October 15, 2002

Mr. Anthony Pietrangelo
Nuclear Energy Institute
1776 I Street, N. W.
Suite 400
Washington, DC 20006-3708

Dear Mr. Pietrangelo:

This is to inform you of the disposition for traveler TSTF-441 containing proposed changes to the improved Standard Technical Specifications (iSTS), initiated by the NEI Technical Specification Task Force (TSTF).

The staff has reviewed traveler TSTF-441 and requests modifications. TSTF-441proposed to revise STS 3.9.3 "Containment Penetrations" to NUREG-1430 Babcock & Wilcox (B&W) STS and NUREG-1432 Combustion Engineering (CE) and STS 3.9.4 "Containment Penetrations" to NUREG-1430 Westinghouse (W) STS. The proposed change would allow the equipment hatch to remain open during movement of (recently) irradiated fuel assemblies within containment provided it is capable of being closed in the event of a Fuel Handling Accident (FHA). The staff has the following comments:

1. The ability to open or close equipment hatches may require electrically-powered equipment. In the case of a loss of offsite power coincident with a FHA, electrical power may not be available for closing the hatch. If the design basis of a plant requires consideration of a FHA coincident with a loss of offsite power, it is not reasonable to assume in all cases that the equipment hatch can be closed after the accident. The TSTF should provide guidance to the reviewer on any additional commitments, controls, and analyses that need to be done in order to adopt this TSTF for this particular design.

2. Criterion 64 of 10 CFR 50 Appendix A states that means shall be provided for monitoring the reactor containment atmosphere, spaces containing components for recirculation of loss-of-coolant accident fluids, effluent discharge paths, and the plant environs for radioactivity that may be released from normal operations, including anticipated operational occurrences, and from postulated accidents. The proposed TSTF should consider how Criterion 64 will be met in the event of a FHA with the equipment hatch open. Moreover, this information should be included as part of the Bases discussion or as a Reviewer’s Note.

3. The last sentence of the third paragraph in Section 3.0, "Background," states:

> "However, in order to minimize the impact on the health and safety of the public, equipment hatch closure, as well as closure of the personnel air lock and other penetrations, will be completed within the timeframe assumed in the offsite analysis."

This statement assumes that a equipment hatch closure time is assumed in the FHA analysis. This differs from many of the license amendments submitted to date, which propose a change similar to what is being proposed in TSTF-441. Most of the FHA analyses submitted in support of those license amendments take no credit for the equipment hatch being closed within the 2 hours assumed in the radioactive release analysis. Therefore, by the sentence above, if a licensee assumed that the equipment hatch remained open, there may be no commitment to close the equipment hatch in the event of a fuel handling accident or to take the full 2 hours assumed in the analyses to close the equipment hatch.

The above sentence appears to conflict with the Reviewer's Note found in all the proposed TS Bases sections in this TSTF which states:

> "The allowance to have the equipment hatch and the containment personnel airlocks open...is based on...(2) commitments from the licensee to implement acceptable administrative procedures to ensure in the event of a refueling accident (even though the containment fission product control function is not required to meet acceptable dose consequences) that the open equipment hatch and airlock can and will be promptly closed following containment evacuation..."

Based on the above, it is not clear on how an acceptable time to close the equipment hatch will be established. It was concluded in approving TSTF-51 "Revise Containment Requirements During Handling Irradiated Fuel and Core Alteration," TSTF-68 "Containment Personnel Airlock Doors Open During Fuel Movement," and TSTF-312 "Administratively Control Containment Penetrations" that even though the analyses showed that a two (2) hour radioactive release was within the regulatory limits, the closure times would be substantially less than 2 hours (in the order of 15-20 minutes); this minimizes the consequences of the release, and provided a reasonable justification for accepting those TSTF changes. TSTF-441 needs to consider this issue and provide guidance on acceptable closure times.

4. The proposed TSTF does not address limits on the dose received by the personnel closing the equipment hatch. The calculated dose to the personnel closing the equipment should be considered when determining the acceptability of proposed technical specification changes submitted under this proposed TSTF. This should be included as part of a Reviewer's Note.

5. The TSTF should consider the regulatory relief proposed to be granted by this TSTF-441 in comparison to the relief that is already granted via TSTF-51. The implied purpose of the proposed change in this TSTF is to allow the equipment hatch to be open

during the movement of "recently" irradiated fuel. This appears to conflict with the stated purpose. The stated purpose of the proposed change in this TSTF appears to be to allow the equipment hatch to remain open during the movement of "non-recently" irradiated fuel. This is supported by the third paragraph of Section 4.0, "Technical Analysis" which states that the proposed revisions must be justified by a FHA analysis that demonstrates acceptable offsite doses. An "acceptable offsite dose" is a dose that is 25% of the 10 CFR 100 limits or the 10 CFR 50.67 limits. In other words the fuel has to meet the definition of "non-recently" irradiated fuel as defined in TSTF-51. Licensees that have incorporated TSTF-51 into their technical specifications can already have the equipment hatch open when moving non-recently irradiated fuel. Under TSTF-51, the containment penetration technical specification is no longer applicable when moving "non-recently" irradiated fuel. In addition, recently submitted TSTF-51 and modified TSTF-51 license amendments have defined the time for recently irradiated fuel based on the alternate source term as less than or equal to the 72-100 hour decay time specified in the old STS (STS3/4.9.3 in NUREGs-0103 "B&W STS," NUREG-0212 "CE STS," and NUREG-0452 "W STS"). This specification restricted irradiated fuel movement prior to this decay time and the specified decay time was much less than the time needed to prepare the plant to move irradiated fuel.

The staff questions the need for this change, in light of the recent TSTF-51 requests. This completes our review of TSTF-441.

Please contact Robert Dennig at (301) 415-1156 or e-mail rld@nrc.gov if you have any questions or need further information on these proposed changes.

Sincerely,

/RA/
William D. Beckner, Program Director
Operating Reactor Improvements Program
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

cc: M. Schoppman, NEI
P. Infanger, BWOG
D. Bice, CEOG
T. Silko, BWROG
S. Wideman, WOG
D. Hoffman, EXCEL
B. Mann, EXCEL

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/RA/
William D. Beckner, Program Director
Operating Reactor Improvements Program
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

cc: P. Infanger, BWOG
D. Bice, CEOG
T. Silko, BWROG
S. Wideman, WOG
D. Hoffman, EXCEL
B. Mann, EXCEL
M. Schoppman, NEI

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