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Comments on Draft NUREG-1520, Revision 1
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Comments on "Introduction"

My comments are mostly on page 2, where it discusses the "reasonable assurance" standard.

1. In the third full paragraph, in the sentence beginning "This is reflected in the above licensing requirements..." there is a non sequitur. The quotes given concerning "sufficient detail" are from 10 CFR 70.65, not 10 CFR 70.22, which is quoted above. 10 CFR 70.22 is talking about a general description of safety equipment, whereas 10 CFR 70.65 is talking about the contents of the ISA Summary. The discussion abruptly switches between them without any indication of how they are related. I suspect this is a cut-and-paste type error.

2. The next sentence contains another non sequitur. You jump from talking about "sufficient detail" to stating that "Based on this understanding, the licensing review should focus on the applicant's programmatic commitments and, consequently, the licensing decision is ultimately based on a sufficient level of detail to understand process system functions and functionally how items relied on for safety can perform their intended function and be reliable."

This whole discussion is confusing and disjointed. The regulations about "sufficient detail" are from 10 CFR 70.65, which concerns the contents of the ISA Summary. But the programmatic commitments are contained in the License Application, not the ISA Summary. So, first, it is not clear whether this section of the SRP is talking about the License Application review or the ISA Summary review. Then it switches back to talking about process system functions and IROFS. The discussion keeps switching back and forth between discussing the programmatic review and the technical review.

The proper relationship between them is this—we must make certain findings about the License Application, and we must make certain other findings about the ISA Summary. Since we don't review all accident sequences in the ISA Summary, but just sample them, we must rely on the licensee's programs. We make sure they have the right programmatic commitments (which are in the License Application), and then we verify that they have been correctly implemented in the ISA Summary. We have to perform a limited technical review to make sure the program works. But the way it is discussed here is very unclear.

3. This paragraph also is self-contradictory on the subject of completeness of the ISA. The following sentence is self-contradictory:

"The level of design required for a licensing decision, therefore, does not require a final facility design or an absolutely complete identification of all items relied on for safety and accident sequences, but instead sufficient information has to be provided to understand the process and functions of items relied on for safety and reasonable assurance that the integrated safety analysis summary is complete."

The self-contradictory parts are underlined. A very important piece of the ISA Summary is the description of accident sequences and IROFS. 10 CFR 70.65 says it must contain these things. So how can the ISA Summary possibly be complete if the set of accident sequences and IROFS is not complete? First you say it does not have to be complete, then you say it does.

Note that at the top of page 3, the SRP contradicts itself again in saying that “the staff relies upon the licensee to provide a complete set of information concerning items relied on for safety (IROFS).”

4. The statement that the ISA Summary does not have to include all accident sequences or IROFS (first underlined part in previous comment) is inconsistent with 10 CFR 70.61(e): “Each engineered or administrative control or control system necessary to comply with paragraphs (b), (c), or (d) of this section shall be designated as an item relied on for safety” as well as 10 CFR 70.65(b)(6), “A list briefly describing each item relied on for safety...”.

Webster’s New World Dictionary, 2nd Ed, defines “each” as follows: “every one of two or more considered separately.” There is no ambiguity here; the rule requires every single IROFS that is necessary to meet 10 CFR 70.61 be identified. Also, if all accident sequences have not been identified, you can’t possibly have any assurance that all IROFS have been identified.

5. If it were true that the ISA Summary does not have to be “absolutely complete”, then there is no useful guidance provided on how complete is complete enough. The SRP uses the word “sufficient” without defining it, making the standard of level of completeness wholly subjective.

6 The discussion confuses two crucial but very different concepts. One is the concept of the level of detail with which accident sequences and IROFS must be applied. The other is the concept of completeness of the ISA. Obviously, one cannot describe anything in existence in absolute detail. There are certain things we need to know about a piece of equipment, and other things we do not need to know. This is the concept of defining something in sufficient detail. But this is different from the idea of completeness of the ISA. The ISA is complete if it includes all accident sequences that can credibly lead to a high or intermediate consequence event, and if it includes all the IROFS needed to reduce the risk of those sequences to an acceptable level. If this is not the right definition of completeness, then what is?

One concept is talking about the level of description of each item on a list, and the other is talking about whether all the items are listed. Confusing these concepts makes the whole discussion difficult to follow.

7. The quotation from 10 CFR 40.41(g) is not relevant, since this is the SRP for Part 70. The quotation from 10 CFR 70.32(k) only applies to uranium enrichment facilities. However, the discussion that follows tries to generalize this to all fuel facilities, which do not have the same requirements.

8, To my knowledge, we do not routinely require licensees to provide “boundary definition packages.” Is this going to be required in the future?