

Department of Energy

Oak Ridge Operations Office
P.O. Box 2001
Oak Ridge, Tennessee 37831— 8651

October 16, 1996

DOCKET NO. 70-7002

Mr. James H. Miller
Vice President, Production
United States Enrichment Corporation
Two Democracy Center
6903 Rockledge Drive
Bethesda, Maryland 20817

Dear Mr. Miller:

USEC ACTION PLAN IN RESPONSE TO DOE MANAGEMENT CONFERENCE, EA-70-7003/96-001

Thank you for your response of June 14, 1996. In this response you responded to the Department of Energy's (DOE) concerns regarding the effectiveness of the United States Enrichment Corporation's (USEC) management controls in improving its operations at the Gaseous Diffusion Plants (GDPs). Specific areas of concern involved procedures, corrective actions, and the preservation of the authorization basis.

Your response did not, however, follow the direction I gave Mr. Robert Woolley in a May 20, 1996, followup letter to the May 9, 1996, management conference. In this letter, I specifically stressed that USEC should not simply restate its management conference presentation but go further in discovering why past corrective actions in these areas have been inadequate. My review of your response, including the results of our inspection activity conducted over the last three months, indicates that USEC management still does not understand why the Department of Energy (DOE) called for the management conference on May 9, 1996. The DOE Management Conference was called to address DOE's concerns regarding USEC's apparent failures to improve its operational management controls and to meet its commitments to improve specific programs within its management control at the GDPs. USEC was expected to provide DOE with an action plan for increasing its overall **management involvement** in assuring safe operation of the GDPs.

Although your response captured the topical points of our concerns in the introductory paragraphs to each Action Plan section, the details of your planned corrective actions to be taken relied heavily on the presumption that the improvement initiatives you had taken since the April 1994 DOE Enforcement Conference (70-7003/94-001), have been successful. As such, you did not provide any new, immediate, and tangible corrective actions to improve overall **management involvement** during the remaining time DOE has responsibility for the regulatory oversight of the GDPs. Instead, with the exception of a few minor corrective actions provided to address specific deficiencies such as resolution and disposition of "as-found" conditions, you have predominantly stressed reliance upon your Quality of Operations Plan, Nuclear Safety Upgrade Projects, and the DOE Compliance Plan to improve your management control systems and to enhance GDP safety margins. In general, your response emphasizes that the corrective action

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course previously established by these other projects and plans will provide DOE with the confidence it seeks from USEC's management controls, only more time is needed.

It is my position that, if a management control system is not working after two years, it would seem logical to consider the possibility that **management performance** was at the root cause. Therefore, it was incumbent upon you to address the role management had played in your management control system failures and to identify what corrective action measures you have now instituted to prevent further recurrence of this problem. Emphasis in management performance is needed, particularly in light of the recent Unreviewed Safety Question Determination (USQD), corrective action, and procedure adherence violations we have identified at the Portsmouth and Paducah Gaseous Diffusion Plants.

Rather than expending additional time and resources in providing a response to address this issue, I would prefer that USEC continue on its committed corrective action course outlined in your response. In doing so I would expect you to stress greater management attention in achieving the results you seek. Therefore, in the coming months you need to demonstrate that the recent procedure revisions in the areas of plant change reviews, USQD performance, procedure adherence, problem reporting, and corrective action verification and validation have been effective in convincing your GDP management and employees that USEC is serious in ensuring that:

- **GDP Authorization Basis Documents are being Maintained** - Site procedures and drawings represent the "as-built" configuration, plant changes are being controlled, and USQDs are being performed prior to performing a modification or placing an "as found" condition into service;
- **Corrective Actions are Responsive and Timely** - Remedial, secondary, and long-term corrective actions will address the direct cause and root cause of each issue (as applicable), the age of an issue will not exceed predetermined management identified resolution time frames based on the safety significance of the issue, and problem recurrence trends are being monitored and corrected; and
- **Safety System SSC Procedures are Developed and are being Followed** - Procedures associated with all activities associated with the control, monitoring, and operation of safety system structures, systems, and components (SSC), as addressed in Chapter 5.0 of the FSAR and OSRs/TSRs have been established, controlled, and are being adhered to.

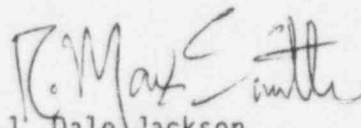
To measure the effectiveness of your management attention and involvement in these areas, I plan to have my staff conduct a special inspection at both the PGDP and PORTS facilities regarding these activities, as well as the commitments you made in your June 14, 1996, response, commencing the week of November 11, 1996. I intend to invite the Nuclear Regulatory Commission (NRC) to participate in these inspections, as observers. Based upon the results of these inspections, DOE will determine whether further management/enforcement action is necessary to ensure compliance with Regulatory Oversight Agreement (ROA) requirements.

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On a related matter, DOE is also concerned about recent comments USEC made to the NRC involving USEC's understanding of what constitutes the scope and extent of its authorization basis documents. At a September 17, 1996, meeting with the NRC, USEC stated that USQDs performed on proposed changes to the GDPs, are only submitted to DOE for approval if the USQD involves a Unreviewed Safety Question (USQ) condition as derived from USEC's review of DOE's approved 1985 Final Safety Analysis Reports, as amended, and/or involves a change to the Operational Safety Requirements (OSR) for the GDPs. This statement is contrary to the previous DOE written position on this issue that was sent to Mr. Robert Woolley in a letter dated June 30, 1994. Let me reiterate that DOE's position on this issue remains unchanged, and failure to consider all authorization basis documents in the performance of a USQD will constitute a violation of ROA requirements. For completeness, I have enclosed DOE's Position Statement from that letter (Enclosure 1).

Should you have any questions concerning this letter, please contact me at (423)241-3208.

Sincerely,


for J. Dale Jackson
Regulatory Oversight Manager
Office of Assistant Manager
for Enrichment Facilities

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CCs on Page 4

cc w/enclosure:

R. W. Woolley, USEC, Bethesda
J. W. Hickey, NRC, White Flint
G. L. Shear, NRC, Region III
K. O'Brien, NRC, PGDP
C. Cox, NRC, PORTS
J. G. Adams, USEC, Bethesda
R. J. Moore, USEC, Bethesda
D. S. Scholl, USEC, PORTS
J. Benton, NE-40, GTN
J. W. Parks, EF-20, ORO
T. T. Slack, CC-10, ORO
W. M. Yoder, DP-821, ORO
G. A. Bazzell, EF-22, C-100, PAD
C. H. Booker, EF-22, C-100, PAD
J. C. Hodges, EF-22, PAD
W. E. Sykes, LMUS, C-100, PAD
J. A. Crum, EF-21, PORTS
E. W. Gillespie, EF-21, PORTS
J. C. Orrison, EF-21, PORTS
R. W. Gaston, MS-1212, PORTS

Enclosure 1

AUTHORIZATION BASIS POSITION STATEMENT

Introduction

The following discussion defines the Department of Energy (DOE) approved authorization basis for the Portsmouth and the Paducah Gaseous Diffusion Plants. It offers the background to the concept of the authorization basis by discussing how one is developed and then applies this philosophy to the Regulatory Oversight Agreement (ROA).

Authorization Basis

The authorization basis includes all aspects of the facility design basis and operational requirements relied upon by DOE to authorize operation of a facility. These aspects are considered to be important to the safety of facility operations. The authorization basis is described in the Final Safety Analysis Reports (FSARs) and other safety analyses, the Operational Safety Requirements (OSRs), safety evaluation reports, and facility-specific commitments made in order to comply with other requirements. (ROA 2.2.4) This definition is consistent with the industry accepted intent and practice of allowing certain changes to nuclear facilities as found in DOE Order 5480.21 "Unreviewed Safety Questions."

Although the term authorization basis has been defined, it is important to understand how this concept was developed and how it relates to basis documents such as the FSAR, the OSRs, and the ROA.

Background

In theory, at the design stage of a nuclear facility, protection of health and safety is ensured through the design of the engineered protection of physical barriers to guard against radioactive and hazardous material releases. These barriers are designed to fulfill their operational function reliably by meeting all applicable criteria and standards. The defense-in-depth philosophy includes reliable design provisions to safely terminate postulated accidents, and provisions to mitigate the consequences of accidents. Health and safety protection criteria are considered in the physical design, should be documented in safety analyses, and is to be considered to be part of the authorization basis. (DOE 5480.21)

This protection philosophy is pervasive in the accident analyses and DOE safety requirements. To understand and apply the defense-in-depth philosophy, it is necessary to understand this perspective of maintaining the physical integrity of barriers designed to contain hazardous and radioactive materials. Accidents and malfunctions are analyzed in terms of their effect on physical barriers and their consequences are related to acceptance dose and hazardous-material

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release limits. Safety analyses define those aspects of design and operations that are important to safety and, therefore, those aspects that DOE relies upon to allow initial and continued operations of a facility. Ideally, all changes made to a facility would be analyzed, documented, and incorporated into the FSAR, thus providing a complete authorization basis. Such has not been the case at Portsmouth and Paducah. Hence, the authorization basis of the facility may not be reflected in its entirety in any one document. Thus, this basis may reside in several different types of documents. These documents may include, but not be limited to, commitments made to support modifications, procedure changes, criticality safety evaluations, DOE approved Justifications for Continued Operations, and the imposition of new DOE requirements or administrative changes. They may also include DOE safety evaluation reports similar to those recently issued for Paducah OSR Rev. 4 and Rev. 5. The intent in maintaining the authorization basis is to preserve the safety envelope for continued safe and reliable operation of the facility.

Safety Analysis Reports

Portsmouth and Paducah each have produced an FSAR in accordance with DOE Orders 5480.1A and 5481.1A. These orders were the governing requirements for safety analysis reports at that time. These documents identified the major safety events (major hazards, initiators, and sequences) and establish an envelope for safe operations, which is defined in the OSRs. (ROA 2.2.2)

During FSAR development, significant reliance was placed on operational experience, engineering judgment, an in-depth understanding of the overall operation and associated hazards, and a senior staff with an overall understanding of and first-hand experience in the theory and operations of the gaseous diffusion plants (GDPs). Credible accident scenarios were developed by (1) examination of previous accident reports and reports of significant events, (2) discussions with personnel possessing extensive practical knowledge of plant operations, and (3) engineering analyses of theoretical situations. Maximum credible consequences associated with on- and off-site personnel exposure to toxic materials and radionuclides were analyzed. (ROA 2.2.2)

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The DOE safety analysis requirements have been revised since the FSARs were issued in 1985. These revisions have added requirements for more formal analysis methods and rigorous documentation. The bases for the selection and elimination of some of the hazards will not be adequately documented until completion of the ongoing FSAR Upgrade Program.

Operational Safety Requirements

The safety analyses for each nuclear facility establish the set of limiting analyses important to safe operation. The limiting analyses are utilized to confirm the adequacy of the systems and equipment design and performance, to identify critical setpoints and operator actions, and to support the establishment of OSRs. The final results of these accident analyses assume that the equipment functions as specified in the authorization basis under predetermined conditions. The FSAR considers analyses of potential accidents and demonstrates that, under the assumed accident conditions, the consequences of accidents challenging the integrity of the barriers will not exceed the criteria established by DOE in authorizing operation of any particular nuclear facility.

Regulatory Oversight Agreement

The ROA is, in fact, a facility-specific contractual commitment made in order to comply with other requirements. The Energy Policy Act of 1992 transferred responsibility for the GDPs from DOE to the newly created United States Enrichment Corporation (USEC). This Act requires the Nuclear Regulatory Commission (NRC) to establish regulatory standards which the NRC will use to certify and regulate the GDPs. Until NRC assumes regulatory oversight for the GDPs, USEC will assume responsibility for the plants under DOE requirements and oversight for nuclear safety and safeguards and security. The ROA defines the critical set of nuclear safety and safeguards and security requirements and the bases for DOE regulatory oversight that are essential for the continued safe and secure operations of the GDPs. (ROA App. A Preface) No statement in the ROA, expressed or implied, negates the full meaning and intent of the authorization basis. In fact, the ROA supports the broader intent of the term authorization basis in the ROA itself. (ROA Article IV)

In the case of the GDPs at Portsmouth and Paducah, the authorization basis is further defined and elaborated upon in the ROA. Chapter 3, "Operational Requirements", describes the envelope of plant operating requirements that are considered necessary to protect public health and safety and to assure adequate safeguards and security of the GDPs. These Implementation Requirements represent the essential nuclear safety, safeguards and security requirements derived from DOE Orders. (ROA 4.1) Additional elements of the authorization basis are contained in other implementation documents that are referenced in the sections entitled "How Requirements Are Met."

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Conclusion

While the ROA Appendix A, Chapter 3 "Implementation Requirements" were approved and issued as part of the Lease Agreement between USEC and DOE, the facility-specific authorization basis is more inclusive than the ROA. It is based upon the facility-specific accident analysis assumptions and consequences, the OSR setpoints and parameters, and other commitments (eg., ROA Implementation Requirements) relied upon by DOE to allow initial and continued operation of the facility. The ROA requirements did not supersede the authorization basis, but further defined the commitments made to assure continued safe operation of the GDPs during the interim period prior to NRC assuming regulatory oversight.

Therefore, if a proposed change is bounded by the DOE approved authorization basis and does not involve an Unreviewed Safety Question (USQ) or a change in the OSRs, or a change in a commitment relied upon by DOE for ensuring Nuclear Safety. USEC may make the change without prior DOE approval, provided an adequate and sufficient review and proper documentation path has been established. This documentation is prescribed in the ROA as DOE Order 5480.21 "Unreviewed Safety Questions." (ROA 2.2.4)

Unreviewed Safety Question Determination Implementation

Both Portsmouth and Paducah evaluate plant changes for safety implications according to the authorization basis per the requirements of DOE Order 5480.21 "Unreviewed Safety Questions." Plant changes must be evaluated with respect to this basis, and if there are no adverse impacts to this basis, the changes may be implemented without prior DOE approval. This process is similar to the 10 CFR 50.59 process by which commercial reactors evaluate changes, tests, and experiments for potential "unreviewed safety questions." (ROA 2.2.4) The authorization basis must clearly be understood as the initial step in developing an effective and efficient USQD process. (DOE 5480.21)