August 13, 2008

Technical Specification Task Force
11921 Rockville Pike, Suite 100
Rockville, MD 20852

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION REGARDING TSTF-506, REVISION 0, "REVISE PRIMARY CONTAINMENT AND DRYWELL HYDROGEN IGNITER SPECIFICATION TO NOT REQUIRE RECOMBINERS."

Dear Members of the TSTF,

By letter dated March 04, 2008, the Boiling Water Reactors Owners Group (BWROG) submitted TSTF-506, Revision 0, "Revise Primary Containment and Drywell Hydrogen Igniter Specification to Not Require Recombiners." The staff has determined that additional information is needed to complete the review. Enclosure 1 is the staff's Request for Additional Information (RAI). In order to maintain the original review milestone schedule for TSTF-506, a response to this RAI is requested to be provided by November 10, 2008.

Sincerely,

/RA/

Robert B. Elliott, Chief
Technical Specifications Branch
Division of Inspections & Regional Support
Office of Nuclear Reactor Regulation

Enclosures:
1. RAI

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APLA REQUEST FOR ADDITIONAL INFORMATION (RAI)
REGARDING TSTF-506, REVISION 0, "REVISE PRIMARY CONTAINMENT AND DRYWELL HYDROGEN IGNITER SPECIFICATION TO NOT REQUIRE RECOMBINERS"

1. Rather than delete Technical Specification (TS) 3.6.3.1.B.1 (the Required Action to verify that the hydrogen control function is maintained), an alternative would be to retain this provision but to redefine the means by which the function can be maintained (e.g., delete credit for the recombiners but include credit for the backup power sources provided in response to Generic Issue 189). This alternative would require the plant to be in Mode 3 in 12 hours (consistent with the current TS) in the event that both divisions of igniters are inoperable and unable to be recovered or supplied by a backup power source, however, the likelihood of these combined failures can be expected to be very small, especially given the backup power sources provided in response to Generic Issue 189. Provide an evaluation of this alternative based on operational and risk considerations.

2. Given the current plant configuration (recombiners in place) and the BWROG interpretation of the current TS, the loss of both divisions of igniters would result in either a 7 day or a 12 hour completion time, depending on whether recombiners are available or unavailable. The proposed TS change would result in a 48 hour completion time regardless of recombiner status. This could represent a risk increase if many situations involving loss of both divisions of igniters would also be expected to result in a loss of recombiners. In this regard, provide the following information (either on a plant-specific basis or a generic basis with justification that the information bounds all Mark III plants):

    a. a characterization of the system/component failures that could lead to the loss of both divisions of igniters,

    b. a discussion of any electrical system dependencies that could render the recombiners unavailable for the same reasons the igniters would be unavailable, and

    c. the estimated conditional probability that the recombiners would be available given the loss of both divisions of igniters.

3. Based on information provided in Section 3.4.2, the risk assessment assumes a completion time of 7 days for the current TS and does not account for possibility that the recombiners are unavailable in some portion of the events (in which case the current TS would provide a 12 hour completion time). As such, the risk assessment does not provide a complete picture of the risk impacts of the proposed change. Provide a more complete assessment of the risk impacts of the requested TS change in terms of the Incremental Conditional Large Early Release Probability and the change in Large Early Release Frequency (ΔLERF) for internal and external events that accounts for the potential unavailability of the recombiner.

4. Section 3.4.1 indicates that for the PRA on which the risk assessment is based, all High Level Requirements are met and 85 percent of the Supporting Requirements (SRs) meet Capability Category II. Describe the SRs that do not meet Capability Category II, and how these SRs relate to areas important for the subject risk assessment (e.g., SRs related to the analysis of LERF and hydrogen combustion).

5. Describe the hydrogen combustion models and assumptions used in the baseline analysis of the no igniter case, including models and assumptions related to the occurrence of random ignition, the timing and/or hydrogen concentrations associated with ignition, and the conditional probability of drywell failure and containment failure given hydrogen combustion. Provide a comparison of these models and assumptions with those in NUREG-1150.

6. In determining the LERF values presented in Section 3.4.5, clarify whether any adjustments were made to account for evacuation in sequences involving long term loss of decay heat removal and long term station blackout. (Such adjustments are described the Section 3.6 for external events, but are not mentioned in Section 3.4.5 for internal events.) If adjustments were made, provide additional description of the adjustments, and justification that these assumptions are valid for each of the Mark III plants/sites.

7. The equation for LERF in Section 3.4.5.2 includes a last term "- $LERF_{BASE}$". Explain the significance of this term (since it appears to be unnecessary), and why this term is assigned a value of 6.98E-6 per year (apparently based on the total LERF from internal and external events) rather than a value of 1.20E-7 per year (based on internal events only).