7590-01

U.S. NUCLEAR REGULATORY COMMISSION
NOTICE OF AMENDMENT TO
CERTIFICATE OF COMPLIANCE GDP-2 FOR
THE U.S. ENRICHMENT CORPORATION
PORTSMOUTH GASEOUS DIFFUSION PLANT
PORTSMOUTH, OHIO
DOCKET 70-7002

The Director, Office of Nuclear Material Safety and Safeguards, has made a determination that the following amendment request is not significant in accordance with 10 CFR 76.45. In making that determination, the staff concluded that: (1) there is no change in the types or significant increase in the amounts of any effluents that may be released offsite; (2) there is no significant increase in individual or cumulative occupational radiation exposure; (3) there is no significant construction impact; (4) there is no significant increase in the potential for, or radiological or chemical consequences from, previously analyzed accidents; (5) the proposed changes do not result in the possibility of a new or different kind of accident; (6) there is no significant reduction in any margin of safety; and (7) the proposed changes will not result in an overall decrease in the effectiveness of the plant's safety, safeguards, or security programs. The basis for this determination for the amendment request is described below.

The NRC staff has reviewed the certificate amendment application and concluded that it provides reasonable assurance of adequate safety, safeguards, and security and compliance with NRC requirements. Therefore, the Director, Office of Nuclear Material Safety and Safeguards, is prepared to issue an amendment to the Certificate of Compliance for the Portsmouth Gaseous Diffusion Plant (PORTS). The staff has prepared a Compliance Evaluation Report which provides details of the staff's evaluation.

The NRC staff has determined that this amendment satisfies the criteria for a categorical exclusion in accordance with 10 CFR 51.22. Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared for this amendment.

USEC or any person whose interest may be affected may file a petition, not exceeding 30 pages, requesting review of the Director's Decision. The petition must be filed with the Commission not later than 15 days after publication of this Federal Register Notice. A petition for review of the Director's Decision shall set forth with particularity the interest of the petitioner and how that interest may be affected by the results of the decision. The petition should specifically explain the reasons why review of the Decision should be permitted with particular reference to the following factors: (1) the interest of the petitioner; (2) how that interest may be affected by the Decision, including the reasons why the petitioner should be permitted a review of the Decision; and (3) the petitioner's areas of concern about the activity that is the subject matter of the Decision. Any person described in this paragraph (USEC or any person who filed a petition) may file a response to any petition for review, not to exceed 30 pages, within 10 days after filing of the petition. If no petition is received within the designated 15-day period, the Director will issue the final amendment to the Certificate of Compliance without further delay. If a petition for review is received, the decision on the amendment application will become final in 60 days, unless the Commission grants the petition for review or otherwise acts within 60 days after publication of this Federal Register Notice.

A petition for review must be filed with the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, Attention: Docketing and Services

Branch, or may be delivered to the Commission's Public Document Room, the Gelman Building, 2120 L Street, NW, Washington, DC, by the above date.

For further details with respect to the action see: (1) the application for amendment and (2) the Commission's Compliance Evaluation Report. These items are available for public inspection at the Commission's Public Document Room, the Gelman Building, 2120 L Street, NW, Washington, DC, and at the Local Public Document Room.

Date of amendment request: November 8, 1996, as modified by USEC responses dated December 13, 1996, and January 16, 1997, to NRC requests for additional information dated November 29, 1996, and December 31, 1996, respectively.

Brief description of amendment: The amendment changes the Technical Safety Requirement (TSR) Standby Operational Mode definition for the UF6 Withdrawal Stations by allowing the compression loop vent path to the cascade to be open. It should be noted that venting of the Withdrawal Station compression loop to the cascade is routinely done at PORTS. However, accounting for this procedure was inadvertently left out of the Standby Operational Mode definition by USEC from its proposed TSRs which have been approved by the NRC.

Basis for finding of no significance:

1. The proposed amendment will not result in a change in the types or significant increase in the amounts of any effluents that may be released offsite.

The proposed change to TSR 2.5.1 permits evacuating UF6 from the compression loop in the UF6 ..ithdrawal station to the cascade, which acts as a low pressure sink, in the Standby Operational Mode. This change will not result in significantly increasing the potential for unconfinement of UF6 which could lead to an increase in effluents that may be released offsite since it only involves venting of UF6 from one portion of process piping, which confines UF6 in the Withdrawal Station, to another portion of process piping which confines UF6 in the enrichment cascade. Confinement of UF6 within the cascade is primarily provided by maintaining the cell high-side (compressor discharge) gas pressure below 25 psia (TSR 2.2.3.13) and by applying appropriate quality assurance requirements to process gas piping and equipment (Safety Analysis Report Section 3.8.2.2). Therefore, this TSR amendment will not result in significant amounts of effluents that may be released offsite.

2. The proposed amendment will not result in a significant increase in individual or cumulative occupational radiation exposure.

Evacuating UF6 from the compression loop to the cascade in the Standby Operational

Mode will not significantly impart additional occupational radiation exposure. The cascade or the withdrawal loops do not result in significant occupational radiation exposures. Some of the reasons being that: (1) the occupancy factor is low, (2) distance from the source is generally high, (3) significant shielding is provided by piping and equipment, (4) depleted and low enriched uranium has low specific activities and are also comparatively low gamma radiation emitters, (5) most of the uranium is in gaseous form (low density), and (6) UF6 is confined within quality controlled equipment and piping. Therefore, any transfer of confined UF6 from the withdrawal station to the cascade would not measurably modify individual or cumulative occupational radiation exposures.

3. The proposed amendment will not result in a significant construction impact.

Since the proposed changes do not involve any construction, therefore, there will be no construction impacts.

4. The proposed amendment will not result in a significant increase in the potential for, or radiological or chemical consequences from, previously analyzed accidents.

The proposed changes which involve evacuating UF6 from the compression loop to the cascade (low pressure sink) in the Standby Operational Mode will not result in a significant increase in the potential for UF6 releases. In fact, venting the compression loop to the cascade may enhance safety by minimizing the potential for over-pressurization of the UF6 withdrawal loop with subsequent confinement rupture. To avoid enrichment losses, UF6

is vented back to the A-suction of a compressor in the cascade that has UF6 of similar enrichment. All A-suction pressures in lines that would receive the vented UF6 are subatmospheric. Therefore, any confinement failure would likely result in inleakage as opposed to outleakage. In addition, cascade units that would receive vented UF6 would likely be comprised of relatively smaller sized equipment containing relatively smaller quantities of UF6 since they would be located near the top and at the bottom of the cascade. Therefore, the proposed change will not result in a significant increase in the potential for UF6 releases.

Going from a closed compression loop vent path to an open compression loop vent path will not result in a significant increase for, or radiological consequences from, previously evaluated criticality accidents. The likelihood of an accidental criticality in the cascade due to wet-air (moderator) inleakage would not be increased significantly for the following reasons:

a. This amendment involves a valve that is internal to several valves even when the pigtail is not attached to the withdrawal manifold. These valves would be in the closed position. Therefore, several misvalving errors would be required to permit significant wet-air inleakage into the cascade through the compression loop vent valve.

b. To maintain the integrity of the UF6 pressure boundary, USEC is committed to applying appropriate quality assurance requirements to process gas piping and equipment (including valves) with diameters of 2 inches or larger.

c. Formation of UO2F2 in the cascade due to significant inleakage of wet-air would result in compressor vibration and would reduce barrier permeability thus affecting cascade compressor performance which would be observed in the control rooms via motor load indications. Changes in compressor A-suction pressures would also be detected.

d. Introduction of wet-air into the cascade would be detected on the line recorders that continuously indicate nitrogen and oxygen concentrations.

Based on the primary reasons provided above, the proposed TSR change will also not significantly raise the probability or consequences of a criticality accident.

5. The proposed amendment will not result in the possibility of a new or different kind of accident.

For similar reasons provided in the assessment of criterion 4, evacuating UF6 from the compression loop to the cascade in the Standby Operational Mode will not result in a new potential accident involving UF6 releases or criticality. In fact, venting the compression loop to the cascade may enhance safety by minimizing the potential for over-pressurization of the UF6 withdrawal loop with subsequent confinement rupture.

6. The proposed amendment will not result in a significant reduction in any margin of safety.

As discussed above, from a UF6 release accident standpoint, venting to the cascade may enhance safety, and from a criticality accident standpoint, the safety impact is insignificant. This procedure, which is routine operation at PORTS, will not result in the violation of any limiting condition of operation. Therefore, the opening of the vent pathway in the Standby Operational Mode will not significantly reduce any margin of safety.

7. The proposed amendment will not result in an overall decrease in the effectiveness of the plant's safety, safeguards, or security programs.

As discussed above, from a UF6 confinement standpoint venting to the cascade may enhance the plant's safety program and from a criticality safety program standpoint, the safety impact is insignificant.

The staff has not identified any safeguards or security related implications from the proposed amendment. Therefore, the opening of the vent pathway in the Standby Operational Mode will not result in an overall decrease in the effectiveness of the plant's safety, safeguards, or security programs.

Effective date: This amendment becomes effective at 12:00 noon on the day following the day issued.

Certificate of Compliance No. GDP-2: Amendment will revise the Technical Safety Requirements.

Local Public Document Room location: Portsmouth Public Library, 1220 Gallia Street, Portsmouth, Ohio 45662.

Dated at Rockville, Maryland, this 4 day of FEBRUARY 1997.

FOR THE NUCLEAR REGULATORY COMMISSION

Original Signed By

Carl J. Paperiello, Director
Office of Nuclear Material Safety
and Safeguards

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See previous concurrence CP/PROOFED/FEBRUARY 3, 1997

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