January 21, 2003

Mr. Anthony R. Pietrangelo, Director
Risk & Performance-Based Regulation
Nuclear Generation
Nuclear Energy Institute
1776 I Street, N.W.
Suite 400
Washington, DC 20006-3708

Dear Mr. Pietrangelo:

This is to inform you of disposition for traveler TSTF-373, R.2 containing proposed changes to the Combustion Engineering improved Standard Technical Specifications (iSTS), NUREG-1432, initiated by the NEI Technical Specification Task Force (TSTF).

TSTF-373, R.2 revises the Completion Times in STS 3.6.3 "Containment Isolation Valves" and the associated Bases for one or more penetration flow paths with one Containment Isolation Valve (CIV) inoperable from 4 hours for penetration flow paths with two CIVs and 72 hours for flow paths with one CIV and a closed system to 7 days. Approved Topical Report CE NPSD-1168 "Joint Applications Report for Containment Isolation Valve AOT Extension" provides the basis for this change.

It has been determined that TSTF-373, R.2 is eligible for the consolidated line item improvement process (CLIIP) and will be processed through the CLIIP as requested by the TSTF. The Draft Safety Evaluation is enclosed with this letter for your information, and may be modified through public comments. Formal approval of TSTF-373, R.2 for adoption by licensees is subject to completion of the CLIIP public comments process.

Please contact me at (301) 415-1161 or email wdb@nrc.gov if you have any questions or need further information on these dispositions.

Sincerely,

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

Enclosures: As stated

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

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GENERIC SAFETY EVALUATION ON THE
REVISION TO COMBUSTION ENGINEERING STANDARD TECHNICAL SPECIFICATIONS
(STS) BY ADOPTING THE TECHNICAL SPECIFICATIONS TASK FORCE (TSTF)
CHANGE TRAVELER, TSTF-373, R.3
INCREASE CIV COMPLETION TIME IN ACCORDANCE WITH CE-NPSD-1168

1.0 INTRODUCTION

By letter dated [ ], [Licensee's Corporate Name] ([ ]/Licensee) submitted a request for changes to the [Nuclear Plant's Name] Technical Specifications (TS). The requested changes would revise the actions to TS 3.6.3 "Containment Isolation Valves" for one or more penetration flow paths with one containment isolation valve (CIV) inoperable. The revision approves changes that would allow the allowed outage time for those penetrations with an inoperable CIV to be 7 days rather than 4 hours for penetrations with two CIVs and 72 hours for penetrations with a single CIV and a closed system, provided that the penetration configurations either meet the criteria and analyses contained in the Combustion Engineering Owners' Group (CEOG) document CE NPSD-1168 "Joint Applications Report for Containment Isolation Valve AOT Extension" dated June 1999, or the plant specific criteria and analyses. The applicable TS Bases have been revised to document the TS changes and provide supporting information. These changes are based on Technical Specification Task Force (TSTF) Change Traveler, TSTF-373, R2 that has been approved generically for the CE Standard Technical Specifications (STS), NUREG-1432, Revision 2.

2.0 REGULATORY EVALUATION

The existing LCO 3.6.3, requires that each CIV be OPERABLE. The operability of all CIVs ensures that the containment is isolated during a design basis accident. If a CIV is inoperable in one or more penetrations the required action is to isolate the penetration or restore the inoperable CIV to OPERABLE status within 4 hours for penetrations with 2 CIVs and 72 hours for penetrations with a single CIV and a closed system. The times specified for performing these actions are reasonable considering the time required to isolate the penetration and the relative importance of supporting containment operability during MODES 1, 2, 3 and 4. In the case of a single CIV and a closed system, the specified times takes into consideration the relative stability of the closed system (hence, reliability) to act as a penetration boundary.

In June 1999, the CEOG submitted the joint application report (JAR) CE NPSD-1168 which provided a risk informed justification for extending the technical specification allowed outage time for an inoperable CIV from the current 4/72 hours to 7 days. The staff used the guidance of Regulatory Guide (RG) 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Current Licensing Basis, 1998," and

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Regulatory Guide 1.177, "An Approach for Plant-Specific, Risk-Informed Decision Making: Technical Specifications, 1998," with only minor changes in performing its review of this topical report. Regulatory Guide 1.177 provides a three-tiered approach to evaluate the risks associated with proposed license amendments. The first tier evaluates the PRA model and the impacts of the changes on plant operational risk. The second tier addresses the need to preclude potentially high risk configurations should additional equipment outages occur during the allowed outage time. The third tier evaluates the licensee's configuration risk management program (CRMP) to ensure that the removal of equipment from service immediately prior to or during the proposed allowed outage time (AOT) will be appropriately assessed from a risk perspective. Regulatory Guide 1.174 provided the guidelines to determine the risk level associated with the proposed change. The staff's Safety Evaluation (SE) dated June 16, 2000, concluded that based on the use of bounding risk parameters for CE-designed plants, the proposed increase in the CIV AOT from 4/72 hours to 7 days does not result in an unacceptable incremental conditional core damage probability (ICCDP) or incremental conditional large early release probability (ICLERP) according to the criteria of Regulatory Guide 1.177 provided that certain conditions specified in the staff SE were acceptably addressed by individual licensees referencing the JAR in plant-specific submittals.

The staff SE associated with NPSD-1168 was issued prior to the changes associated with 10 CFR 50.65(a)(4) became effective on November 28, 2002. With the implementation of 10 CFR 50.65(a)(4), licensees are required to assess and manage the risk that may result from proposed maintenance activities. The activities necessary for implementation of 50.65(a)(4) satisfy and supercede a number of the conditions in the staff SE for implementing the JAR.

The approval of TSTF-373, R2 specified the applicable conditions that needed to be addressed in order to implement the 7 day Completion Time for an inoperable CIV. These conditions are as follows:

1. Individual licensees requesting CIV Completion Time relaxations should state in their plant-specific application that they have verified that the JAR results apply to their plant. Licensees should verify that the relaxed Completion Times will only apply to penetrations analyzed to meet the risk guidelines of RG 1.177 and fall within the 14 containment penetration configurations in the JAR. Any other containment penetration configurations not analyzed in the JAR must be supported by a plant-specific analysis. Licensee submittals must retain the current Completion Times for the three configurations that were not analyzed in the JAR: containment sump supply valves to the ECCS and containment spray systems pumps, valves associated with the main feedwater system, and main steam isolation valves.

2. Licensees should provide sufficient quantitative or qualitative substantiation to demonstrate that external events will not effect the results of the analysis supporting the extended Completion Times.

3. Licensees should state that they have verified acceptable PRA quality as described in RG 1.177.

4. Licensees should require verification of the operability of the remaining CIV(s) in a penetration flow path before entering the extended Completion Time for corrective maintenance. The JAR assumes that the penetrations remain physically intact in MODES in which these valves are to be operable during corrective maintenance. Licensees should describe in their plant specific application how the affected penetration will remain physically intact, or state that the penetration will be isolated so as to not permit a release to the outside environment.

5. The licensee should consider the additive nature of multiple failed CIVs, and the possibility of entering multiple AOTs and verify that these situations will result in risks consistent with the ICCDP and ICLERP guidelines so that defense-in-depth for the safety systems will be maintained.

The staff finds that the Licensee in its submittal identified the applicable regulatory requirements. The regulatory requirements for which the staff based its acceptance criteria are:

- 10 CFR 50.36, 50.55a, 50.59, 50.65, 50.90, and 50.92.

- Technical Specification Task Force Traveler TSTF-373 Revision 2 Approved by the NRC on [ ].

- The Model TSs Contained in the Improved Standard Technical Specifications (STSs) NUREG-1432, Revision 2 “Standard Technical Specifications, Combustion Engineering Plants” dated October 10, 2001, specifically STS 3.6.3 Actions and Associated Bases.

- Staff Safety Evaluation of Combustion Engineering Owners Group Document CE NPSD-1168 “Joint Applications Report for Containment Isolation Valve AOT Extension” dated June 26, 2000.

- Regulatory Guide 1.174 “An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Current Licensing Basis” 1998.

- RG 1.177 “An Approach for Plant-specific Risk-informed Decision Making: Technical Specifications” 1998.

3.0 TECHNICAL EVALUATION

The staff has reviewed the licensee’s regulatory and technical analyses in support of its proposed license amendment request of [ ]. The evaluation below supports the conclusion that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission’s regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

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3.1 Statement of Proposed Changes

The proposed changes to TS 3.6.3 Actions are:

(a) Existing Action A is replaced by new Actions A and B. The new Action A retains the Required Actions and Completion Times of existing Action A; however, Condition A is now only applicable to [the containment sump supply valves to the ECCS and containment sump pumps and those penetrations that do not meet the 7 day Completion Time Criteria]. The new Action B retains the Required Actions of existing Action A and the Completion Times for existing Required Action A.2. New Condition B is the same as existing Condition A except that it does not apply to Conditions A, E, and F. In addition the Completion Time for Required Action B.1 is 7 days. The associated Bases is revised accordingly.

(b) Existing Action C is relabeled Action D and the Completion Time for Required Action C.1 (new D.1) is changed from "72 hours" to "72 hours for those penetrations that do not meet the 7-day criteria and 7 days for those penetrations that meet the 7-day criteria." The associated Bases is revised accordingly.

(c) Existing Actions B, D, E, and F and references to those Actions in the specification are relabelled C, E, F, and G respectively and the associated bases are revised accordingly.

3.2 Evaluation of Proposed Changes

The Licensee in its [Date] submittal evaluated the CIV penetration configurations and categorized them into three groups. These groups are:

1. CIV penetration configurations that were not analyzed in the JAR and in the plant specific analysis;

2. CIV penetration configurations that fall within the 14 containment penetration configurations considered in the JAR; and

3. CIV penetration configurations that were not considered in the JAR but a plant specific analysis was provided to justify a 7 day Completion Time.

The CIVs for which no analysis was provided are the [containment sump supply valves to the ECCS and Containment Spray System pumps, valves associated with the Main Feedwater System, Main Steam Isolation Valves and [list of plant specific valves]]. For these CIVs the Completion Times for an inoperable valve will not change. Thus either the 4 hour Completion Time of Required Action A.1 or the 72 hour Completion Time for required Action D.1 will apply depending on whether the penetration has two valves or has a single valve and a closed system, respectively.

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For those [plant name] CIV penetration configurations that fall within the 14 containment penetration configurations considered in the JAR, the Licensee provided a plant-specific analysis which verified that the JAR results were applicable to [plant name]. The analysis also evaluated the risk for those CIV penetration configurations that were not considered in the JAR. The risk measures used to assess the impact of the proposed changes for these configurations in this analysis are consistent with the measures defined in RGs 1.174 and 1.177. This analysis also took into consideration plant specific external events to show how they would affect the results of the analysis supporting the extended Completion Times.

In addition the licensee considered the additive nature of multiple failed CIVs, and the possibility of entering multiple AOTs as part of the analysis. The results demonstrated that these situations resulted in risk consistent with the ICCDP and ICLERP guidelines of RG 1.177 so that defense-in-depth for the safety systems is maintained.

The analysis demonstrated that there would be no impact from any or the above considerations and that the ICCDP and ICLERP for [plant name] are well within the RG 1.1.77 guidelines of 5.0 E-7 and 5.0 E-8, respectively. The staff has reviewed the plant specific analysis and finds that from the analysis perspective the increase in the Completion Time from 4/72 hours to 7 days is justification.

The JAR and the plant specific analysis assumed that the penetrations remain physically intact so that their integrity is maintained. In instances where corrective or preventive maintenance activities would be performed on penetrations and CIVs while in MODES requiring these valves to be operable, the staff requires the Licensee to monitor these activities to ensure that the integrity of the penetration is not compromised during the maintenance. The Licensee has described how he will verify the operability of the remaining CIV(s) in a penetration flow path before entering the extended Completion Time for corrective maintenance. He has described for each penetration the measures that will be taken to ensure that it will remain physically intact. If this cannot be ensured, then the License has committed to isolate the penetration so as to not permit a release to the outside environment. The staff has reviewed the measures to ensure penetration integrity is maintained and finds them acceptable.

Based on the low probability of an event occurring during the inoperability of a CIV and the ability to maintain the integrity of the CIV penetration, the staff finds the proposed changes acceptable and is in conformance with TSTF-373, R.2.

4.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by the operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.