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**SUBJECT:** Notice of Opportunity to Comment on Model Safety Evaluation on Technical Specification Improvement Regarding Revision to the Completion Time in STS 3.6.6A, "Containment Spray and Cooling Systems" for Combustion Engineering Pressurized Water Reactors Using the Consolidated Line Item Improvement Process (71 *Federal Register* 18380, April 11, 2006)

The Nuclear Energy Institute<sup>1</sup> provides the enclosed comments on the subject Federal Register Notice. The attached comments were developed by the PWR Owners Group.

Please contact me at (202) 739-8081; [arp@nei.org](mailto:arp@nei.org) or Biff Bradley (202) 739-8083; [reb@nei.org](mailto:reb@nei.org) if you have any questions.

Sincerely,

Anthony R. Pietrangelo

Enclosure

<sup>1</sup> NEI is the organization responsible for establishing unified nuclear industry policy on matters affecting the nuclear energy industry, including regulatory aspects of generic operational and technical issues. NEI members include all utilities licensed to operate commercial nuclear power plants in the United States, nuclear plant designers, major architect/engineering firms, fuel fabrication facilities, materials licensees, and other organizations and individuals involved in the nuclear energy industry.

STSP Review Complete  
Template = ADM-013

E-RFDS = ADM-03  
Call = F. Thomas (EXT 1)

**Comments on model safety evaluation for TSTF-409**

**Containment Spray Completion Times for Combustion Engineering Plants**

While the PWROG understands the desire to increase efficiency in the approval process for “risk informed” applications, we believe that the example FRN regarding the Containment Spray System CLIIP is not helpful and should be withdrawn. As it currently stands, the existing FRN appears to create a very onerous and rigid structure for the approval of a “low risk” risk informed application. Furthermore, the FRN adds new requirements to the review and implementation process that we believe to be too prescriptive and in excess of that required by either RG1.174 or RG1.177. Following discussions with the PRA staff, we recognize that the intent of the FRN was in fact quite the opposite, and was directed at establishing a smooth pathway for fast approval of RI CLIIP applications. Specific comments are provided in the following paragraphs.

Based on discussions with the author regarding the intent of the “Model Safety Evaluation,” it is recommended that additional explanatory information be included. It is our understanding that the sample submittal is to be of sufficient detail that allows an acceptance review without RAIs as well as satisfying the CLIIP. That is, with inclusion of the information required, a further detailed review is unnecessary. It was also noted that should less information be provided, then the extension is possible, but a more detailed review and RAIs may result. At the very minimum, a clear preamble to the FRN should be provided that places the scope of the FRN in perspective. It should equally note that existing strategies for approval are valid and may also be used.

Even when the purpose of the FRN is placed in context several technical questions remain, particularly when one considers the system in question to be the containment sprays. These items are discussed below.

1. The essence of the proposed CSS TS change focuses on a single CSS train. Thus, the mention of ACTION G (regarding two CSS trains out-of-service) seems unnecessary.
2. The last paragraph of section 4.2.1 item 1 notes that “If a zero maintenance PRA model is used ...in performing these calculations, then the licensee must commit to performing no other maintenance during the extended CSS CT...”. This restriction has no technical merit. The risk of maintenance is generated as incremental risks from the baseline. The initial submittal noted that for plants with emergency grade fan coolers (most of the applicants), the actual risk increase as a result of removing a CSS out of service is very low. Furthermore, CSS have very little (if any) overlap with other systems. Because the risk important function of CSSs is to maintain the containment

pressure within acceptable limits (and control sump temperature to ensure adequate NPSH for ECCS equipment – a function left out of FRN Section 3), those functions can be accommodated by the redundant CS train or the fan coolers. Furthermore, by using RG 1.177 to support low risk, the risk impact of removal of the CSS for the duration of the 7 day AOT is small. Because plants perform maintenance on a frequent basis, not allowing repair or maintenance on another system (which is likely to be of greater risk importance than the CSS) is unnecessary and likely to have worse risk

Another unusual aspect of the restriction implies that the incremental risk calculated using zero maintenance conditions is significantly different from that calculated using annualized plant-wide system out-of-service values. While the baseline PRA for zero maintenance is less than the base line PRA value for nominal maintenance, its impact on incremental risk will be small.

3. It is understood that documented quantitative external event information for the plants may be limited. However, reference to plant IPE and IPEEE and the requirements to explain the evolution of the PRA since 1988 as identified in Section in item 4.21 part 2.b is unnecessary. Item 2.c requires that the peer review results be discussed along with the overall disposition of relevant F&Os and item e (which includes an overall determination of the adequacy of the plant specific PRA with respect to this application). These assessment are current and of more importance to the application. Where external events rely on IPEEE vintage information, a discussion/statement of the risk significance of the spray system in mitigating external events should be performed.

Section 4.2.1 item 3 requirements on consideration of fire and external events and the associated *EXPECTATIONS* are too restrictive and do not correspond to safety benefits. The CSS has limited risk overlap with fires or external initiating events. Challenges to power induced by tornadoes, high winds or seismic events have limited importance to the spray system and is more appropriate with AOTs associated with AC-power related components. It was our understanding that the intent of this restriction was to assure the regulator that the overall combined plant risk remains below a CDF of  $10^{-4}$  per year (per requirements of RG 1.174). The intent of this section should be clarified. This requirement should be reduced to providing information regarding the reasons underlying low risk associated with this system.

4. Section 4.2.1 3 ACCEPTANCE CRITERIA requires “combining internal events, internal flooding, external events and shutdown PRA results.” The requirements for the combination of events should be modified to have the utility provide a technical basis for demonstrating the plant CDF to be less than  $10^{-4}$  per year or has no plant specific vulnerabilities (per SECY-88-20). Requirements for a fully quantified external events (including fire) PRA and shutdown PRA is beyond the state of the art. Few plants have all the above. The Fire PRA standard is just undergoing peer review and no shutdown PRA standard has been written. Methods for combining these PRA results is also not defined (particularly merging shutdown and “at power” PRA results). Instead, it should be noted that the utility may use existing external event evaluations including IPEEE results and qualitative external event assessments, where appropriate, to provide confidence that the overall plant CDF is not within RG 1.174 risk region 1.
5. EXPECTATIONS supporting 4.2.1 item 4. The TS is structured to have a revised CT. Once the new CT is adopted the old CT will disappear as a regulatory item. Thus, there is no entry into an extended CSS CT. It is simply an entry into the CT. There are no significant external event interactions and the outage is limited to a single spray train. Therefore, the Tier 2 requirement should be limited to one CSS out of service, which is already governed in the TS with a cautionary note that Maintenance rule or tier 3 guidance to not simultaneously disable both the emergency grade fan coolers and the sprays
6. End of Section 7. Note that the RGs provide guidelines. Risk values are not rigid thresholds. Thus small deviations to the guidance can be and are somewhat fuzzy to allow for the mathematical uncertainties inherent in these studies.