

## NUCLEAR REGULATORY COMMISSION

Notice of Opportunity to Comment on Model Safety Evaluation on  
Technical Specification Improvement Regarding  
Revision to the Completion Time in STS 3.6.3, "Containment Isolation Valves"  
for Combustion Engineering Pressurized Water Reactors  
Using the Consolidated Line Item Improvement Process

AGENCY: Nuclear Regulatory Commission.

ACTION: Request for comment.

SUMMARY: Notice is hereby given that the staff of the Nuclear Regulatory Commission (NRC) has prepared a model safety evaluation (SE) relating to changes to the completion time in Standard Technical Specifications (STS) 3.6.3 "Containment Isolation Valves (Atmospheric and Dual)." The proposed change to the Technical Specifications (TS) would extend to 7 days the completion time to isolate the affected penetration flow path when selected containment isolation valves (CIVs) are inoperable in either a penetration flow path with two CIVs or in a penetration flow path with one CIV in a closed system. This change is based on analyses provided in a generic topical report submitted by the former Combustion Engineering Owner's Group (CEOG; now incorporated into the Westinghouse Owners Group). The Owners Group participants in the Technical Specification Task Force (TSTF) proposed this change to the STS in Change Traveler TSTF-373, Revision 2. This notice also includes a model no significant hazards consideration (NSHC) determination relating to this matter.

The purpose of these models is to permit the NRC to efficiently process amendments to incorporate this change into plant-specific TS for Combustion Engineering (CE) pressurized water reactors (PWRs). Licensees of nuclear power reactors to which the models apply could request amendments conforming to the models. In such a request, a licensee should confirm

the applicability of the SE and NSHC determination to its reactor. The NRC staff is requesting comments on the model SE and model NSHC determination before announcing their availability for referencing in license amendment applications.

**DATES:** The comment period expires (December 15, 2003). Comments received after this date will be considered if it is practical to do so, but the Commission is able to ensure consideration only for comments received on or before this date.

**ADDRESSES:** Comments may be submitted either electronically or via U.S. mail.

Submit written comments to: Chief, Rules and Directives Branch, Division of Administrative Services, Office of Administration, Mail Stop: T-6 D59, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001.

Hand deliver comments to: 11545 Rockville Pike, Rockville, Maryland, between 7:45 a.m. and 4:15 p.m. on Federal workdays.

Copies of comments received may be examined at the NRC's Public Document Room, One White Flint North, Public File Area O1-F21, 11555 Rockville Pike (first floor), Rockville, Maryland.

Comments may be submitted by electronic mail to *CLIP@nrc.gov*.

**FOR FURTHER INFORMATION CONTACT:** William Reckley, Mail Stop: O-7D1, Division of Licensing Project Management, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, telephone (301) 415-1323.

## SUPPLEMENTARY INFORMATION:

### Background

Regulatory Issue Summary 2000-06, "Consolidated Line Item Improvement Process for Adopting Standard Technical Specification Changes for Power Reactors," was issued on March 20, 2000. The Consolidated Line Item Improvement Process (CLIIP) is intended to improve the efficiency and transparency of NRC licensing processes. This is accomplished by processing proposed changes to the STS in a manner that supports subsequent license amendment applications. The CLIIP includes an opportunity for the public to comment on proposed changes to the STS following a preliminary assessment by the NRC staff and finding that the change will likely be offered for adoption by licensees. This notice is soliciting comment on a proposed change to the STS that changes the containment isolation valve (CIV) completion times for the CE STS, NUREG-1432, Revision 2. The CLIIP directs the NRC staff to evaluate any comments received for a proposed change to the STS and to either reconsider the change or proceed with announcing the availability of the change for proposed adoption by licensees. Those licensees opting to apply for the subject change to TSs are responsible for reviewing the staff's evaluation, referencing the applicable technical justifications, and providing any necessary plant-specific information. Each amendment application made in response to the notice of availability would be processed and noticed in accordance with applicable rules and NRC procedures.

This notice involves an increase in the allowed completion times to isolate the affected penetration flow path when selected CIVs are inoperable at CE PWRs. The CEOG proposed this change for incorporation into the STS as TSTF-373, Revision 2. This change is based on the staff approved generic analyses contained in the CEOG Document CE NPSD-1168-A, "Joint Applications Report for Containment Isolation Valve AOT Extension," dated January 2001, accessible electronically from the Agencywide Documents Access and Management

System's (ADAMS) Public Electronic Reading Room on the Internet (ADAMS Accession Number ML010780257) at the NRC web site <http://www.nrc.gov/reading-rm/adams.html>.

Persons who do not have access to ADAMS or who encounter problems in accessing the documents located in ADAMS, should contact the NRC Public Document Room Reference staff by telephone at 1-800-397-4209, 301-415-4737, or by e-mail to [pdr@nrc.gov](mailto:pdr@nrc.gov).

#### Applicability

This proposed change to revise the TS completion times for selected CIVs is applicable to CE PWRs.

To efficiently process the incoming license amendment applications, the staff requests each licensee applying for the changes addressed by TSTF-373 using the CLIIP to address the plant-specific verifications identified in the model SE. Namely, each licensee should include in its application that it has verified that:

(a) The supporting information in CE NPSD-1168-A is applicable to their plant and the specific penetrations for which the licensee is requesting an extended completion time (i.e., the specific penetrations are consistent with those analyzed per the risk guidelines of Regulatory Guide (RG) 1.177, "An Approach for Plant-Specific, Risk-Informed Decision Making: Technical Specifications," and fall within the 14 containment penetration configurations in the report).

(b) They have evaluated and substantiated that external events will not affect the results of the analysis supporting the extended completion times.

(c) Any plant-specific analyses used to support the amendment request have used an acceptable probabilistic risk analyses (PRA) quality as described in RG 1.177.

(d) Plant-specific implementation of this change includes verification of the operability of the remaining CIV(s) in a penetration flow path before entering the extended completion time for corrective maintenance. Plant-specific implementation of this change includes verification

that the affected penetration will remain physically intact or be isolated so as to not permit a release to the outside environment.

(e) They have verified that the additive nature of multiple failed CIVs and the possibility of entering multiple allowed outage times (AOTs) have been addressed as part of the analysis.

(f) Applications that propose changes for configurations not addressed by the groups described in CE NPSD-1168-A include a plant-specific analysis to justify the completion time extension. [Note that such proposals will require staff review of the specific penetrations and related justifications for the proposed extension in completion times.]

The CLIP does not prevent licensees from requesting an alternative approach or proposing the changes without the requested verifications. Variations from the approach recommended in this notice may, however, require additional review by the NRC staff and may increase the time and resources needed for the review.

#### Public Notices

This notice requests comments from interested members of the public within 30 days of the date of publication in the *Federal Register*. Following the staff's evaluation of comments received as a result of this notice, the staff may reconsider the proposed change or may proceed with announcing the availability of the change in a subsequent notice (perhaps with some changes to the SE or proposed NSHC determination as a result of public comments). If the staff announces the availability of the change, licensees wishing to adopt the change will submit an application in accordance with applicable rules and other regulatory requirements. The staff will in turn issue for each application a notice of consideration of issuance of amendment to facility operating license(s), a proposed NSHC determination, and an opportunity for a hearing. A notice of issuance of an amendment to operating license(s) will also be issued to announce the revised requirements for each plant that applies for and receives the requested change.

## PROPOSED SAFETY EVALUATION

U.S. Nuclear Regulatory Commission

Office of Nuclear Reactor Regulation

Consolidated Line Item Improvement

Technical Specification Task Force (TSTF) Change TSTF-373,

"Increase CIV Completion Time in Accordance with CE-NPSD-1168"

1.0 INTRODUCTION

By application dated [ ], [Licensee] (the licensee) requested changes to the Technical Specifications (TS) for [facility]. The proposed changes would revise TS 3.6.3, "Containment Isolation Valves (Atmospheric and Dual)," by extending to 7 days the completion time to isolate the affected penetration flow path when selected containment isolation valves (CIVs) are inoperable in either a penetration flow path with two CIVs or in a penetration flow path with one CIV in a closed system.

2.0 REGULATORY EVALUATION

The existing Limiting Condition for Operation (LCO) 3.6.3, requires that each CIV be operable. The operability of CIVs ensures that the containment is isolated during a design basis accident and is able to perform its function as a barrier to the release of radioactive material. If a CIV is inoperable in one or more penetrations, the current required action is to isolate the penetration or restore the inoperable CIV to operable status within 4 hours for penetrations with 2 CIVs and within 72 hours for penetrations with a single CIV and a closed system. The times specified for performing these actions were considered reasonable, given the time required to isolate the penetration and the relative importance of ensuring containment integrity during plant operation. In the case of a single CIV and a closed system, the specified

completion time takes into consideration the ability of the closed system to act as a penetration boundary.

In June 1999, the Combustion Engineering (CE) Owners Group (CEOG) submitted the joint application report (JAR) CE NPSD-1168 which provided a risk-informed justification for extending the TS allowed outage time (AOT) (also referred to as completion time), for an inoperable CIV from the current 4 hours or 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 RG 1.177, "An Approach for Plant-Specific, Risk-Informed Decision Making: Technical Specifications, 1998," in performing its review of this topical report. RG 1.177 provides a three-tiered approach to evaluate the risks associated with proposed license amendments. The first tier evaluates the probabilistic risk assessment (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 AOT. 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 AOT will be appropriately assessed from a risk perspective. RG 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 hours (2 or more CIVs) or 72 hours (single CIV and closed system) 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 RG 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's SE associated with NPSD-1168 was issued prior to the changes associated with 10 CFR 50.65(a)(4), which 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 10 CFR 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, Revision 2, followed the staff's review of CE NPSD-1168 and specified the applicable conditions to be addressed in order to implement the 7-day completion time for an inoperable CIV. These conditions are as follows:

- (a) The supporting information in CE NPSD-1168-A is applicable to their plant and the specific penetrations for which the licensee is requesting an extended completion time (i.e., the specific penetrations are consistent with those analyzed per the risk guidelines of Regulatory Guide (RG) 1.177, "An Approach for Plant-Specific, Risk-Informed Decision Making: Technical Specifications," and fall within the 14 containment penetration configurations in the report).
- (b) They have evaluated and substantiated that external events will not affect the results of the analysis supporting the extended completion times.
- (c) Any plant-specific analyses used to support the amendment request have used an acceptable probabilistic risk analyses (PRA) quality as described in RG 1.177.
- (d) Plant specific implementation of this change includes verification of the operability of the remaining CIV(s) in a penetration flow path before entering the extended completion time for corrective maintenance. Plant specific implementation of this change includes verification that the affected penetration will remain physically intact or be isolated so as to not permit a release to the outside environment.



- (e) They have verified that the additive nature of multiple failed CIVs and the possibility of entering multiple allowed outage times (AOTs) have been addressed as part of the analysis.
- (f) Applications that propose changes for configurations not addressed by the groups described in CE NPSD-1168-A include a plant-specific analysis to justify the completion time extension. [Note that such proposals will require staff review of the specific penetrations and related justifications for the proposed extension in completion times.]

### 3.0 TECHNICAL EVALUATION

#### 3.1 Statement of Proposed Changes

The proposed changes to TS 3.6.3 include:

1. The existing Condition A, with related required action and completion time, is replaced by new Conditions A and B. The new Condition A retains the required actions and completion times of existing Required Action A; however, the new Condition A is applicable to the containment sump supply valves to the ECCS and containment spray pumps, and those penetrations that do not meet the related criteria and analyses contained in CE NPSD-1168-A. The new Required Action B retains the required actions of existing Required 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.
2. Existing Required Action C is relabeled Required 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.”

3. Existing Required Actions B, D, E, and F and references to those Actions in the specification are relabelled C, E, F, and G respectively.

### 3.2 Evaluation of Proposed Changes

The CIV penetration configurations may be categorized 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 include the containment sump supply valves to the ECCS and containment spray 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 CIV within a closed system.

For those CIV penetration configurations that fall within the 14 containment penetration configurations considered in the JAR, the licensee 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 verified that the additive nature of multiple failed CIVs, and the possibility of entering multiple AOTs, had been addressed 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 of the above considerations, and that the ICCDP and ICLERP for [plant name] are well within the RG 1.1.77 guidelines of  $5.0 \text{ E-}7$  and  $5.0 \text{ E-}8$ , respectively. The staff finds that, from the analysis perspective, the increase in the completion times from 4 hours (2 CIVs) or 72 hours (single CIV and closed system) to 7 days is justified.

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 licensee has confirmed that these activities will be monitored to ensure that the integrity of the penetration is not compromised during the maintenance. The licensee has stated that the operability of the remaining CIV(s) in a penetration flow path will be verified before entering the extended completion time for corrective maintenance and that measures will be taken to ensure that each penetration will remain physically intact or be isolated so as to not permit a release to the outside environment. The staff has reviewed the licensee's statements regarding its 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 are consistent with previous staff reviews of CE NPSD-1168-A and TSTF-373, and are

acceptable.

#### 4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the [State] State official was notified of the proposed issuance of the amendments. The State official had [choose one: (1) no comments, or (2) the following comments - with subsequent disposition by the staff].

#### 5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendments involve no significant increase in the amounts and no significant change in the types of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration, and there has been no public comment on such finding (XX FR XXXXX). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

#### 6.0 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.

## PROPOSED NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

*Description of Amendment Request:* The proposed amendment extends the completion time for penetration flow paths with one valve inoperable from 4 hours or 72 hours to 7 days. The change is applicable to both penetrations with two containment isolation valves and with one containment isolation valve in a closed system. This change is not applicable to the containment sump supply valves to the emergency core cooling system and containment spray pumps.

*Basis for proposed no significant hazards consideration determination:* As required by 10 CFR 50.91(a), an analysis of the issue of no significant hazards consideration is presented below:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

The proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated. The proposed change revises the completion time (CT) for an inoperable containment isolation valve (CIV) within the scope of the Combustion Engineering (CE) Owner's Group (CEOG) Joint Application Report CE-NPSD-1168-A from 4 hours or 72 hours to 7 days. CIVs are not accident initiators in any accident previously evaluated. Consequently, the probability of an accident previously evaluated is not significantly increased.

CIVs, individually and in combination, control the extent of leakage from the containment following an accident. The proposed CT extension applies to the reduction in redundancy in the containment isolation function by the CIVs for a limited period of time but does not alter the ability of the plant to meet the overall

containment leakage requirements. In order to evaluate the proposed CT extension, a probabilistic risk assessment evaluation was performed in the CEOG Joint Application Report CE-NPSD-1168-A. The risk assessment concluded that, based on the use of bounding risk parameters for the CE designed plants, the proposed increase in the CIV CT from 4 hours to 7 days does not alter the ability of the plant to meet the overall containment leakage requirements. It also concluded that the proposed change does not result in an unacceptable incremental conditional core damage probability or incremental conditional large early release probability according to the guidelines of Regulatory Guide (RG) 1.177. As a result, there would be no significant increase in the consequences of an accident previously evaluated. Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

The proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated. The change revises the allowed outage time for an inoperable CIV within the scope of the CEOG Joint Application Report CE-NPSD-1168-A from 4 hours or 72 hours to 7 days. CIVs, individually and in combination, control the extent of leakage from the containment following an accident. The proposed CT extension applies to the reduction in redundancy in the containment isolation function by the CIVs for a limited period of time but does not alter the ability of the plant to meet the overall containment leakage requirements. The proposed change does not change the

design, configuration, or method of operation of the plant. The proposed change does not involve a physical alteration of the plant (no new or different type of equipment will be installed). Therefore, the proposed change does not create the possibility of a new or different kind of accident from any previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?  
Response: No.

The proposed change does not involve a significant reduction in a margin of safety. The proposed change revises the CT for an inoperable CIV within the scope of the CEOG Joint Application Report CE-NPSD-1168-A from 4 hours or 72 hours to 7 days. CIVs, individually and in combination, control the extent of leakage from the containment following an accident. The proposed CT extension applies to the reduction in redundancy in the containment isolation function by the CIVs for a limited period of time but does not alter the ability of the plant to meet the overall containment leakage requirements. In order to evaluate the proposed CT extension, a probabilistic risk assessment evaluation was performed in CEOG Joint Application Report CE-NPSD-1168-A. The risk assessment concluded that, based on the use of bounding risk parameters for CE-designed plants, the proposed increase in the CIV CT from 4 hours or 72 hours to 7 days does not alter the ability of the plant to meet the overall containment leakage requirements. It also concluded that the proposed change does not result in an unacceptable incremental conditional core damage probability or incremental conditional large early release probability according to the guidelines of RG 1.177. Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Based on the above, the proposed change presents no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and accordingly, a finding of "no significant hazards consideration" is justified.

Dated at Rockville, Maryland, this 5th day of November, 2003.

FOR THE NUCLEAR REGULATORY COMMISSION

*/RA/*

Herbert N. Berkow, Director  
Project Directorate IV  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation



Based on the above, the proposed change presents no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and accordingly, a finding of "no significant hazards consideration" is justified.

Dated at Rockville, Maryland, this 5th day of November, 2003.

FOR THE NUCLEAR REGULATORY COMMISSION  
/RA/

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