Comments on DPO Panel Draft Report
DPO-2006-005

Introduction

The Panel provided us a statement of concerns on 1/22/07, which after some iteration for clarity we and the Panel reached agreement upon on 2/20/07. Subsequently, the Panel provided us a revised, and extensively expanded, statement of our concerns on 3/1/07, which we were in the process of commenting on when we received the draft report on 3/30/07. Please note that the time taken to comment on the revised statement of concerns was affected by the USEC hearing preparations and hearing itself through March 21, 2007, and our need to fit in DPO-related work with higher priority assignments. The draft report contained yet two different sets of our concerns from the latest one provided, which in some cases introduced errors in understanding. In addition, the concerns as stated in the body of the report and those as stated in the Appendix of the report are also different and in some cases the Appendix statements introduce additional errors in understanding. This recharacterization of our concerns without our agreement to ensure, at least to the concern definition point, that our issues are understood is of concern to us. In addition, the Panel's then drawing conclusions which further reflect errors in understanding the concerns outlined in the DPO also gives us concern. Specifically, we are concerned that the Panel will have difficulty in reevaluating its already-formed conclusions, based on the information we are providing here. The information we are providing regards: (1) the characterization of our concerns, and (2) the misunderstanding of our concerns as revealed by the draft responses.

Discussion

Our main comment is that the Report focuses almost exclusively on the level of design detail that must be submitted for licensing, rather than the level of completeness of the design, the completeness of the ISA, and the relationship between the two (that is, relationship between completeness of the design and completeness of the ISA). Completeness of the design and the ISA, and the relationship between the two, are our main concerns. Completeness of the design and the ISA is required by Part 70 and was conceded by staff in the USEC hearing. The level of design detail concerns the amount of descriptive information provided to the NRC, regarding processes, equipment, and IROFS. The level of completeness of the design concerns how much of the design the applicant must complete in order to perform an ISA meeting the requirements of Subpart H. The level of completeness of the ISA concerns whether all accident sequences and IROFS have been identified. Our DPO was structured around these main concerns (i.e., level of completeness of the design, and completeness of the ISA). Once the staff has reasonable assurance that all accident sequences and IROFS have been identified, then the staff needs a sufficient level of information to conclude that the IROFS are adequate to meet the performance requirements, in accordance with 10 CFR 70.65(b)(4). (In some cases, functional-level design information may be sufficient for reviewers to draw the needed conclusion (we have not disputed this); in other cases, as discussed in the SRP, component-level information may be needed. It has been our position all along that the level of information needed may vary by the safety discipline, the type of control, and the safety significance, and that individual technical reviewers must make this determination.) There are

numerous statements throughout the body of the Report, in addition to those discussed above, that confuse these two issues.

The summary of our concerns is stated explicitly in two places in the Draft DPO Panel Report (the "Report"): (1) the list of ten items on pages 1 and 2 of the Report, and (2) in the Appendix. In addition, there are statements throughout the body of the report that suggest some of the concerns have been misunderstood. This will address first the list of items on pages 1 and 2 of the Report, then the discussion of individual concerns in the Appendix, and lastly statements in the body of the report.

We acknowledge the complexity of the issues involved, and we can see how this confusion could have arisen. The numbers in the discussion below refer to the concern number used in the Report.

List of Concerns:

1. Statement of the concern is partly correct, but incomplete. This should also include our concern that the Memo did not appropriately consider all applicable portions of 10 CFR Part 70.

2. Statement of the concern is correct.

3. Statement of the concern is partly correct, but use of the word "unacceptable" is not entirely accurate. It would be more accurate to state that the Memo approach is incorrect, and further that it is not consistent with either Part 70 or the SRP. In addition, the discussion that follows the list of concerns indicates that, while both we and the panel use the term "programmatic," we do not mean the same thing. The Memo also used the term "programmatic," but did not define it. The concept of a programmatic review that includes as one component a functional level of design information is a new concept first introduced in the USEC hearing testimony, and then apparently adopted in the Report. This is not consistent with our use of the term as stated in our DPO. By "programmatic," we mean a review that is focused on the applicant's commitments to its safety programs, including codes and standards, generic technical practices, etc, as is the generally accepted definition used by the Agency. We do not consider a functional level of design information to be "programmatic."

4. Statement of the concern is correct.

5. Statement of the concern in the DPO is that the Memo "...does not address the technical issue that having a sufficiently complete facility design is a logical prerequisite to having a complete ISA." We wanted this issue addressed as a *technical* question, not a regulatory or legal question. That is to say, this concern is not whether 10 CFR Part 70 formally allows, or at least does not prohibit, this approach. (That is a different concern of ours.) Rather, our

concern is that it is not *possible* to perform a complete safety analysis of a system when major portions of the facility and its processes have not been designed. The concern as stated omits this important distinction.

6. Statement of the concern is correct.

7. Statement of the concern is correct.

8. Statement of the concern is correct.

9. Statement of the concern is incorrect.

From the Report:

> "Evaluate whether an alternative set of criteria represent an acceptable definition for Integrated Safety Assessment (ISA) completeness."

From the February 20, 2007 email:

> "Evaluate whether the 4 criteria on page 5 of the DPO, proposed by the submitters, represent an acceptable definition for ISA Summary completeness."

These are very different statements. We do not know what you mean by "an alternative set of criteria." Alternative to what?

10. Statement of the concern is correct.

In addition, the concern from the February 20, 2007 email related to I&C is not included. This is: "Assess whether the level of information provided on I&C design is sufficient to make the required finding...".

Appendix:

The concerns summarized above were embellished and further discussed in the Appendix. In some cases, the additional information resulted in a misinterpretation of the concern.

1. The concern as stated is partly correct, in a global sense, but the DPO discussed a number of specific requirements from 10 CFR Part 70 at length; the concern was that the Memo did not address specific portions of 10 CFR Part 70. While these were lumped under a single concern, it was our expectation that the panel would address each of the requirements individually. As stated in the DPO (page 1), the omitted portions of 10 CFR Part 70 include: 10 CFR 70.66(a), 10 CFR 70.61(b)-(e), and 10 CFR 70.65(b)(4). The panel should explain how the policy in the Memo is consistent with each of these specific regulatory requirements.

2. The concern is stated correctly, but the discussion that follows reveals a misunderstanding of our concern, and therefore does not address it. This is one of several places where the level of design detail is being confused with completeness of the ISA (these represent two separate concerns). Our concern here is whether all accident sequences and IROFS are required to be identified, not the level of detail in which they need to be described (i.e., systems/functional level vs. component-level).

3. The concern includes the I&C question missing from the discussion on pages 1 and 2 of the Report, but the parenthetical expression changes the meaning and shifts the focus from what we intended. This is an example of where the level of design detail submitted is being confused with completeness of the design. If the licensee had an essentially complete design of I&C systems (by "essentially complete" we mean there is reasonable assurance that all characteristics that can have an impact on safety have been designed), but submitted incomplete information or submitted information at a systems/functional level, that would be a very different situation from one in which the applicant had only designed a small portion of the I&C systems. In the former case, it may still be possible to have reasonable assurance that the applicant has met all of the requirements listed in 10 CFR 70.66(a), through other means (e.g., vertical slice, site visits, and requests for additional information). In the latter case, there cannot be reasonable assurance that the ISA is complete. Our concern relates to the latter case.

4. The parenthetical expression that has been added changes the meaning from what we had intended. This is another example of where the level of design detail is being confused with completeness of the ISA. Our concern is focused on ensuring completeness of the ISA, but the parenthetical expression focuses on design detail, as does the discussion that follows. Also, the parenthetical is focused on the SRP, whereas our concern focuses on the regulations.

5. Our concern (see item 5 in "List of Concerns" above) was that, in a technical sense, an essentially complete design is required in order to perform a complete safety analysis (ISA) of a system. The discussion that follows is focused on regulatory compliance, not whether it is technically feasible. Also, the discussion of 10 CFR 70.72 does not address one of our concerns in the DPO--how 70.72 can be meaningfully applied when there is an incomplete baseline design against which to measure changes. This concern is not addressed in the Report.

6. The concern is stated correctly.

7. The concern is partly correct, but the phrase about 10 CFR 70.66(a) compliance was then added. The DPO points out that the SER does not state whether the applicant has met all the requirements of 10 CFR 70.66(a), which is part of our concern. But the main issue is whether the SER accurately discloses the fact that the design and the ISA were not complete. The discussion that follows is focused solely on what level of detail is needed to meet 70.66(a), which does not address our main concern.

8. The concern is partly correct, but the final portion about whether identification of all accident sequences and IROFS must be "absolutely complete" should be omitted. While this question is one of our concerns, it was addressed elsewhere and is not our concern here. Our concern goes beyond just the question of whether the ISA must be "absolutely complete." As with the first concern, the DPO discussed a number of specific excerpts from NUREG-1520 at length. While these were lumped under a single concern, it was our expectation that the panel would address each of the acceptance criteria quoted in our DPO individually.

Specifically, the September 13, 2006 memo (ML062560233) is included by reference in the DPO (page 5 of the DPO states that the detailed analysis of our concerns is found therein). Acceptance criteria quoted in the DPO and/or September 13, 2006 memo include (references are to Section 3.4.3.2 of NUREG-1520):

(a) Page 3-21 of the SRP, referring to the level of detail for hardware components (quoted on page 4 of the DPO)

(b) Page 3-13 of the SRP, referring to completeness of the hazard and accident identification (quoted on page 8 of the September 13 memo)

(c) Page 3-13 of the SRP, referring to completeness of hazard identification (quoted on page 9 of the September 13 memo)

(d) Page 3-14 of the SRP, referring to completeness of accident sequences (quoted on pages 9 and 10 of the September 13 memo)

(e) Page 3-15 of the SRP, referring to completeness as one of three elements needed to demonstrate meeting the performance requirements (quoted on page 10 of the September 13 memo)

(f) Page 3-21 of the SRP, referring to completeness of IROFS identification and the level of description needed to meet 10 CFR 70.65(b)(4) (quoted on page 10 of the September 13 memo)

(g) Page 3-21 of the SRP, referring to the need to identify all IROFS (quoted on page 10

of the September 13 memo)

(h) Pages 3-21 to 3-22 of the SRP, referring to the level of detail for engineered and administrative controls (quoted on page 11 of the September 13 memo)

9. The concern is stated correctly in the Appendix (not in the body of the Report), but the discussion that follows reveals a misunderstanding of our concern. Our intent was to produce an acceptable definition of ISA completeness. A "definition" is more than an example--it gives the necessary and sufficient requirements for the ISA to be complete. If an ISA does not meet the definition of completeness, then the ISA is not complete. We believe that our definition of ISA completeness is the only reasonable standard that can be applied, based on the rule, the SRP, and past practice (e.g., NFS BLEU amendment, ISA Summary reviews for existing fuel facilities, for which complete identification of all accident sequences and IROFS was used as the regulatory standard). No lesser standard of ISA completeness has been described in either the Memo or the Report. In suggesting that something less than our definition might also be considered "complete," without stating what it is, the panel did not address the concern.

10. The concern is partly correct, but follows the term "use of the Memo" with "stakeholder participation," which appears to refer to the development, rather than the use, of the Memo. (While we have a concern with the development of the Memo, and the fact that it did not involve internal stakeholder participation, that is not part of the DPO; rather, it is part of our October 13, 2006 memo). Our concern with the use of the Memo is that it was not openly published and the Agency did not disclose that it was taking a new approach, different from what was described in the rule or the SRP, or point out that this could have a major impact on licensing new facilities.

This left the false impression as to the standard the Agency was applying for being able to license the facility. The Memo also was not written until after the technical review had been completed, and so was not made available in a sufficiently timely manner for the public to raise contentions during the hearings.

<u>Other Statements</u>:

The introduction to our comments stated that there are two different issues that are being confused. The Report focuses almost exclusively on the level of design detail that must be submitted for licensing, rather than the level of completeness of the design, the completeness of the ISA, and the relationship between the two (that is, relationship between completeness of the design and completeness of the ISA). Further examples of where these two concepts are being confused include:

- "The Memo concluded that a final facility design or an absolutely complete identification of all IROFS and accident sequences is not necessary. Instead, it is sufficient if the reviewer can understand the process and functions of the IROFS." (p.2) Our concern about ISA completeness is mentioned in the first sentence, though the Report does not state whether it agrees with this. The second sentence involves the level of detail, not

completeness of the ISA.

- The section entitled “Consistency with Part 70" concludes that the Memo is consistent with Part 70, but only discusses the level of detail, not completeness of the ISA.

- The citation from the Statements of Consideration (p.3) involves the level of detail, not completeness of the ISA. The discussion of 10 CFR 70.72 that follows also involves the level of detail. Neither of these discussions involves the completeness of the ISA.

- The Report contains the statement: “The inference is that the design need not be final at license application.” (p.4) The stated basis for this is: “for fuel facilities, the NRC does not explicitly approve a design.” The statement that the design need not be complete (we do not use the word ‘final,” because it is understood changes will need to be made throughout the facility lifetime) does not follow from the fact that we do not approve the design. This is another example of where the two concepts are confused.

The following sentences should be rewritten, for the sake of clarity:

> “The Panel has determined that the SRP could, in the areas reviewed...be interpreted from a programmatic level in terms of completeness, i.e., the Memo is not inconsistent with the SRP.” (This is grammatically unclear.)

> “This is, in general, the argument the staff has made to the Atomic Safety Licensing Board (ASLB) in the USEC American Centrifuge Plant (ACP) hearing.” (It is unclear what staff is being referred to--staff advocating the prevailing viewpoint or us.)