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**U. S. NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS**

Observation Report No. 70-7001/96-202

Docket No. 70-7001

Facility Operator: United States Enrichment Corporation
5600 Hobbs Road
P.O. Box 1410
Paducah, Kentucky 42001

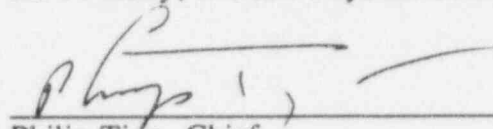
Facility Name: Paducah Gaseous Diffusion Plant

Observations At: Paducah, Kentucky

Observations Conducted: September 23-30, 1996

Inspectors: L. D. Ong, MC&A Physical Scientist
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Approved by:


Philip Ting, Chief
Operations Branch
Division of Fuel Cycle Safety
and Safeguards, NMSS

10/20/96
Date Signed

Authority Statement: The Department of Energy (DOE) and the Nuclear Regulatory Commission (NRC) have agreed to cooperate to facilitate the NRC obtaining information and knowledge regarding the gaseous diffusion plants, as well as the United States Enrichment Corporation's (USEC) operation of the plants. Information will be obtained through observation and inspection activities during the interim period before the NRC assumes regulatory responsibility for the gaseous diffusion plants. This report is a summary of NRC observations for the period stated. The observations were communicated to the DOE Site Safety Representative during and at the end of the observation period.

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OBSERVATION SUMMARY

Areas Observed: During the week of September 23-30, 1996, an announced site visit was conducted by a NRC Headquarters safeguards team along with technical assistance by representatives from the Pacific Northwest National Laboratory (PNNL). These reviews included the activities and results of the NRC physical inventory verification for the Paducah's facility.

Results: All items were discussed and reviewed with the DOE Site Safety Representative to allow for future follow-up and evaluation, as appropriate. Various items were identified for NRC follow-up during future observation periods.

EXECUTIVE SUMMARY

MC&A Physical Inventory:

The verification of the physical inventory at the Paducah facility during the week of September 23-30, 1996, indicated that the itemized nuclear material inventory quantities are adequately stated. With the exception of depleted UF₄ residues, all randomly selected items were verified for location, and various subsets were verified for assay and weight. The observation of cascade inventory data gathering and UF₆ gas sampling indicated that the inventory was conducted in a reasonable and systematic manner. After verification of the cascade inventory calculations on October 28-31, 1996, a statement can be made about the validity of the baseline inventory quantities determined by PGDP (with the exception of the solid residual holdup). By using the verified baseline inventory and monitoring inventory adjustments through March 3, 1997, the NRC can verify the book inventory (i.e., the amount of nuclear material to be accounted for) at the time of regulatory oversight transition.

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