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December 13, 1996

Dr. Carl J. Paperiello
Director, Office of Nuclear Material
Safety and Safeguards
Attention: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

SERIAL: GDP 96-0198

Portsmouth Gaseous Diffusion Plant (PORTS)
Docket No. 70-7002
Response To Request for Additional Information
Certificate Amendment Request-Withdrawal Stations Standby Operational Mode

Dear Dr. Paperiello:

The purpose of this letter is to provide a response to your request (TAC. No. L32006) for additional information on the Certificate Amendment Request (CAR) dealing with the Withdrawal Stations Standby Operational Mode. This additional information request was provided to USEC in Reference 1 and states that information was not provided in the CAR to address criticality safety, without which the NRC staff is unable to conclude that there would be no reduction in safety for the facility in granting the requested change.

Although the additional information request did not identify a specific question related to criticality safety, based on a telephone conversation between USEC and Mr. Yawar Faraz of your staff on November 25, 1996, it is USEC's understanding that the concern related to the potential for wet air leakage into the cascade.

It is important to note that the venting of UF_6 from a withdrawal loop to the Cascade is a normal part of the overall process to drain liquid UF_6 into cylinders and to perform cylinder pigtail evacuation and purging necessary for the routine connection and disconnection as described in SAR Section 3.2.2.6 and analyzed as part of the withdrawal process in SAR Sections 4.2.2.2 and 4.2.3 (Table 4.2-5). The Certificate Amendment Request does not involve a change to this analyzed operation but is

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clarifying that valves interior to the withdrawal station piping boundary must be opened in order to connect the enrichment cascade to the compressor portion of the withdrawal loop during the period of time necessary to evacuate the UF_6 from the compressors and their associated discharge and recycle piping prior to isolating the compressors and allowing them to operate on "recycle".

Allowing these interior valves to be opened does not increase the risk of wet air inleakage into the withdrawal station or the enrichment cascade. The placing of the compression loop in "recycle" does not involve the operation of any boundary valves that separate the Cascade or the condensing portion of the withdrawal loop from atmosphere and therefore does not increase the potential for any wet air inleakage. SAR Section 4.2.2.2, Criticality in Tails, ERP or Product Withdrawal Facilities addresses the overall concern of criticality at the withdrawal stations:

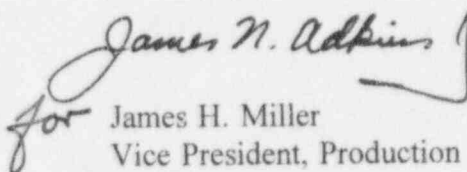
"The Product Withdrawals are designed with nuclearly safe geometries, so that accumulations of unsafe quantities of product-assay material are not credible during either normal operation or accident conditions...."

Any wet air inleakage via the withdrawal station would not be a criticality concern at the station due to system geometry and assay controls (TSRs 2.5.3.5, 2.5.3.6 and 2.5.3.7). The formation of any UO_2F_2 deposits would at most only cause operational problems due to flow restrictions.

Although not affected by the proposed CAR, the potential for any uncontrolled wet air inleakage via the pigtail/boundary valves, which was also a concern noted by your staff during the November 25, 1996 telephone conversation, is extremely low. There are at least four boundary valves in series that would have to fail or not be operated in accordance with existing procedures in order to provide a path for wet air inleakage. In addition, should an unexpected and uncontrolled inleakage of wet air occur, a high pressure vent alarm is provided to indicate process perturbations and to notify the operator of the need for operator action.

Any questions related to this subject should be directed to Mr. Robert L. Woolley at (301) 564-3413 or Mr. Mark Smith at (301) 564-3244.

Sincerely,


for James H. Miller
Vice President, Production

cc: NRC Region III Office
NRC Resident Inspector - PGDP
NRC Resident Inspector - PORTS
Mr. J. Dale Jackson (DOE)

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Reference

- 1) NRC Letter from Mr. Robert C. Pierson to Mr. James H. Miller, "Certificate Amendment Request-
Portsmouth Gaseous Diffusion Plant Withdrawal Stations Standby Operational Mode (TAC No.
L32006)," dated November 29, 1996.