: 70-7001
Certificate No.: GDP-1
Amendment 12

Enclosures:
1. Compliance Evaluation Report
2. Certificate of Compliance GDP-1

cc:
Randall M. DeVault, DOE-Oak Ridge
Steve Penrod, Paducah

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Michael Tschiltz, Acting Deputy Director
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OFC	ECB		ECB		ECB		FFLD	
NAME	MRaddatz		LWilliamson		BSmith		MTschiltz /by, M. Tschiltz for/	
DATE	07/04/07		07/25/07		08/09/07		08/09/07	

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DOCKET NUMBER: 70-7001

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

SUBJECT: REVISION TO TECHNICAL SAFETY REQUIREMENTS SECTIONS TO ADD URANIUM HEXAFLUORIDE RELEASE DETECTION CONTROLS FOR INTERBUILDING TIE-LINES AT THE PADUCAH GASEOUS DIFFUSION PLANT (TAC L52588)

PROPOSED CHANGES

By letter dated, July 5, 2007, the United States Enrichment Corporation (USEC) submitted a Certificate Amendment Request (CAR) regarding the Certificate of Compliance for the Paducah Gaseous Diffusion Plant (PGDP). This CAR proposes to revise Technical Safety Requirements (TSR) Section 2.4.4.1 to establish uranium hexafluoride (UF_6) leak detection controls for the interbuilding (C-331/C-333) tie-lines. Specifically, the TSR changes will provide PGDP the capability to increase cascade power to a point where the interbuilding tie-lines will operate above atmospheric pressure. However, one requirement for above atmospheric operations is that any affected area within the cascade have UF_6 leak detection controls, e.g., smoke detectors.

BACKGROUND

Section 3.15.7.3.1 of the PGDP-CAR states that the UF_6 detectors perform a required safety function, and that they are required to be operational in any area of the cascade that is operated above atmospheric pressure. The detectors are considered safety-related equipment and their alarms are monitored continuously from the Auxiliary Control Rooms. The applicant intends to adjust the cascade power this fall to levels such that the tie-lines will be operating above atmospheric pressure. Although the CAR allows the tie-lines to operate in this condition, there is a Limiting Condition for Operation that requires the smoke detectors to be operational prior to transiting to above atmospheric operations in any area of the cascade.

REGULATORY REQUIREMENTS

10 CFR 76.87(d) states, in part, the TSR must include an evaluation of the proposed changes, encompassing at a minimum, the following categories: (1) safety limits; (2) limiting control settings; (3) limiting conditions for operation; (4) design features; (5) surveillance requirements; and (6) administrative controls. As the applicant is requesting a change to the TSRs, the staff has evaluated the application to ensure that these requirements were met. As the change requested by the applicant requires the modification of an approved TSR, USEC has requested an amendment to its certificate.

DISCUSSION

The applicant has proposed modifications to both the CAR and TSRs, and provided those changes for staff review and evaluation to show that the requirement for the UF_6 release detection system has been extended to include the interbuilding (C-331/C-333) tie-lines. The changes to the CAR include the addition of the "tie-lines" in discussions of cascade release detector locations, e.g., "Detectors are installed inside cell housings, cell bypass housings, unit bypass housings, **interbuilding tie-line housings**, and in interbuilding booster stations." (emphasis added)

TSR Changes

The TSR change was reviewed by the U.S. Nuclear Regulatory Commission (NRC) staff. The changes include a requirement that during operations in Cascade Mode 2, e.g., "steady state operations above atmospheric pressure," there be a minimum of 1 UF_6 release detection head (smoke detector) operational in each end of the interbuilding tie-line. If there is not, compensatory measures are specified.

FINDINGS

The staff's review confirms, with a high confidence, that the changes do not increase either the probability or consequences of any accident previously analyzed, and no new or different type of accident has been identified. As a result of the proposed change, there will be no undue risk to public health and safety.

The applicant provided the proposed TSR modifications that support the requested operations within the interbuilding tie-line housings. The staff reviewed these modifications and determined that the criteria of 10 CFR 76.87(d) has been satisfactorily met.

The approval of this amendment request is documented in the Certificate of Compliance GDP-1 by the addition of a reference to the July 5, 2007, letter from USEC describing the TSR revisions.

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.

CONCLUSIONS

Based on its review and evaluation of the information provided by USEC, in its CAR of July 5, 2007, the NRC staff finds that the proposed revisions to TSR Section 2.4.4.1, which establishes smoke detectors within the interbuilding tie-line housings, provide adequate protection of public health, safety and safeguards, and concludes that they are acceptable, consistent with the requirements of 10 CFR Part 76, and should be approved.

PRINCIPAL CONTRIBUTOR

Michael Raddatz, NMSS/FCSS