NRC FORM 690
(11-2002)
NRCMD 10.159

U.S. NUCLEAR REGULATORY COMMISSION

DIFFERING PROFESSIONAL OPINION -- APPEAL

FOR PROCESSING USE ONLY

1. DPO CASE NUMBER: DPO-2006-005

INSTRUCTIONS: *Prepare this form legibly and submit three copies to the address provided in Block 12 below.*

2. DATE APPEAL RECEIVED: 8/29/2007

3. NAME OF SUBMITTER	4. POSITION TITLE		5. GRADE
Christopher S. Tripp, Melanie A. Galloway	Technical Reviewer, Branch Chief		15
6. OFFICE/DIVISION/BRANCH/SECTION	**7. BUILDING**	**8. MAIL STOP**	**9. SUPERVISOR**
NMSS/FCSS/TSB	EBB	EBB2-C40M	Deborah Jackson

10. DESCRIBE THE DIFFERING PROFESSIONAL OPINION. DESCRIBE THE PRESENT SITUATION, CONDITION, METHOD, ETC., WHICH YOU BELIEVE SHOULD BE CHANGED OR IMPROVED. *(Continue on Page 2 or 3 as necessary.)*

Please see attachment.

11. DESCRIBE YOUR REASONS FOR SUBMITTING AN APPEAL (IN ACCORDANCE WITH THE GUIDANCE PRESENTED IN NRC MANAGEMENT DIRECTIVE 10.159). *(Continue on Page 2 or 3 as necessary.)*

Please see attachment.

SIGNATURE OF SUBMITTER	DATE	SIGNATURE OF CO-SUBMITTER *(if any)*	DATE
Christopher S. Tripp	08/29/2007	Melanie A. Galloway	08/29/2007

12. SUBMIT THIS FORM TO:

Differing Professional Opinions Program Manager

Office of: _____

Mail Stop: _____

13. ACKNOWLEDGMENT

13. SIGNATURE OF DIFFERING PROFESSIONAL OPINIONS PROGRAM MANAGER (DPOPM)	DATE OF ACKNOWLEDGMENT
Renée M. Pedersen	8/29/2007

14. DECISION

		DATE
☐ Appeal sustained ☐ Appeal denied (see attached)	Differing Professional Opinion Closed	

Input to DPO Appeal Blocks 10 and 11 of Form 690

August 29, 2007

10. The Differing Professional Opinion (DPO) concerned the level of completeness of the design and completeness of the Integrated Safety Analysis (ISA) needed for licensing a new fuel cycle facility under 10 CFR Part 70. This arose during the technical review of the United States Enrichment Corporation (USEC) American Centrifuge Plant (ACP), in which the staff identified several areas in which the design of the facility, and the ISA based upon that design, were not complete. NRC issued the Safety Evaluation Report (SER) for the ACP on September 11, 2006. Mandatory hearings were held and a license issued in April 2007, based in part upon that SER.

During the licensing review of the ACP, we identified that the facility's design and ISA based on the facility design had not been completed to a sufficient level to conclude that all the requirements of 10 CFR Part 70 have been met. We pursued the issues associated with the incomplete design and ISA during the on-site vertical slice reviews, and through several requests for additional information (RAIs), meetings, and phone calls. The issues remained unresolved at the end of the review. In subsequent meetings, upper management and staff from the Office of General Counsel (OGC) stated that a complete facility design and ISA were not required because the licensing review was programmatic in nature. We stated that this was inconsistent with our understanding of the requirements of 10 CFR Part 70 and the accepted approach of the SRP which aligns with our understanding of Part 70, and requested our management and OGC to provide us their position on what is required for licensing of a new fuel cycle facility.

Management then developed a Division of Fuel Cycle Safety and Safeguards (FCSS) policy memorandum dated August 4, 2006 (ML062160073). We believed that the policy contained in the memorandum, upon which both the licensing reviews of the Louisiana Energy Services (LES) and USEC facilities was stated to have been based, is inconsistent with the requirements of 10 CFR Part 70 and with the guidance in the "Standard Review Plan for the Review of a License Application for a Fuel Cycle Facility" (NUREG-1520).

In a September 13, 2006, memorandum (ML062560233), we provided disagreeing comments on the policy to our management. In response, our management stated that our only option was to file a Differing Professional Opinion (DPO). Accordingly, we filed a DPO on November 15, 2006, after attempting to seek an alternative to a DPO in consultation with Jack Strosnider, NMSS Office Director (retired). A draft DPO panel report was issued on March 30, 2007. We subsequently commented on the draft panel report and informed both the panel and the Office Director that the draft report had misunderstood and, in some cases, misconstrued our concerns. The draft report was issued as final without any additional clarification as requested by our comments, and the final decision was issued on July 24, 2007. Our recommendations as to what is required to fully address the DPO issues are included in our response to Block 11.

11. **Issues Substantially Lacking from the DPO Decision**

(A) Completeness of the ISA

The DPO as originally filed identified two broad issues: completeness of the facility design and

completeness of the ISA. These two issues, especially completeness of the ISA, were not addressed by the DPO panel nor by the DPO decision. As discussed in detail in our DPO, we interpret 10 CFR Part 70 (and NUREG-1520) to require a complete ISA–meaning that there is reasonable assurance that all credible accident sequences leading to high or intermediate consequences, and all IROFS needed to meet the performance requirements, have been identified. A substantially complete design is needed as input to this analysis to ensure that the identification of accident sequences and IROFS is complete. The DPO panel report and DPO decision did not address the issue regarding the rule requiring that each accident sequence and each IROFS need to be identified nor did they address what constituted an adequate level of design to meet regulatory requirements. Instead of addressing our two issues of completeness of the design and completeness of the ISA, the DPO panel and DPO decision discussed a different issue (the level of detail that needs to be provided to the NRC). Our issues concern the completeness of the licensee's design of its facility, and its required ISA, not the level of information that must be provided to the NRC. To be responsive to our DPO concerns, we recommend that the standard for completeness of the design and the standard for completeness of the ISA be defined, and the regulatory bases for these standards of completeness described.

(B) Content of the SRP Change

Task 1 of the DPO closure memo dated July 24, 2007, to us from Michael F. Weber, suggests revision to the SRP in accordance with the August 4, 2006, memorandum. We interpret this to mean that the SRP will include an alternative that allows significantly less breadth and depth in ISAs than what is currently in the guidance, such as committing to industry standards, rather than demonstrating technical adequacy through an appropriate level of design completion and thus a reasonable assurance that the ISA is complete (each scenario and corresponding IROFS have been identified). Further, we interpret that the revised SRP will allow a "functional-level description" as part of a "programmatic review." These terms, however, have not been defined. In particular, this use of "programmatic" appears to be inconsistent with the accepted industry definition (programmatic is widely understood to mean commitments, programs, processes, standards, and/or practices followed).

Therefore, neither the DPO panel report nor the decision memo define to what degree this approach of less breadth and depth will be applied. To be responsive to the DPO concerns, we recommend that the degree of this approach be defined, and that any new terminology be clearly defined and its relationship to the rule and its implementation be clearly described in the revised SRP. Doing so will also establish clear expectations for those revising the SRP.

Issues Requiring Expansion in the DPO Decision

(C) Adequacy of Inspection Recommendation

Task 2 is a positive initiative forward. However, to fully develop quality inspection documents and qualified inspection staff to accomplish this, experienced technical license review staff need to be involved in that development of training for inspection staff. For instance, if, as in the instrumentation and control area, only 15% of design is complete at time of licensing, the design-related review to ensure regulatory compliance will be extensive for inspectors and such licensing input and assistance will be integral to success. Clearer direction to the staff is needed in this regard. To be responsive to the concerns identified in the DPO, we recommend that how these changes to the inspection program will be implemented be described.

(D) Content of Communication Plan

Task 3 likewise could represent a positive initiative forward if the communication plan makes clear, and does not obfuscate, the significant shift occurring from the licensing function to the inspection function. Clearer direction to the staff is needed is this regard. To be responsive to the concerns identified in the DPO, we recommend that more detail be provided on what is to be communicated and how.

(E) Commitment to Needed Resources

There needs to be a clear commitment to provide the needed resources to accomplish the recommendations. The needed resources and timeframe for completion seem ambitious, and it is not clear that the current Agency budget will be able to support them. We recommend that a clear commitment to provide the resources needed to complete these tasks be provided.

Additional Issue

On another matter, Mr. Weber states in his closure memo, our "observation that [we] do not question the safety basis for the American Centrifuge Facility or the Louisiana Energy Services facility." It is important that the record is clear in this regard. In our meeting of June 11, we did not use the phrase "safety basis" but rather stated that we did not take issue with the licensing of these facilities, in that we did not have any identified safety concerns. (We also noted that we cannot preclude the arising of safety concerns as the facility design is completed.) To ensure the point is clear here, we stated in our DPO and in meetings with the panel and Mr. Weber that to comply with the regulations, follow the SRP (or an equivalent alternative proposed by the applicant) and to ensure safety, a suitable basis needed to be established. This was not done for USEC but could have been done via, for example, license condition (this approach could have been clearly supported by technical staff).