DOCKET NUMBER: 70-7002

CERTIFICATE HOLDER: United States Enrichment Corporation
Portsmouth Gaseous Diffusion Plant
Piketon, OH

SUBJECT: COMPLIANCE EVALUATION REPORT FOR CERTIFICATE AMENDMENT REQUEST GDP 08-0020, REVISION OF TECHNICAL SAFETY REQUIREMENTS IN TABLE 3.2.2-1, RELATED TO ONSITE FUNCTIONAL STAFFING REQUIREMENTS (TAC NO. L32459)

PROPOSED CHANGES

With the approval of this certificate amendment request (CAR), the Portsmouth Gaseous Diffusion Plant (PORTS) would eliminate the required constant staffing of facilities where all equipment is in a "cold shutdown" mode of operation. Notes to Table 3.2.2-1, "On-site Functional Staffing Requirements," will reflect this change. Activities during this mode of operation include risk mitigation and removal of equipment in anticipation of de-leasing of the facility. However, the facility will continue to meet all applicable requirements in the *Code of Federal Regulations* (CFR), technical safety requirements (TSRs), and safety analysis report (SAR) while in cold shutdown.

BACKGROUND

By letter dated August 18, 2008 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML082840253), the United States Enrichment Corporation (USEC) submitted a CAR for a modification to the certificate of compliance for PORTS. This CAR proposes changes to TSR Table 3.2.2-1 to eliminate continuous staffing requirements if all equipment in a facility is in a cold shutdown activity condition.

USEC ended its low-enriched uranium (LEU) enrichment operations at PORTS in 2001. At that time, equipment sufficient to allow for a standalone enrichment capacity of three million separative work units (SWUs) per year was placed in a "cold standby" activity condition. "Cold standby" is defined as a process condition such that the three million SWU LEU capacity could be reestablished in approximately 18 months. In 2006, the U.S. Department of Energy directed USEC to transition from a cold standby to a cold shutdown condition. The ultimate goals were to place associated cold standby equipment in a more permanent shutdown condition and to stop the previously required surveillance and maintenance activities. The transition from cold standby to cold shutdown primarily affects only the X-330 and X-333 process facilities[1] (buildings) and is an ongoing activity.

REGULATORY REQUIREMENTS

Title 10, Section 76.45, "Application for Amendment of Certificate," the CFR states, in part, that "the Corporation may at any time apply for an amendment of the certificate to cover proposed new or modified activities," and 10 CFR 76.87(d) states, in part, that the TSR must include an

[1] The enrichment of uranium was performed in three process buildings: X-333, X-330, and X-326. The buildings house more than 4,000 stages of compressors and converters and cover more than 8 million square feet of floor space.

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 requirement, and (6) administrative controls.

As the requested amendment would require a change in the Technical Safety Requirements (Section 3.0 "Administrative Controls"), USEC must obtain approval of the change from the U.S. Nuclear Regulatory Commission (NRC). Pursuant to 10 CFR 76.22(b), a COC may not be issued if such action would be inimical to the common defense and security of the United States, or to the maintenance of a reliable and economical domestic source of enrichment services.

DISCUSSION

The staff reviewed the material supporting the amendment request submitted August 18, 2008, to determine if it agrees that the cold shutdown condition does not require continuous or even frequent routine monitoring because of its passive condition. The staff review of what cold-shutdown entails found that the primary process support systems (seal exhaust, cold recovery, wet air evacuation, freezer sublimers, booster stations, and process piping systems) located within the buildings will have been shut down and evacuated of gaseous UF_6[2]. In addition, all solid uranium deposits will have been reduced to quantities below an individually always safe mass. The only remaining systems important to safety that will continue to be operable will be the criticality accident alarm system and the high-pressure fire water system.

Currently, USEC is in transition from cold standby to cold shutdown. At the conclusion of the transition, all gaseous UF_6 will have been removed from the cascade process equipment to a UF_6 "negative" level, the recirculating cooling water and lube oil will have been drained and isolated from the equipment, and the equipment will have been buffered with plant dry air. Existing TSR controls for the UF_6 feed facilities that involve heating UF_6 cylinders will continue to be used to ensure that liquid UF_6 will at no time be introduced into the process. The facility will continue to meet all other applicable CFR, TSR, and SAR requirements when it is in cold shutdown. Activities during this mode of operation include risk mitigation and removal of process equipment in anticipation of de-leasing of the facility.

ENVIRONMENTAL REVIEW

Issuance of the requested amendment to Certificate of Compliance Gaseous Diffusion Plant-2 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, the proposed action requires neither an environmental assessment nor an environmental impact statement.

CONCLUSION

Based on the review and evaluation of the information provided by USEC in its CAR dated August 18, 2008, as supplemented by its response to the staff's request for additional information dated October 28, 2008 (ADAMS Accession No. ML083040371), the NRC staff finds

[2] Evacuated is defined in the SAR 3.1.1.4.1.4 as a "UF_6 negative". This is a condition in which a reduction of the UF_6 concentration for a given system has been evacuated and/or diluted to less than 20 parts per million (ppm) at a system pressure of 1.0 psia or less than an equivalent concentration, based on system pressure," and all solid uranium deposits are reduced to an individually "critically safe mass."

that, because the amount of licensed material in these areas will have been significantly reduced and no critical equipment will continue to operate, the certificate holder's proposal to reduce the monitoring in these areas will continue to ensure adequate safe storage and monitoring of licensed materials with negligible risk of release. Further, the NRC staff concludes that this facility will continue to be monitored in accordance with both applicable and appropriate TSR and SAR requirements. The issuance of this amendment will thus not increase the risk to public health and safety and is not inimical to the common defense and security. The NRC staff further finds that this action will not adversely affect the maintenance of a reliable and economical domestic source of enrichment services. Accordingly, the NRC approves the revision of TSR Table 3.2.2-1, as presented in the CAR dated August 18, 2008.

Principal Contributors

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