DECEMBER 17, 1997 SECY-97-290

FOR: The Commissioners

FROM: L. Joseph Callan /s/
Executive Director for Operations

SUBJECT: LESSONS LEARNED CONCERNING THE CERTIFICATION OF THE GASEOUS DIFFUSION PLANTS

PURPOSE:

To inform the Commission of the lessons learned that the staff developed concerning the certification of the gaseous diffusion plants (GDPs) operated by the United States Enrichment Corporation (USEC).

BACKGROUND:

The Energy Policy Act of 1992 amended the Atomic Energy Act of 1954 (AEA) by adding a new Title II to the Act (Sections 1201-1805), which established a new government corporation, USEC, for the purpose of operating the uranium enrichment enterprise owned and previously operated by the Department of Energy (DOE). The AEA also required the Nuclear Regulatory Commission to establish safety and safeguards regulations for the GDPs and to certify the GDPs' compliance with those standards. The NRC promulgated new regulations for the GDPs (10 CFR Part 76) in 1994 and issued the initial Certificate of Compliance to USEC on November 26, 1996. The NRC assumed regulatory jurisdiction over the GDPs, from DOE, on March 3, 1997. The time between November 1996 and March 1997 provided a period for USEC to transition gradually to the NRC requirements.

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The staff has compiled the key lessons learned from the GDP certification and transition process. A few of the more important lessons learned included the following: (1) the need for a well-documented safety or design basis for the facilities; (2) the need for NRC staff review guidance documents and acceptance criteria; (3) the importance of having Resident Inspectors at the sites; and (4) the need to evaluate coverage of and adherence to existing DOE requirements.

The staff has provided, for the Commission's information, the attached lessons learned from the process. The lessons learned from this process may have application to NRC's possible future regulation of other DOE nuclear facilities.

In a related matter, on October 20, 1997, the Office of the Inspector General (OIG) issued OIG's Special Evaluation Report 97E-19, "Valuable Lessons can be Learned from the Regulatory Transition of the Gaseous Diffusion Plants." The OIG evaluation report contains several observations that relate to the staff's lessons learned from the GDP certification and transition process. Many of the observations are also clearly included in the staff's lessons learned, such as the need for guidance documents and clear regulatory boundaries. Other observations are captured by the staff's lessons learned but are not specifically stated. For example, communication with the employees and the unions at the GDPs is captured by the lesson learned concerning the benefit of having Resident Inspectors placed at the site. The staff will factor in the OIG observations in activities regarding possible future regulation of other DOE nuclear facilities.

Separately, DOE conducted its own review and prepared DOE/ORO-2051, "Regulatory Oversight Program, July 1, 1993, to March 3, 1997." This report, subtitled "A Transitional Program for Regulation of the Gaseous Plants at Paducah, Kentucky and Portsmouth, Ohio," documents DOE activities and milestones leading up to NRC's assumption of regulatory oversight on March 3, 1997. This report, which has been provided separately to the Commissioners, also contains lessons learned, from DOE's perspective, on creation and implementation of DOE's regulatory oversight program, on the transition from DOE requirements to NRC requirements, and on the development of the Compliance Plans for the two sites. Several of DOE's lessons learned concern only DOE internal operations (e.g., staffing and organization), and several overlap and reinforce the staff's lessons learned provided with this paper. The staff will consider DOE's lessons learned in conducting future activities, as appropriate.

COORDINATION:

The Office of the General Counsel has reviewed this paper and has no legal objection.

L. Joseph Callan
Executive Director
for Operations

Attachment:
"Lessons Learned from the Certification

of the GDPs”

LESSONS LEARNED FROM THE CERTIFICATION OF THE GDPS

The transfer of regulatory oversight at the gaseous diffusion plants (GDPs) from the Department of Energy (DOE) to the Nuclear Regulatory Commission was completed on March 3, 1997, when NRC assumed regulatory authority. The GDPs are operated by the United States Enrichment Corporation. To conduct a lessons learned on the certification and transition process of the GDPs the staff has reviewed the process from the development of regulations to actual assumption of jurisdiction. These lessons may have generic application to NRC's possible future regulation of DOE nuclear facilities. The key lessons and recommendations obtained from this process are presented below.

- The early phase of any facility review should include an evaluation of compliance with existing DOE orders and requirements, in order to determine what DOE requirements apply, and the actual status of compliance.

- Early in the transition a concerted effort should be made to determine the status and accuracy of documentation of the current safety and design basis of the facility. Areas of weakness or potential weakness, and inconsistencies with the "as exists" condition of the facility need to be identified and addressed.

- Preferably the facility will have technical safety requirements (TSRs) in accordance with DOE Order 5480.22 instead of Operational Safety Requirements (OSRs). OSRs have been superseded by TSRs, however not all DOE facilities have completed the conversion process. The staff should work with DOE and the facility staff on the appropriate conversion if the plant has not yet made the switch.

- Early in the transition to NRC regulatory oversight, the facility should be evaluated for the presence and implementation of existing programs, such as configuration management, quality assurance, nuclear criticality control, security, surveillance and maintenance. These programs may require upgrading to be incorporated into the license/certificate application in a manner consistent with NRC expectations.

- Early in the transition, NRC should evaluate the status and implementation of a formal program for procedure development and implementation. Typically, NRC regulation entails reliance on a formalized plant program for development and implementation of procedures covering certain topics or areas, together with a minimum complement of specific operational requirements. While facilities are free to establish their own procedures, NRC sets as a requirement that there be a procedures program with specified coverage, and that it be implemented rigorously. Differences from NRC expectations, in procedure coverage, and implementation rigor need to be identified and addressed early due to the long lead time necessary for significant change.

- The overall review campaign should include specific efforts to evaluate, for safety related equipment, the consistency of the "as exists" condition with the plant's safety basis, and the adequacy of associated programs for maintenance, surveillance, and configuration control from the standpoint of assuring reliability. Support programs for safety related equipment, and periodic functional testing to assure full performance capability, are necessary to ensure the reliability of safety equipment when needed, and will need to be in-place to support NRC oversight.

- Specific attention may need to be focused, in the review process, on the adequacy of corrective action programs. NRC's expectations are that a rigorous, well-documented, and vigorously implemented corrective action program will be in place to support transition to NRC oversight.

- NRC should take action to make it clear that schedule commitments that are a basis for

NRC regulatory action are binding, enforceable requirements, and not subject to change without compelling justification. This will avoid any misunderstanding that such commitments are flexible.

- The NRC should anticipate that effort will be needed to establish clear lines of authority and responsibility for plant operations and commitments, and divisions of authority among DOE, the plant operator, and on-site personnel. When submitted, the application should describe the assignment of authority for plant operational control, and for making commitments to NRC, in a clear, unambiguous manner.

- Authority and responsibility will also need to be clearly established and defined for: 1) residual contamination and waste; 2) shared site safety/safeguards incident response equipment, procedures, training, coordination and execution, and emergency planning and coordination with any on-site third parties and off-site response organizations; and 3) any shared safety systems, equipment, or components, such as alarms, roads, and fire protection equipment and personnel.

- The early placement of resident inspectors at the GDPs proved extremely beneficial in gaining insight into current plant conditions and operations, and in promoting information exchange among the involved parties. This was distinctly advantageous to the overall certification process for the GDPs and warrants consideration for other DOE facilities of comparable size and complexity.

- Clear, unambiguous regulations, and the availability of appropriate regulatory guidance documents are important in facilitating a quality application and an efficient review process. In particular, a Standard Review Plan and criteria for designation of safety systems are essential.

- Close management involvement during the review process is essential to facilitate prompt resolution of difficult issues, and a timely review process. Likewise, frequent and continuing interactions with DOE management and staff facilitate early identification and resolution of emerging issues, and promote an efficient review process and a safe transition.

- Strong and continuing efforts to provide current information to the public in general, and specific interested groups and individuals, and to provide opportunities for public input at appropriate points, are useful in promoting public awareness and understanding public concerns. The establishment of a Local Public Document Room was useful and well-received, and should be considered early in the process.

- For facilities where special nuclear material control and accountability is an issue, the applicability of NRC's reporting requirements should be evaluated, and the cost and other impacts of customizing and implementing the Nuclear Materials Management and Safeguards System need to be considered.

- The GDP certification review process was facilitated by the categorical exclusion from requirements for environmental review, which was added to Part 51 as §51.22(c)(19) when Part 76 was promulgated, and by retention by DOE for full responsibility for eventual decommissioning.

The staff believes that the above topics cover the key lessons and recommendations to be obtained from a review of the GDP certification process.