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Washington, DC 20555-0001

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OFFICE OF SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF

ATTN: Rulemakings and Adjudications Staff.

**Subject: Comments On Regulation Changes From Federal Register Vol. 71, No. 48, RIN
3150-AG24**

The following pages provide my comments to the subject regulation changes to 10 CFR 52.

Thank you,

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Comments On Regulation Changes From Federal Register Vol. 71, No. 48, RIN 3150-AG24

1. Global Comment – Through-out Federal Register Vol. 71, No. 48 the terms “transients,” “transient conditions,” “limiting transient,” “operational transients” are used to mean “anticipated operational occurrences.” Accept for “Anticipated Transients Without Scram” (ATWS) no “transient” term is defined in the 10 CFRs nor the Standard Review Plan. However, 10 CFR 50 App. A does specifically define “anticipated operational occurrences,” and the General Design Criteria correctly refer to “anticipated operational occurrences.” Any undefined term is always open to misinterpretation and confusion. Therefore, to assure consistency through out the regulation changes, their items of consideration and 10 CFR 50 App. A, (except for ATWS) all “transient” terms should be changed to “anticipated operational occurrences.”
2. Proposed 10 CFR 52.47(a)(16) inappropriately applies “SSCs important to safety” to 10 CFR 50, App. S, which is applicable to SSCs “necessary to assure:
 - (1) The integrity of the reactor coolant pressure boundary;
 - (2) The capability to shut down the reactor and maintain it in a safe shutdown condition; or
 - (3) The capability to prevent or mitigate the consequences of accidents that could result in potential offsite exposures comparable to the guideline exposures of § 50.34(a)(1).”

Those are the functions of “safety-related” SSCs specifically defined in 10 CFR 50.2. Therefore, 10 CFR 50, App. S applies to safety-related SSCs and not all SSCs important to safety, and thus, the term “SSCs important to safety” should be replaced with “safety-related SSCs.”

Discussion:

Prior to 1984 the industry considered the terms "important to safety" and "safety-related" as synonymous. The current interpretation has safety-related SSCs as a subset of SSCs important to safety.

Unlike that for safety-related SSCs, the 10 CFRs do not provide an explicit definition of SSCs important to safety. Within the 10 CFRs there is no list of criteria to determine which nonsafety-related SSCs are important to safety. NRC Memorandum and Order, CLI-84-9, June 6, 1984 states that the definition of "important to safety" is an unresolved licensing issue that the NRC has stated it will resolve by rulemaking, however, this memorandum has never been acted upon.

Conclusion:

Globally applying the undefined total set of SSCs important to safety instead of safety-related SSCs (a) “opens the door” to unlimited misinterpretations and inconsistencies, and (b) results in 10 CFR 52.47(a)(16) being inconsistent with the text of 10 CFR 50, App. S.

3. 10 CFR 52.47 should add a FSAR/DCD requirement on a basic design basis (e.g., AP1000, ABWR, ESBWR) to provide criteria, which are of equivalent level of detail to the safety-related criteria in 10 CFR 50.2, for determining which nonsafety-related SSCs are also considered/categorized as important to safety. That is, a definition of SSCs important to safety should be provided in each standard plants licensing basis. For example, ESBWR Tier 1 defines important to safety as follows:

Important to safety: As defined in Appendix A of 10 CFR 50, structures, systems and components important to safety are those items that provide reasonable assurance that the

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facility can be operated without undue risk to the health and safety of the public. For the ESBWR, equipment/functions/conditions important to safety means:

- (1) Safety-related SSCs (including supporting auxiliaries) as defined in 10 CFR 50.2 and their associated safety-related functions;
- (2) Equipment/function(s) assumed or used to mitigate the AOOs evaluated in DCD Tier 2;
- (3) Equipment/function(s) assumed or used to prevent or mitigate the special events (e.g., ATWS and Station Blackout), as described in DCD Tier 2;
- (4) Equipment/function(s) whose failure or malfunction could lead to an accident, or impair the ability of other equipment to perform a safety-related function;
- (5) Equipment/function(s) requiring (for ensuring nuclear safety) elevated quality assurance or design requirements (i.e., special treatment), but not to full safety-related standards;
- (6) Nonsafety-related readiness functions and their associated plant condition(s) assumed, prior to the initiation of an accident, in any accident safety analysis described in DCD Tier 2;
- (7) As described in DCD Tier 2, nonsafety-related SSCs used to control the release of radioactive wastes; and
- (8) As defined in DCD Tier 2, the nonsafety-related equipment and their associated supporting auxiliary system(s) that are essential in performing Regulatory Treatment of Non-Safety Systems (RTNSS) functions

Without that definition, the confusion between “important to safety” and “safety-related” cannot end, and the application of 10 CFR 50.59, which only addresses equipment important to safety, will never be as consistent as it could or should be.

4. In Subpart B – Standard Design Certifications, the term Final Safety Analysis Report (FSAR) should be replaced with the term Standard Safety Analysis Report (SSAR). Historically, FSARs have been plant-specific, and generic/standard safety analysis reports have been called SSARs. Subpart C – Combined Licenses also uses the term FSAR, and thus, two different subparts referring to different submittals use the same term, FSAR. Using SSAR in Subpart B and FSAR in Subpart C would be clearer.
5. Proposed 10 CFR 52.47(a)(26) states that an application must include “An evaluation of the standard plant design against the Standard Review Plan (SRP) revision in effect 6 months before the docket date of the application.” The “in effect” statement should be clarified to read “in effect (formally approved and issued),” to minimize the current confusion about which SRP versions apply. Plus, the articles of consideration for Part 52 or 10 CFR 52.47 should state that
 - (a) Conformance with draft SRP criteria is strictly voluntary, as long as the regulations are complied with;
 - (b) The addressing of SRP criteria requiring site-specific and/or as-build equipment information should be the responsibility of the Combine License holder, and thus, should be deferred until after the start of construction; and

- (c) On a design-specific basis, SRP criteria shall not apply to SSCs (1) that are not categorized as important to safety (using the broad definition requested in Comment 3, above), (2) without a design function for containing or controlling the release of radioactive material, (3) without a design function for meeting a 10 CFR 20 or 10 CFR 50, App. I radiological dose acceptance criterion, **and** (4) whose failure would not cause a 10 CFR 20 or 10 CFR 50, App. I radiological dose acceptance criterion to be exceeded.

Discussion:

- (a) There are three possible versions for any SRP, 1st an issued version on the NRC website (available to the public), 2nd a draft version on the NRC website (available to the public), and 3rd a draft version not yet placed on the NRC website (not readily available to the public). Examples of the 3rd version are the approximately 100 new draft SRPs, which are dated 1996-1997, that were put on the NRC website in late 2005, and thus, were not readily known or available for the generation of the ESBWR Design Control Document (DCD). Various NRC Staff members and consultants have and are issuing RAIs requesting ESBWR DCD changes and information based on the 2nd and 3rd draft SRP versions. The issue of which SRP version applies causes much confusion. The confusion is further increased by the fact that some of SRP acceptance criteria changes in the draft SRPs are based on PWR designs. However, in some cases, the draft SRP is more applicable to a modern plant than the issued SRP. Therefore, to assure the most appropriate criteria are applied to each new plant, conformance with draft SRP criteria should be voluntary.
- (b) Some information requested by a SRP, such as site-unique information and as-build component metallurgy, cannot be provided until a site design is finalized or a component is manufactured with its as-build details confirmed. Trying to supply this information in the design certification stage would be a guess at best, and, regardless, this information would have to be supplied again on an as-build basis. Plus, when a component is actually manufactured, better designs and technology might be available and used, and thus, this type information supplied during the design certification stage may become outdated. Therefore, addressing of SRP criteria requiring site-specific information and/or as-build equipment information should be the responsibility of the Combine License holder, and differed until after the start of construction. This position is consistent with current 10 CFR 52.47(a)(i), which states “The technical information which is required of applicants for construction permits and operating licenses by 10 CFR part 20, part 50 and its appendices, and parts 73 and 100, and which is technically relevant to the design and not site-specific.”
- (c) 10 CFR 50, App. A states “Pursuant to the provisions of § 50.34, an application for a construction permit must include the principal design criteria for a proposed facility. The principal design criteria establish the necessary design, fabrication, construction, testing, and performance requirements for structures, systems, and components (SSCs) important to safety; that is, SSCs that provide reasonable assurance that the facility can be operated without undue risk to the health and safety of the public.”

The SSCs that meet all of the Comment 5(c) criteria are outside those addressed 10 CFR 50, App. A and the FSAR descriptions of SSCs specifically required by both

the proposed 10 CFR 52.47(a) and 10 CFR 50.34(b). Thus generating and reviewing the details of such SSCs, (1) does not describe the safety basis of a plant and thus convolutes the understanding of the safety basis, (2) is not required by the regulations, (3) does not assure the health and safety of the public, and (4) wastes both industry and NRC resources.

6. The proposed Part 52 should specify (a) the criteria for determining inspections, tests, analyses and acceptance criteria (ITAAC), (b) that ITAAC are not required for confirmations that are covered by Technical Specifications Surveillances, and (c) the categories of SSCs (e.g., safety-related SSCs or all SSCs important to safety as defined on a basic design basis) for which ITAAC should be provided.

Discussion:

- (a) The levels of detail between ABWR ITAAC and the AP1000 ITAAC are not consistent. It is common knowledge that the level of detail in the ESBWR ITAAC is based on the ABWR ITAAC, as the ABWR is the most technically equivalent plant to the ESBWR, however, draft RAIs, based on the contents of the AP1000 ITAAC, are requesting major changes to the ESBWR ITAAC. This affectively makes the AP1000 a non-NRC issued PWR based SRP for review a BWR. There is no regulation that specifies that licensing basis of a new plant may/should/shall be based on any other previously licensed plant, however, this appears to be common Staff practice. Specific criteria for determining ITAAC are needed to ensure consistency, and to ensure all future plant ITAAC be based on regulation instead of the latest plant of a different design.
 - (b) The Technical Specifications are issued by the NRC as an appendix to a plant's operating license. The Technical Specifications (TS) Surveillances are mandatory actions that confirm the operability of specific functions and components. Because both the ITAAC and TS Surveillances are mandatory, are NRC approved, may not be changed without NRC approval, and could perform the same function, having an ITAAC confirmation/validation a design feature or function already covered by TS Surveillance(s) is redundant, and thus, unnecessary.
 - (c) Because the categories of SSCs for which ITAAC should be provided has never been specified, past Tier 1 with ITAAC documents address numerous SSCs that (1) are not important to safety, (2) are not used or assumed to function before, during or after any design basis abnormal event, special event (e.g., Station Blackout, ATWS, Fire) or severe accident. Addressing SSCs, which have no affect on safety, (1) convolutes the understanding of a plant's safety basis, (2) wastes industry and NRC resources for their generation and review, and (3) will eventually result in license amendment requests for non-safety changes that would otherwise be licensed under 10 CFR 50.59, and thus, wastes additional NRC resources.
7. The proposed Subpart B requires a FSAR. The currently approved and on-going design certification applications do not contain a "FSAR." Instead, they are based on a two tier Design Control Document (DCD). DCD Tier 1 contains design information, site interface information, and generic inspections, tests, analyses and acceptance criteria (ITAAC) to be certified, and DCD Tier 2 is equivalent to a FSAR in content and format. Is this Tier 1 and Tier 2 relationship going to be maintained?

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If a Tier 1 and Tier 2 type relationship is going to be maintained under the revised rule, then Part 52 should require a Tier 1 and a SSAR (see Comment 4) or Tier 2, and the specific contents of Tier 1 should be addressed in the new rule as follows:

- (a) Tier 1 shall contain the plant design and site interface information to be certified, and the generic ITAAC.
- (b) Because the Tier 1 information cannot be changed without NRC approval, the contents of Tier 1 should be limited to safety basis information that normally (for an operating plant) could be licensed and changed under 10 CFR 50.59. This position is consistent with the Commission directive in the original Statement of Considerations for Part 52 that the certified design should “encompass roughly the same design features that Section 50.59 prohibits changing without prior NRC approval.”
- (c) The Tier 1 design information content should be consistent with the ITAAC contents, and thus, should be limited to those SSCs (1) that are categorized as important to safety (using the broad definition requested in Comment 3, above), (2) with a design function for containing or controlling the release of radioactive material, (3) with a design function for meeting a 10 CFR 20 or 10 CFR 50, App. I radiological dose acceptance criterion, or (4) whose failure would cause a 10 CFR 20 or 10 CFR 50, App. I radiological dose acceptance criterion to be exceeded.

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Please see attached file for the subject comments.

Regards;
Kurt Schaefer

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