November 6, 2007

Mr. Teodor Lazar
Engineering Administrator
The American Society of Mechanical Engineers
Three Park Avenue
New York, NY 10016

Dear Mr. Lazar:

On September 28, 2007, ASME issued Parts 1, 2, 3, and 4 of the ASME/ANS Combined Standard for Level 1/Large Early Release Frequency (LERF) that addresses both internal and external events at-power. We are pleased to have had an opportunity to comment on this combined standard.

The quality of probabilistic risk assessment (PRA) is a central issue to risk-informed regulation. A phased approach to PRA quality was developed in SECY-04-0118, "Plan for the Implementation of the Commission's Phased Approach to Probabilistic Risk Assessment," for achieving an appropriate level of quality of PRAs for risk-informed decision making. [An update to the plan is provided in SECY-07-0042, "Status of the Plan for the Implementation of the Commission's Phased Approach to Probabilistic Risk Assessment Quality."] This combined standard is crucial to achieving the goals of the phased approach. Further, as noted by the Commission in their August 31, 2007, staff requirements memorandum (SRM) on risk-informed and performance-based regulation, "the Commission supports the ASME and the American Nuclear Society (ANS) in their collaborative efforts to issue a combined PRA standard that addresses internal events, external events, and internal fires, for staff endorsement in the revision to Regulatory Guide 1.200."

The staff has reviewed the referenced standard using the guidance contained in Regulatory Guide 1.200, "An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities," dated January 2007. In addition, we have reviewed the Standard with respect to its ability to support both currently operating plants and new plants; specifically, standard design certifications and combined licenses issued under 10 CFR Part 52.

The staff's detailed comments are enclosed. The following is an overall summary of our comments.

- We agree, as noted in the Foreword, that this combined standard will improve stability and foster consistency in the requirements of the standard. We also anticipate that further efficiencies and improvements will result from maintaining, interpreting and implementing one standard as opposed to four separate standards as changes will be performed simultaneously across the entire standard instead of in one standard and not another.

- From a regulatory perspective, this combined standard will facilitate implementation of Regulatory Guide 1.200 in determining the quality of the PRA such that the PRA can be used in regulatory decision making. Review of a single standard that addresses the various risk contributors (e.g., internal events, internal fire, external events) for endorsement is much less time and resource demanding. From a user perspective, it will be much easier to apply this single standard than applying four separate standards that are interdependent on each other.

- The combined standard represents an outstanding effort by ASME and ANS in providing a single standard with consistent format, organization, language, and level of detail among the different parts, which provides additional clarity and ease of use of the standard. Nonetheless, we also recommend that further improvement should be pursued in achieving the above consistency in future revisions. In addition, the staff understands that the detailed technical editing is performed after the comment period. Consequently, we have provided only minor technical editing comments.

- Overall comment Part 1(General): The majority of the staff concerns are "clarifications."[1] One major concern, are the definitions containing the term "key assumptions" and "key sources of uncertainties," and how these terms are used in the subsequent parts. We understand, in a current ballot, that this concern will be addressed for Parts 1 and 2. This concern, however, needs to be consistently addressed across all four parts of the combined standard.

- Overall comment Part 2 (Internal Events): The majority of the staff's concerns are "clarifications." However, the staff continues to have a "qualification"[2] regarding the lack of a requirement for quantification of the probability of failure to repair (see Item DA-C14, DA-D8, SY-A22 in the enclosure for more detail).

- Overall comment Part 3 (Internal Fire): The majority of the staff's concerns are "clarifications." We feel that while the requirements are thorough, they are possibly overly complex. However, this complexity should be addressed in the pilot applications of this part of the standard.

- Overall comment Part 4 (External Events): The staff's concerns are "clarifications." This part of the standard is difficult to use because it is not formulated in a parallel manner to the other parts (i.e., Parts 2 and 3). This difficulty should be addressed in future revisions of the combined standard.

We have both encouraged and supported the development of the combined standard. This combined standard represents the first phase noted by ASME and ANS in their letter, dated November 7, 2006. The second phase will include the low power and shutdown PRA as part of the combined standard. ASME and ANS also noted that ANS would publish the individual standards. The staff's intention is to endorse the single combined standard rather than

[1] Clarification: The staff has no objection to the requirement; however, as written, the requirement is either unclear or ambiguous.

[2] Qualification: The staff has a technical concern with the requirement.

individual separate standards, as long as development and publication of the combined standard supports the staff commitment to have endorsed the standards by December 2008 (as reflected in the August 31, 2007, Commission SRM).

We hope that these comments will assist in the publication of the combined standard. It is our intent to continue to support this crucial initiative. If you have any questions, please contact Ms. Mary Drouin of my staff at (301) 415-6675, mxd@nrc.gov.

Sincerely,

/RA/

Christiana Lui, Director
Division of Risk Analysis
Office of Nuclear Regulatory Research

Enclosure:
As stated

cc: C. Grantom, ASME CNRM Chair
K. Balkey, ASME BNCS Chair
A.Camp, ANS RISC Chair
W. Rowley, ASME/ANS NRMCC Co-Chair
D. Spellman, ASME/ANS NRMCC Co-Chair

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