

71-6553



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October 28, 1998
GDP 98-0228

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

Paducah Gaseous Diffusion Plant (PGDP)
Docket No. 71-6553
Request for Renewal of Certificate of Compliance No. 6553

Dear Dr. Paperiello:

In accordance with 10 CFR 71.38, the United States Enrichment Corporation (USEC) hereby submits this request for renewal of Certificate of Compliance No. 6553. Certificate of Compliance No. 6553, Revision 14, dated June 17, 1998, which expires on November 30, 1998.

This request for renewal is based on Revision 1 to KY-665, "Safety Analysis Report on the "Paducah Tiger" Protective Overpack for 10-Ton Cylinders of Uranium Hexafluoride" (Paducah Tiger SAR). This revision of the Paducah Tiger SAR has been prepared in accordance with the guidance provided in NRC Regulatory Guide 7.9, "Standard Format and Content of Part 71 Applications for Approval of Packaging of Type B, Large Quantity, and Fissile Radioactive Material Packages." Enclosure 1 to this letter provides a general description of the changes incorporated in the revised Paducah Tiger SAR. Enclosure 2 is a copy of Revision 1 of the Paducah Tiger SAR.

As requested in the NRC's June 17, 1998 letter transmitting Certificate of Compliance No. 6553, Revision 14 (Reference 1), the revised Paducah Tiger SAR addresses the cumulative effects on the Paducah Tiger overpack of the hypothetical accident condition (HAC) test sequence, as specified in 10 CFR 71.73. A finite-element analysis of the HAC was performed to address discrepancies between the requested gross package weight and the gross weight of the package originally tested. The analysis demonstrates that the Paducah Tiger overpack satisfies the HAC test requirements as specified in 10 CFR 71.73.

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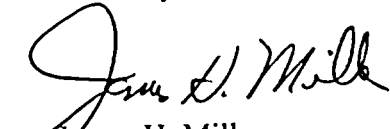
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USEC requests that Certificate of Compliance No. 6553 be renewed and that the revised Paducah Tiger SAR become effective 60 days from issuance of the renewed certificate. Should you have any questions or require additional information, please contact Beth Darrough at (301) 564-3422 or Russ Wells at (301) 564-3245. There are no new commitments contained in this submittal.

Sincerely,



James H. Miller
Vice President, Production

- Enclosures:
1. Description of Changes Contained in Revision 1 to the Paducah Tiger SAR
 2. KY-665, "Safety Analysis Report on the "Paducah Tiger" Protective Overpack for 10-Ton Cylinders of Uranium Hexafluoride," Revision 1.

cc: Mr. Cass R. Chappell, NRC HQ
NRC Region III Office
NRC Resident Inspector - PGDP
NRC Resident Inspector - PORTS

Description of Changes Contained in Revision 1 to the Paducah Tiger SAR

In support of the United States Enrichment Corporation's (USEC's) request for renewal of Certificate of Compliance No. 6553, Revision 1 to KY-665, "Safety Analysis Report on the "Paducah Tiger" Protective Overpack for 10-Ton Cylinders of Uranium Hexafluoride" (Paducah Tiger SAR), has been prepared. Changes incorporated in the revised SAR include:

- Revision 1 of the Paducah Tiger SAR incorporates a rewrite of the current document in accordance with the guidance provided in NRC Regulatory Guide 7.9, "Standard Format and Content of Part 71 Applications for Approval of Packaging of Type B, Large Quantity, and Fissile Radioactive Material Packages." The Paducah Tiger SAR revision consolidates all previously approved amendments.
- The requirements specified in 10 CFR 71.73 regarding the evaluation of hypothetical accident conditions (HAC) test, are addressed in Section 2.7, "Hypothetical Accident Conditions" of the revised SAR. A finite-element analysis has been performed to address the cumulative effects on the Paducah Tiger overpack of the HAC test sequence. As described in the SAR, it is concluded that the HAC tests and analyses performed on the Paducah Tiger overpack demonstrate that the overpack provides adequate structural protection for the 48X cylinder when exposed to the HAC events specified in 10 CFR 71.73(c), thus ensuring that the structural integrity of the 48X cylinder is not compromised.
- The gross weight of the Paducah Tiger overpack has been increased in the revised SAR from 37,500 lbs to a maximum of 40,000 lbs. The increase in overpack weight allows for the repair of corrosion damage to the bottom of some overpacks, and allows for the addition of a high strength aluminum stiffening plate for both puncture protection and structural support for the cylinder valve during a hypothetical accident event. The addition of the aluminum stiffening plate, as demonstrated by the HAC tests and analyses described above, eliminates the need to measure the clearance distance between the end of the cylinder valve and the plane of the end of the cylinder skirt prior to each shipment. Certificate of Compliance No. 6553, Rev. 14, conditional statement No. 11, required the clearance distance to be at least 3/8 inch.
- The minimum transport index has been revised from 0.4 to 0.0. The basis for this change is provided in Section 6.1 of the SAR.
- The Paducah Tiger SAR revision includes a new NRC certification drawing as part of the corrosion damage repair plan. Section 1.4, "License Drawings." identifies the new drawing as M-1209-NRC-5, "Paducah Tiger Overpack Repair Details." Additionally, drawings M-1209-NRC-1,2, and 4 have been renumbered as Revisions 0,0, and 1, respectively.
- Supplement 2 to the existing Paducah Tiger SAR, titled "Operating Instructions and Acceptance Tests and Maintenance Program for the Paducah Tiger Overpack," has been incorporated into

Revision 1 of the Paducah Tiger SAR as Sections 7.0, "Operating Procedures," and 8.0, "Acceptance Tests and Maintenance Program." Table 8.2-1, PTO Maintenance Inspection Schedule, is based on ANSI N14.1. Additionally, it should be noted that this table does not include the quarterly inspections that are in Table 1 of the Supplement 2 to the existing Paducah Tiger SAR. The items that currently receive a quarterly inspection are also inspected before each shipment, with the exception of inspecting welds and the ISO corners, thus there is no need to continue inspecting these items on a quarterly basis. The basis for inspecting the welds and ISO corners on just a five year basis is that ANSI N14.1 does not have a quarterly inspection interval. Part 7.4.2 states the requirements for periodic inspections, tests and recertification, which occurs every 5 years. Part 7.4.2 specifically lists visual inspections required for welds. The proposed SAR changes to Table 8.2-1 meet the requirements of ANSI N14.1.

Enclosure 2 to
GDP 98-0228

**Safety Analysis Report on the "Paducah Tiger" Protective Overpack
for 10-Ton Cylinders of Uranium Hexafluoride**

**Revision 1
Report No. KY-665**