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U.S. Nuclear Regulatory Commission
Document Control Desk
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Attention: Farouk Eltawilia, Acting Director
Division of Safety Analysis And Regulatory Effectiveness

Subject: **Review of Draft Report: "Regulatory Effectiveness of the Anticipated
Transient Without Scram Rule," October 18, 2000**

Dear Mr. Eltawilia:

GE has received the subject report and completed a review of the document. In this report, the NRC states that ATWS risk is comprised of three elements: a) frequency of scrams, b) reliability of the reactor protection system (RPS), and c) reliability of ATWS mitigation systems. These items are discussed separately below:

- a. The NRC recognizes that the scram frequency has come down by a factor of ten since the ATWS rule was issued and this by itself has greatly reduced the risk associated with ATWS. GE concurs with this conclusion.
- b. When the ATWS rule was issued, the NRC estimated that RPS reliability was about $1E-5$ per demand, while GE estimated it was an order of magnitude better, about $1E-6$ per demand. At this very low failure rate, it takes many years of data collection to demonstrate the failure rate is accurate. With several ensuing years of additional operation without a major RPS failure in the industry, the NRC has reduced their failure rate estimate, and though not as low as the GE estimate, there is a smaller difference between the GE and NRC estimates.
- c. Reliability of mitigation systems is dominated by short-term operator action reliability for ATWS. The report states, "...examinations for BWRs indicate large variations in the assumptions for reliability of human actions in response to an ATWS. Similarities in design, procedures, and training argue against such variability. Consequently, some BWR risk analysis may underestimate the risk of ATWS." Operator action reliability has long been open to uncertainty and disagreement. In the absence of concrete specifications, different assessments are likely to have different assumed values. However, it is clear that improvements made in design, procedures, and training since the ATWS rule was issued have all contributed to

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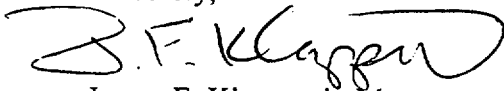
improving operator action reliability. GE does not necessarily agree that "BWR risk analysis may underestimate the risk of ATWS."

Additional comments on the draft report:

- The Background section of the report states that the Commission designated ATWS as Unresolved Safety Issue (USI) A-9. It might be beneficial to the reader to state how and when the USI was resolved, otherwise, one might assume that USI A-9 was still open.
- Section 2.1.1 of the draft NRC report discusses the basis and application of the 200°F suppression pool temperature limit.
 - In NEDO-30832-A, "Elimination of Limit on BWR Suppression Pool Temperature for SRV Discharge with Quenchers," May 1995, the NRC accepted elimination of the 200°F local pool temperature limit for T-type and X-type SRV discharge quenchers. This is based on the fact that as suppression pool temperature approaches saturation, condensation loads decrease. Therefore, the statement, "*As the suppression pool temperature increases, the potential for unstable condensation of the discharge to the pool may overload the containment structure,*" is not factual.
 - The statement, "*During an ATWS at a BWR, the containment would probably fail prior to core damage,*" is true, but should be clarified to note that failure only is postulated after a long series of other failures of ATWS mitigation features such as ARI, RPT, boron injection, manual insertion of control rods, and additional failures in containment mitigation features such as pool cooling and containment pressure relief.
 - As discussed above, the 200°F local pool temperature limit has been removed for plants which meet the requirements of NEDO-30832-A. Therefore, plant specific limits are used as the limiting suppression pool temperature for ATWS. It is suggested that "the 200°F limit" be replaced with "the plant-specific pool temperature limit for ATWS evaluations."

Thank you for the opportunity to comment on this report. If you have any questions on these comments, please feel free to contact Jason Post, e-mail Jason.post@gene.ge.com, or telephone (408) 925-5362.

Sincerely,



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cc: Robert Pulsifer (NRC)
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