certain required end states when the TS Completion Times for remaining in power operation are exceeded, *i.e.*, entry into hot shutdown rather than cold shutdown to repair equipment, if risk is assessed and managed, will not introduce new failure modes or effects and will not, in the absence of other unrelated failures, lead to an accident whose consequences exceed the consequences of accidents previously evaluated. The addition of a requirement to assess and manage the risk introduced by this change and the commitment by the licensee to adhere to the guidance in WCAP–16364–NP, Rev[0], ''Implementation Guidance for Risk Informed Modification to Selected Required Action End States at Combustion Engineering NSSS Plants (TSTF–422),'' will further minimize possible concerns. Thus, this change does not create the possibility of a new or different kind of accident from an accident previously evaluated.

Criterion 3—The Proposed Change Does Not Involve a Significant Reduction in the Margin of Safety

The proposed change allows, for some systems, entry into hot shutdown rather than cold shutdown to repair equipment, if risk is assessed and managed. The CEOG's risk assessment approach is comprehensive and follows staff guidance as documented in RGs 1.174 and 1.177. In addition, the analyses show that the criteria of the three-tiered approach for allowing TS changes are met. The risk impact of the proposed TS changes was assessed following the three-tiered approach recommended in RG 1.177. A risk assessment was performed to justify the proposed TS changes. The net change to the margin of safety is insignificant. Therefore, this change does not involve a significant reduction in a margin of safety.

Based upon the reasoning presented above and the previous discussion of the amendment request, the requested change does not involve a significant hazards consideration.

Dated at Rockville, Maryland, this 27th day of April 2005.

For the Nuclear Regulatory Commission.

Theodore R. Tjader,

Senior Reactor Engineer, Technical Specifications Section, Operating Improvements Branch, Division of Inspection Program Management, Office of Nuclear Reactor Regulation.

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NUCLEAR REGULATORY COMMISSION

Notice of Availability of Model Application Concerning Technical Specification Improvement To Modify Requirements Regarding the Addition of Limiting Condition for Operation 3.0.8 on the Inoperability of Snubbers Using the Consolidated Line Item Improvement Process

AGENCY: Nuclear Regulatory Commission.

ACTION: Notice of availability.

SUMMARY: Notice is hereby given that the staff of the Nuclear Regulatory Commission (NRC) has prepared a model application relating to the modification of requirements regarding the impact of inoperable snubbers not in technical specifications, on supported systems in technical specifications (TS). The purpose of this model is to permit the NRC to efficiently process amendments that propose to modify requirements by adding to the TS a limiting condition for operation (LCO) 3.0.8 that provides a delay time for entering a supported system TS when the inoperability is due solely to an inoperable snubber, if risk is assessed and managed, as generically approved by this notice. Licensees of nuclear power reactors to which the model applies could request amendments utilizing the model application.

DATES: The NRC staff issued a **Federal Register** Notice (69 FR 68412, November 24, 2004) which provided a Model Safety Evaluation (SE) relating to modification of requirements regarding the addition [1] to the TS of LCO 3.0.8 on the impact of inoperable snubbers; similarly the NRC staff herein provides a Model Application, including a revised Model Safety Evaluation. The NRC staff can most efficiently consider applications based upon the Model Application, which references the Model Safety Evaluation, if the application is submitted within one year of this **Federal Register** notice.

FOR FURTHER INFORMATION CONTACT: Tom Boyce, Mail Stop: O–12H2, Division of Inspection Program Management, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, DC 20555–0001, telephone 301–415–0184.

SUPPLEMENTARY INFORMATION:

[1] In conjunction with the proposed change, technical specification (TS) requirements for a Bases Control Program, consistent with the TS-Bases Control Program described in section 5.5 of the applicable vendor's standard TS (STS), shall be incorporated into the licensee's TS, if not already in the TS.

Background

Regulatory Issue Summary 2000–06, ''Consolidated Line Item Improvement Process for Adopting Standard Technical Specifications Changes for Power Reactors,'' was issued on March 20, 2000. The consolidated line item improvement process (CLIIP) is intended to improve the efficiency of NRC licensing processes. This is accomplished by processing proposed changes to the standard technical specifications (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. 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 to proceed with announcing the availability of the change for proposed adoption by licensees. Those licensees opting to apply for the subject change to technical specifications 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 will be processed and noticed in accordance with applicable rules and NRC procedures.

This notice involves the modification of requirements regarding the addition to the TS of LCO 3.0.8 that provides a delay time for entering a supported system TS when the inoperability is due solely to an inoperable snubber, if risk is assessed and managed. This change was proposed for incorporation into the standard technical specifications by all Owners Groups participants in the Technical Specification Task Force (TSTF) and is designated TSTF–372 Revision 4, which was referenced in the **Federal Register** Notice (FRN) 69 FR 68412, of November 24, 2004, and can both be viewed on the NRC's Web page at *http://www.nrc.gov/reactors/operating/licensing/techspecs.html*.

Applicability

This proposed change to modify technical specification requirements for the impact of inoperable non-technical specification snubbers on supported systems in TS is applicable to all licensees who currently have or who will adopt, in conjunction with the proposed change, technical specification requirements for a Bases control program consistent with the

Technical Specifications Bases Control Program described in section 5.5 of the applicable vendor's STS.

To efficiently process the incoming license amendment applications, the staff requests each licensee applying for the changes addressed by TSTF–372 Revision 4 using the CLIIP to include the Bases for the proposed technical specifications. In addition, for those licensees that have not adopted requirements for a Bases control program by converting to the improved STS or by other means, the staff requests that you include the requirements for a Bases control program consistent with the STS in your request for the proposed change. The need for a Bases control program stems from the need for adequate regulatory control of some key elements of the proposal that are contained in the proposed Bases for surveillance requirement (SR) 3.0.8. The staff is requesting that the Bases be included with the proposed license amendments because, in this case, the changes to the technical specifications and changes to the associated Bases form an integrated change to a plant's licensing bases. To ensure that the overall change, including the Bases, includes the appropriate regulatory controls, the staff plans to condition the issuance of each license amendment on incorporation of the changes to the Bases document and on ensuring the licensee's TS have a Bases Control Program for controlling changes to the Bases. The CLIIP does not prevent licensees from requesting an alternative approach or proposing the changes without the requested Bases and Bases control program. Variations from the approach recommended in this notice may, however, require additional justification, additional review by the NRC staff and may increase the time and resources needed for the review.

Public Notices

The staff issued a **Federal Register** Notice (69 FR 68412, November 24, 2004) that requested public comment on the NRC's pending action to approve modification of TS requirements regarding the impact of inoperable non-technical specification snubbers on supported systems in TS. In particular, following an assessment and draft safety evaluation by the NRC staff, the staff sought public comment on proposed changes to the STS, designated as TSTF–372 Revision 4. The TSTF–372 Revision 4 can be viewed on the NRC's Web page at *http://www.nrc.gov/reactors/operating/licensing/techspecs.html*. TSTF–372 Revision 4 may be examined, and/or copied for a fee, at the NRC's Public Document Room, located at One White Flint North, 11555 Rockville Pike (first floor), Rockville, Maryland. Publicly available records are accessible electronically from the ADAMS Public Library component on the NRC Web site (the Electronic Reading Room), at *http://www.nrc.gov/reading-rm/adams.html*.

In response to the notice soliciting comments from interested members of the public about modifying the TS requirements regarding the impact of inoperable non-technical specification snubbers on supported systems in TS, the staff received three sets of comments (from licensees and the TSTF Owners Groups, representing licensees). Specific comments on the model SE were offered, and are summarized and discussed below:

1. *Comment:* Performing and documenting the engineering assessment every time LCO 3.0.8 is used is unnecessary as it is unlikely that the design function of the snubbers will change. The Safety Evaluation should be revised to state that when LCO 3.0.8 is used, licensees must confirm that at least one train of each system that is supported by the inoperable snubber(s) would remain capable of performing its required safety or support functions for postulated design loads other than seismic loads.

The evaluation described is not an ''operability assessment.'' In order for LCO 3.0.8 to be needed, the system supported by the snubber to be removed from service would not be considered operable. The phrases ''operability assessment'' and ''engineering assessment'' should be replaced as described in the previous bullet.

Response: The terms ''engineering assessment'' and ''operability assessment'' were used to describe the determination licensees must make, when a snubber is inoperable, that the snubber is seismic or non-seismic in function, the number of trains affected, and that the underlying assumptions of LCO 3.0.8 apply, before invoking LCO 3.0.8. It is recognized that the determination is only required when the inoperable snubber is required to support a system that is required to be operable by a TS, and when that TS is in a mode of applicability. Also, when a train is removed from service for maintenance, the risk assessment for the performance of the maintenance would encompass that for snubbers supporting only equipment on that train. So there are circumstances in which assessments/determinations for inoperable snubbers are not required. In recognition of the variability of the degree of determination required for an inoperable snubber, and the fact that the term ''assessment'' has formal procedural connotations, the wording has been changed as suggested, to require that ''* * * licensees confirm * * * '' and not assess, every time a snubber is inoperable.

2. *Comment:* In [section 3.2] item 1.(e), the Safety Evaluation uses the phrase ''perform a risk assessment.'' This phrase also appears on page 68420 of the **Federal Register** notice, third column, in the No Significant Hazards Consideration (NSHC), Criterion 3 discussion. The proposed Technical Specifications state that ''risk must be assessed and managed.'' Item 1.(e) and the NSHC should be revised to be consistent with the proposed Technical Specifications.

Response: The staff agrees. The wording will be changed to be consistent with 10 CFR 50.65(a)(4), which requires the licensee to ''assess and manage the increase in risk.''

3. *Comment:* Documenting the design functions of the snubber(s) for NRC inspection should not be required. As stated in TSTF–372, the risk assessments will be consistent with those performed to meet the requirements of 10 CFR 50.65(a)(4). It is not required that the risk assessments performed to meet the requirements of 10 CFR 50.65(a)(4) be documented. It would be inconsistent to require documentation of the particular portion of the 10 CFR 50.65(a)(4) risk assessments related to snubbers. In addition, this information exists in the plant's design documentation and it imposes an unnecessary burden on the licensee to record for this particular purpose otherwise generic information.

Response: To be consistent with the requirements of 10 CFR 50.65(a)(4), which does not require the documentation discussed in this comment, and in light of the variability of assessments associated with inoperable snubbers (as noted in the response to comment 1 above), the requirement for every evaluation to be documented has been removed. The staff nonetheless considers that it would be prudent in many circumstances for the evaluation to be documented, and that it would also be efficient if licensees were able to refer to prior evaluations. LCO 3.0.8 does not apply to non-seismic snubbers. In addition, a record of the design function of the inoperable snubber (*i.e.*, seismic vs. non-seismic), implementation of any applicable Tier 2 restrictions, and the associated plant configuration shall be available on a recoverable basis for staff inspection.

4. *Comment:* On page 68415 of the **Federal Register** Notice, the third

column, first paragraph, the following statement is made: ''Since the licensee controlled testing is done on only a small (about 10%) representative sample of the total snubber population, it is not expected to have more than a few snubbers supporting a given safety system out for testing at a time.'' The statement ''it is not expected to have more than a few snubbers supporting a given safety system out for testing at a time'' does not appear in TSTF–372 and is not an assumption of the risk assessment that was performed to support the Traveler. The Traveler risk assessment assumed that the systems affected by removed snubbers are unavailable. Therefore, the number of removed snubbers is irrelevant. The statement implies that plants must impose some undefined limit (*i.e.*, a ''few'') on the number of snubbers that can be simultaneously removed from a given system. Such a restriction is unnecessary and confusing. It is recommended that the sentence be revised to state, ''Since the licensee controlled testing is done on only a small (about 10%) representative sample of the total snubber population, typically only a few snubbers supporting a given safety system are out for testing at a time.'' This changes the sentence from what could be construed as a requirement to a statement of fact.

Response: The staff accepts the use of the phrase, ''typically only,'' as a substitute; the staff considers the phrases equivalent.

5. *Comment:* On page 68419 of the **Federal Register** Notice, the third column, first paragraph prior to Section 4.0, State Consultation, the following statement is made: ''Since the 10 CFR 50.65(a)(4) guidance, section 11 of NUMARC 93–01, does not currently address seismic risk, implementation guidance must be developed by licensees adopting this change to ensure that the proposed LCO 3.0.8 is considered in conjunction with other plant maintenance activities and integrated into the existing 10 CFR 50.65(a)(4) process.''

A similar statement is made on page 68418 of the **Federal Register** Notice, the third column, the last paragraph of Section 3.1.3. It is not necessary to develop independent ''implementation guidance'' to ensure that the proposed LCO 3.0.8 is considered in conjunction with other plant maintenance activities and integrated into the existing 10 CFR 50.65(a)(4) process. We recommend that the sentences be revised to state: Since the 10 CFR 50.65(a)(4) guidance, Section 11 of NUMARC 93–01, does not currently address seismic risk, licensees adopting this change must ensure that the proposed LCO 3.0.8 is considered in conjunction with other plant maintenance activities and integrated into the existing 10 CFR 50.65(a)(4) process.

Response: The staff accepts the wording change. In this case the use of the term ''implementation guidance'' was not intended to convey formal industry guidance. Therefore, to avoid confusion using the words ''must ensure'' is preferable. Wording has been added in the Safety Evaluation to ensure that seismic risk assessments used to satisfy the 10 CFR 50.65(a)(4) process will be based upon either detailed seismic probabilistic risk assessment (PRA) based evaluations or bounding risk analyses, such as utilized in the assessment included in the Safety Evaluation.

6. *Comment:* On page 68414 of the **Federal Register** Notice, middle column, first paragraph, it is stated that prior to conversion to improved STS, the 72-hour delay time provision that was typically included in the snubber technical specification was applicable only to snubbers found to be inoperable (*i.e.*, emergent conditions only). This characterization is contrary to previous NRC positions (*see* References 4 and 5 of TSTF–372, Revision 4). It is a long standing industry practice to utilize the 72-hour delay for the removal of snubbers for maintenance and testing purposes, not only emergent conditions.

Response: There remain some differing interpretations on what pre-improved STS allowed. Regardless of prior practices and what older specifications permitted, this change will clarify and make consistent practices and understanding of what is permitted. Therefore, statements of what pre-improved STS allowed are removed from the text.

7. *Comment:* In the first paragraph of the Summary, the term ''non-technical specifications snubbers'' is used. That term is not defined or used elsewhere. In section 1.0, INTRODUCTION, the new LCO 3.0.8 identifies the snubbers of interest as ''required snubbers.'' In section 2.0, Regulatory Evaluation, the snubbers of interest are characterized as ''relocated snubbers.''

Some clarification is requested to ensure that the snubbers of interest are clearly understood to be those required to support Technical Specifications functions.

Response: In the first paragraph of the Summary, the term ''non-technical specifications snubbers'' is changed to ''snubbers not in technical specifications.'' In section 1.0, INTRODUCTION, the new LCO 3.0.8 identifies the snubbers of interest as ''required snubbers.'' In technical specifications the term ''required snubbers'' is understood to be those required to support Technical Specifications functions. In section 2.0, REGULATORY EVALUATION, the term ''relocated snubber requirements'' has been changed to ''snubber requirements that have been relocated from technical specifications* * *''.

8. *Comment:* For licensees who have not converted to the improved STS, some clarification is needed for the ''other means'' by which a licensee could have adopted a Bases control program. Is it necessary that the Bases control program be incorporated into the Technical Specifications, or would the establishment of a procedure in the plant operating manual be sufficient?

Response: The Risk Management Technical Specifications (RMTS) Initiatives that have been approved to-date have each required the adoption of a Bases Control Program, if not previously adopted through conversion to the STS. It is necessary that the Bases Control Program be incorporated into the TS. At this point it is expected that most plants have adopted a Bases Control Program in the Administrative Controls Section of their TS. As noted, licensees are not prevented from requesting an alternative approach or proposing the changes without the requested Bases and Bases control program. Variations from the approach recommended in this notice may, however, require additional justification, additional review by the NRC staff and may increase the time and resources needed for the review. In addition, an alternative approach will most likely have to similarly involve a change to the plant license.

9. *Comment:* Section 3.1.2 of the model safety evaluation regarding the use of LCO 3.0.8b for boiling water reactors requires that ''at least one success path exists, using equipment not associated with the inoperable snubber(s), to provide makeup and cooling needed to mitigate LOOP accident sequences.'' The phrase ''needed to mitigate LOOP accident sequences'' is absent in the corresponding implementation requirements in Section 3.2.1(d), which implies all accident sequences must be considered. This phrase should be restored to Section 3.2.1(d) to clarify the type of analysis that must be performed.

Response: The staff agrees. The phrase ''needed to mitigate LOOP accident sequences'' is added to Section 3.2.1(d).

Dated at Rockville, Maryland, this 27th day of April 2005.

For the Nuclear Regulatory Commission.

Theodore R. Tjader,

Senior Reactor Engineer, Technical Specifications Section, Operating Improvements Branch, Division of Inspection Program Management, Office of Nuclear Reactor Regulation.

Model Safety Evaluation

Technical Specification Task Force (TSTF) Change TSTF–372

1.0 Introduction

On April 23, 2004, the Nuclear Energy Institute (NEI) Risk Informed Technical Specifications Task Force (RITSTF) submitted a proposed change, TSTF–372, Revision 4, to the standard technical specifications (STS) (NUREGs 1430–1434) on behalf of the industry (TSTF–372, Revisions 1 through 3 were prior draft iterations). TSTF–372, Revision 4, is a proposal to add an STS Limiting Condition for Operation (LCO) 3.0.8, allowing a delay time for entering a supported system technical specification (TS), when the inoperability is due solely to an inoperable snubber, if risk is assessed and managed. The postulated seismic event requiring snubbers is a low-probability occurrence and the overall TS system safety function would still be available for the vast majority of anticipated challenges.

This proposal is one of the industry's initiatives being developed under the risk-informed technical specifications program. These initiatives are intended to maintain or improve safety through the incorporation of risk assessment and management techniques in TS, while reducing unnecessary burden and making technical specification requirements consistent with the Commission's other risk-informed regulatory requirements, in particular the Maintenance Rule.

The proposed change adds a new limiting condition of operation, LCO 3.0.8, to the TS. LCO 3.0.8 allows licensees to delay declaring an LCO not met for equipment, supported by snubbers unable to perform their associated support functions, when risk is assessed and managed. This new LCO 3.0.8 states: When one or more required snubbers are unable to perform their associated support function(s), any affected supported LCO(s) are not required to be declared not met solely for this reason if risk is assessed and managed, and:

a. The snubbers not able to perform their associated support function(s) are associated with only one train or subsystem of a multiple train or subsystem supported system or are associated with a single train or subsystem supported system and are able to perform their associated support function within 72 hours; or

b. The snubbers not able to perform their associated support function(s) are associated with more than one train or subsystem of a multiple train or subsystem supported system and are able to perform their associated support function within 12 hours.

At the end of the specified period the required snubbers must be able to perform their associated support function(s), or the affected supported system LCO(s) shall be declared not met.''

The proposed TS change is described in sections 1.0 and 2.0. The technical evaluation and approach used to assess its risk impact is discussed in section 3.0. The results and insights of the risk assessment are presented and discussed in section 3.1. Section 3.2 summarizes the staff's conclusions from the review of the proposed TS change.

2.0 Regulatory Evaluation

In 10 CFR 50.36, the Commission established its regulatory requirements related to the content of TS. Pursuant to 10 CFR 50.36, TS are required to include items in the following five specific categories related to station operation: (1) Safety limits, limiting safety system settings, and limiting control settings; (2) limiting conditions for operation (LCOs); (3) surveillance requirements (SRs); (4) design features; and (5) administrative controls. The rule does not specify the particular requirements to be included in a plant's TS. As stated in 10 CFR 50.36(c)(2)(i), the ''Limiting conditions for operation are the lowest functional capability or performance levels of equipment required for safe operation of the facility. When a limiting condition for operation of a nuclear reactor is not met, the licensee shall shut down the reactor or follow any remedial action permitted by the technical specification * * *.'' TS section 3.0, on ''LCO and SR Applicability,'' provides details or ground rules for complying with the LCOs.

Snubbers are chosen in lieu of rigid supports in areas where restricting thermal growth during normal operation would induce excessive stresses in the piping nozzles or other equipment. Although they are classified as component standard supports, they are not designed to provide any transmission of force during normal plant operations. However, in the presence of dynamic transient loadings, which are induced by seismic events as well as by plant accidents and transients, a snubber functions as a rigid support. The location and size of the snubbers are determined by stress analysis based on different combinations of load conditions, depending on the design classification of the particular piping.

Prior to the conversion to the improved STS, TS requirements applied directly to snubbers. These requirements included:

- A requirement that snubbers be functional and in service when the supported equipment is required to be operable,
- A requirement that snubber removal for testing be done only during plant shutdown,
- A requirement that snubber removal for testing be done on a one-at-a-time basis when supported equipment is required to be operable during shutdown,
- A requirement to repair or replace within 72 hours any snubbers, found to be inoperable during operation in Modes 1 through 4, to avoid declaring any supported equipment inoperable,
- A requirement that each snubber be demonstrated operable by periodic visual inspections, and
- A requirement to perform functional tests on a representative sample of at least 10% of plant snubbers, at least once every 18 months during shutdown.

In the late 1980s, a joint initiative of the NRC and industry was undertaken to improve the STS. This effort identified the snubbers as candidates for relocation to a licensee-controlled document based on the fact that the TS requirements for snubbers did not meet any of the four criteria in 10 CFR 50.36(c)(2)(ii) for inclusion in the improved STS. The NRC approved the relocation without placing any restriction on the use of the relocated requirements. However, this relocation resulted in different interpretations between the NRC and the industry regarding its implementation. The NRC has stated, that since snubbers are supporting safety equipment that is in the TS, the definition of OPERABILITY must be used to immediately evaluate equipment supported by a removed snubber and, if found inoperable, the appropriate TS required actions must be entered. This interpretation has in practice eliminated the 72-hour delay to enter the actions for the supported equipment that existed prior to the conversion to the improved STS (the only exception is if the supported system has been analyzed and determined to be OPERABLE without the snubber). The industry has argued that since the NRC approved the relocation without placing any

restriction on the use of the relocated requirements, the licensee controlled document requirements for snubbers should be invoked before the supported system's TS requirements become applicable. The industry's interpretation would, in effect, restore the 72-hour delay to enter the actions for the supported equipment that existed prior to the conversion to the improved STS. The industry's proposal would allow a time delay for all conditions, including snubber removal for testing at power. The option to relocate the snubbers to a licensee controlled document, as part of the conversion to improved STS, has resulted in non-uniform and inconsistent treatment of snubbers. On the one hand, plants that have relocated snubbers from their TS are allowed to change the TS requirements for snubbers under the auspices of 10 CFR 50.59, but they are not allowed a 72-hour delay before they enter the actions for the supported equipment. On the other hand, plants that have not converted to improved STS have retained the 72-hour delay if snubbers are found to be inoperable, but they are not allowed to use 10 CFR 50.59 to change TS requirements for snubbers. It should also be noted that a few plants that converted to the improved STS chose not to relocate the snubbers to a licensee-controlled document and, thus, retained the 72-hour delay. In addition, it is important to note that unlike plants that have not relocated, plants that have relocated can perform functional tests on the snubbers at power (as long as they enter the actions for the supported equipment) and at the same time can reduce the testing frequency (as compared to plants that have not relocated) if it is justified by 10 CFR 50.59 assessments. Some potential undesirable consequences of this inconsistent treatment of snubbers are:

- Performance of testing during crowded time period windows when the supported system is inoperable with the potential to reduce the snubber testing to a minimum since the snubber requirements that have been relocated from TS are controlled by the licensee,
- Performance of testing during crowded windows when the supported system is inoperable with the potential to increase the unavailability of safety systems, and
- Performance of testing and maintenance on snubbers affecting multiple trains of the same supported system during the 7 hours allotted before entering MODE 3 under LCO 3.0.3.

To remove the inconsistency in the treatment of snubbers among plants, the TSTF proposed a risk-informed TS change that introduces a delay time before entering the actions for the supported equipment, when one or more snubbers are found inoperable or removed for testing, if risk is assessed and managed. Such a delay time will provide needed flexibility in the performance of maintenance and testing during power operation and at the same time will enhance overall plant safety by:

- Avoiding unnecessary unscheduled plant shutdowns and, thus, minimizing plant transition and realignment risks,
- Avoiding reduced snubber testing and, thus, increasing the availability of snubbers to perform their supporting function,
- Performing most of the required testing and maintenance during the delay time when the supported system is available to mitigate most challenges and, thus, avoiding increases in safety system unavailability, and
- Providing explicit risk-informed guidance in areas in which that guidance currently does not exist, such as the treatment of snubbers impacting more than one redundant train of a supported system.

3.0 Technical Evaluation

The industry submitted TSTF–372, Revision 4, ''Addition of LCO 3.0.8, Inoperability of Snubbers'' in support of the proposed TS change. This submittal (Ref. 1) documents a risk-informed analysis of the proposed TS change. Probabilistic risk assessment (PRA) results and insights are used, in combination with deterministic and defense-in-depth arguments, to identify and justify delay times for entering the actions for the supported equipment associated with inoperable snubbers at nuclear power plants. This is in accordance with guidance provided in Regulatory Guides (RGs) 1.174 and 1.177 (Refs. 2 and 3, respectively).

The risk impact associated with the proposed delay times for entering the TS actions for the supported equipment can be assessed using the same approach as for allowed completion time (CT) extensions. Therefore, the risk assessment was performed following the three-tiered approach recommended in RG 1.177 for evaluating proposed extensions in currently allowed CTs:

- The first tier involves the assessment of the change in plant risk due to the proposed TS change. Such risk change is expressed (1) by the change in the average yearly core damage frequency (ΔCDF) and the average yearly large early release frequency (ΔLERF) and (2) by the incremental conditional core damage probability (ICCDP) and the incremental conditional large early release probability (ICLERP). The assessed ΔCDF and ΔLERF values are compared to acceptance guidelines, consistent with the Commission's Safety Goal Policy Statement as documented in RG 1.174, so that the plant's average baseline risk is maintained within a minimal range. The assessed ICCDP and ICLERP values are compared to acceptance guidelines provided in RG 1.177, which aim at ensuring that the plant risk does not increase unacceptably during the period the equipment is taken out of service.
- The second tier involves the identification of potentially high-risk configurations that could exist if equipment in addition to that associated with the change were to be taken out of service simultaneously, or other risk-significant operational factors such as concurrent equipment testing were also involved. The objective is to ensure that appropriate restrictions are in place to avoid any potential high-risk configurations.
- The third tier involves the establishment of an overall configuration risk management program (CRMP) to ensure that potentially risk-significant configurations resulting from maintenance and other operational activities are identified. The objective of the CRMP is to manage configuration-specific risk by appropriate scheduling of plant activities and/or appropriate compensatory measures.

A simplified bounding risk assessment was performed to justify the proposed addition of LCO 3.0.8 to the TS. This approach was necessitated by (1) the general nature of the proposed TS changes (*i.e.*, they apply to all plants and are associated with an undetermined number of snubbers that are not able to perform their function), (2) the lack of detailed engineering analyses that establish the relationship between earthquake level and supported system pipe failure probability when one or more snubbers are inoperable, and (3) the lack of seismic risk assessment models for most plants. The simplified risk assessment is based on the following major assumptions, which the staff finds acceptable, as discussed below:

- The accident sequences contributing to the risk increase associated with the proposed TS changes are assumed to be initiated by a seismically-induced loss-of-offsite-power (LOOP) event with concurrent loss of all safety system trains supported by the out-of-service snubbers. In the case of snubbers associated with more than one train (or subsystem) of the same system, it is assumed that all

affected trains (or subsystems) of the supported system are failed. This assumption was introduced to allow the performance of a simple bounding risk assessment approach with application to all plants. This approach was selected due to the lack of detailed plant-specific seismic risk assessments for most plants and the lack of fragility data for piping when one or more supporting snubbers are inoperable.

• The LOOP event is assumed to occur due to the seismically-induced failure of the ceramic insulators used in the power distribution systems. These ceramic insulators have a high confidence (95%) of low probability (5%) of failure (HCLPF) of about 0.1g, expressed in terms of peak ground acceleration. Thus, a magnitude 0.1g earthquake is conservatively assumed to have 5% probability of causing a LOOP initiating event. The fact that no LOOP events caused by higher magnitude earthquakes were considered is justified because (1) the frequency of earthquakes decreases with increasing magnitude and (2) historical data (References 4 and 5) indicate that the mean seismic capacity of ceramic insulators (used in seismic PRAs), in terms of peak ground acceleration, is about 0.3g, which is significantly higher than the 0.1g HCLPF value. Therefore, the simplified analysis, even though it does not consider LOOP events caused by earthquakes of magnitude higher than 0.1g, bounds a detailed analysis which would use mean seismic failure probabilities (fragilities) for the ceramic insulators.

• Analytical and experimental results obtained in the mid-eighties as part of the industry's ''Snubber Reduction Program'' (References 4 and 6) indicated that piping systems have large margins against seismic stress. The assumption that a magnitude 0.1g earthquake would cause the failure of all safety system trains supported by the out-of-service snubbers is very conservative because safety piping systems could withstand much higher seismic stresses even when one or more supporting snubbers are out of service. The actual piping failure probability is a function of the stress allowable and the number of snubbers removed for maintenance or testing. Since the licensee controlled testing is done on only a small (about 10%) representative sample of the total snubber population, typically only a few snubbers supporting a given safety system out for testing at a time. Furthermore, since the testing of snubbers is a planned activity, licensees have flexibility in selecting a sample set of snubbers for testing from a much larger population by conducting configuration-specific engineering and/or risk assessments. Such a selection of snubbers for testing provides confidence that the supported systems would perform their functions in the presence of a design-basis earthquake and other dynamic loads and, in any case, the risk impact of the activity will remain within the limits of acceptability defined in risk-informed RGs 1.174 and 1.177.

• The analysis assumes that one train (or subsystem) of all safety systems is unavailable during snubber testing or maintenance (an entire system is assumed unavailable if a removed snubber is associated with both trains of a two-train system). This is a very conservative assumption for the case of corrective maintenance since it is unlikely that a visual inspection will reveal that one or more snubbers across all supported systems are inoperable. This assumption is also conservative for the case of the licensee-controlled testing of snubbers since such testing is performed only on a small representative sample.

• In general, no credit is taken for recovery actions and alternative means of performing a function, such as the function performed by a system assumed failed (*e.g.*, when LCO 3.0.8b applies). However, most plants have reliable alternative means of performing certain critical functions. For example, feed and bleed (F&B) can be used to remove heat in most pressurized water reactors (PWRs) when auxiliary feedwater (AFW), the most important system in mitigating LOOP accidents, is unavailable. Similarly, if high pressure makeup (*e.g.*, reactor core isolation cooling) and heat removal capability (*e.g.*, suppression pool cooling) are unavailable in boiling water reactors (BWRs), reactor depressurization in conjunction with low pressure makeup (*e.g.*, low pressure coolant injection) and heat removal capability (*e.g.*, shutdown cooling) can be used to cool the core. A 10% failure probability for recovery actions to provide core cooling using alternative means is assumed for Diablo Canyon, the only West Coast PWR plant with F&B capability, when a snubber impacting more than one train of the AFW system (*i.e.*, when LCO 3.0.8b is applicable) is out of service. This failure probability value is significantly higher than the value of 2.2E–2 used in Diablo Canyon's PRA. Furthermore, Diablo Canyon has analyzed the impact of a single limiting snubber failure, and concluded that no single snubber failure would impact two trains of AFW. No credit for recovery actions to provide core cooling using alternative means is necessary for West Coast PWR plants with no F&B capability because it has been determined that there is no single snubber whose non-functionality would disable two trains of AFW in a seismic event of magnitude up to the plant's safe shutdown earthquake (SSE). It should be noted that a similar credit could have been applied to most Central and Eastern U.S. plants but this was not necessary to demonstrate the low risk impact of the proposed TS change due to the lower earthquake frequencies at Central and Eastern U.S. plants as compared to West Coast plants.

• The earthquake frequency at the 0.1g level was assumed to be 1E–3/year for Central and Eastern U.S. plants and 1E–1/year for West Coast plants. Each of these two values envelop the range of earthquake frequency values at the 0.1g level, for Eastern U.S. and West Cost sites, respectively (References 5 and 7).

• The risk impact associated with non-LOOP accident sequences (*e.g.*, seismically initiated loss-of-coolant-accident (LOCA) or anticipated-transient-without-scram (ATWS) sequences) was not assessed. However, this risk impact is small compared to the risk impact associated with the LOOP accident sequences modeled in the simplified bounding risk assessment. Non-LOOP accident sequences, due to the ruggedness of nuclear power plant designs, require seismically-induced failures that occur at earthquake levels above 0.3g. Thus, the frequency of earthquakes initiating non-LOOP accident sequences is much smaller than the frequency of seismically-initiated LOOP events. Furthermore, because of the conservative assumption made for LOOP sequences that a 0.1g level earthquake would fail all piping associated with inoperable snubbers, non-LOOP sequences would not include any more failures associated with inoperable snubbers than LOOP sequences. Therefore, the risk impact of inoperable snubbers associated with non-LOOP accident sequences is small compared to the risk impact associated with the LOOP accident sequences modeled in the simplified bounding risk assessment.

• The risk impact of dynamic loadings other than seismic loads is not assessed. These shock-type loads include thrust loads, blowdown loads, waterhammer loads, steamhammer loads, LOCA loads and pipe rupture loads. However, there are some important distinctions between non-seismic (shock-type) loads and seismic loads which indicate that, in general, the risk impact of the out-of-service snubbers is smaller for non-seismic loads than for seismic loads. First, while

a seismic load affects the entire plant, the impact of a non-seismic load is localized to a certain system or area of the plant. Second, although non-seismic shock loads may be higher in total force and the impact could be as much or more than seismic loads, generally they are of much shorter duration than seismic loads. Third, the impact of non-seismic loads is more plant specific, and thus harder to analyze generically, than for seismic loads. For these reasons, licensees will be required to confirm every time LCO 3.0.8 is used, that at least one train of each system that is supported by the inoperable snubber(s) would remain capable of performing their required safety or support functions for postulated design loads other than seismic loads.

3.1 Risk Assessment Results and Insights

The results and insights from the implementation of the three-tiered approach of RG 1.177 to support the proposed addition of LCO 3.0.8 to the TS are summarized and evaluated in the following sections 3.1.1 to 3.1.3.

3.1.1 Risk Impact

The bounding risk assessment approach, discussed in Section 3.0, was implemented generically for all U.S. operating nuclear power plants. Risk assessments were performed for two categories of plants, Central and East Coast plants and West Coast plants, based on historical seismic hazard curves (earthquake frequencies and associated magnitudes). The first category, Central and East Coast plants, includes the vast majority of the U.S. nuclear power plant population (Reference 7). For each category of plants, two risk assessments were performed:

- The first risk assessment applies to cases where all inoperable snubbers are associated with only one train (or subsystem) of the impacted safety systems. It was conservatively assumed that a single train (or subsystem) of each safety system is unavailable. It was also assumed that the probability of non-mitigation using the unaffected redundant trains (or subsystems) is 2%. This is a conservative value given that for core damage to occur under those conditions, two or more failures are required.
- The second risk assessment applies to the case where one or more of the inoperable snubbers are associated with multiple trains (or subsystems) of the same safety systems. It was assumed in this bounding analysis that all safety systems are unavailable to mitigate the accident, except for West Coast PWR plants. Credit for using F&B to provide core cooling is taken for plants having F&B capability (*e.g.*, Diablo Canyon) when a snubber impacting more than one train of the AFW system is inoperable. Credit for one AFW train to provide core cooling is taken for West Coast PWR plants with no F&B capability (*e.g.*, San Onofre) because it has been determined that there is no single snubber whose non-functionality would disable two trains of AFW in a seismic event of magnitude up to the plant's SSE.

The results of the performed risk assessments, in terms of core damage and large early release risk impacts, are summarized in Table 1. The first row lists the conditional risk increase, in terms of CDF (core damage frequency), ΔR_{CDF}, caused by the out-of-service snubbers (as assumed in the bounding analysis). The second and third rows list the ICCDP (incremental conditional core damage probability) and the ICLERP (incremental conditional large early release probability) values, respectively. The ICCDP for the case where all inoperable snubbers are associated with only one train (or subsystem) of the supported safety systems, was obtained by multiplying the corresponding ΔR_{CDF} value by the time fraction of the proposed 72-hour delay to enter the actions for the supported equipment. The ICCDP for the case where one or more of the inoperable snubbers are associated with multiple trains (or subsystems) of the same safety system, was obtained by multiplying the corresponding ΔR_{CDF} value by the time fraction of the proposed 12-hour delay to enter the actions for the supported equipment. The ICLERP values were obtained by multiplying the corresponding ICCDP values by 0.1 (*i.e.*, by assuming that the ICLERP value is an order of magnitude less than the ICCDP). This assumption is conservative since containment bypass scenarios, such as steam generator tube rupture accidents and interfacing system loss-of-coolant accidents, would not be uniquely affected by the out-of-service snubbers. Finally, the fourth and fifth rows list the assessed ΔCDF and ΔLERF values, respectively. These values were obtained by dividing the corresponding ICCDP and ICLERP values by 1.5 (*i.e.*, by assuming that the snubbers are tested every 18 months, as was the case before the snubbers were relocated to a licensee-controlled document). This assumption is reasonable because (1) it is not expected that licensees would test the snubbers more often than what used to be required by the TS, and (2) testing of snubbers is associated with higher risk impact than the average corrective maintenance of snubbers found inoperable by visual inspection (testing is expected to involve significantly more snubbers out of service than corrective maintenance). The assessed ΔCDF and ΔLERF values are compared to acceptance guidelines, consistent with the Commission's Safety Goal Policy Statement as documented in RG 1.174, so that the plant's average baseline risk is maintained within a minimal range. This comparison indicates that the addition of LCO 3.0.8 to the existing TS would have an insignificant risk impact.

TABLE 1.—BOUNDING RISK ASSESSMENT RESULTS FOR SNUBBERS IMPACTING A SINGLE TRAIN AND MULTIPLE TRAINS OF A SUPPORTED SYSTEM

	Central and east coast plants		West coast plants	
	Single train	Multiple train	Single train	Multiple train
ΔR_{CDF}/yr	1E–6	5E–6	1E–4	5E–4
ICCDP	8E–9	7E–9	8E–7	7E–7
ICLERP	8E–10	7E–10	8E–8	7E–8
ΔCDF/yr	5E–9	5E–9	5E–7	5E–7
ΔLERF/yr	5E–10	5E–10	5E–8	5E–8

The assessed ΔCDF and ΔLERF values meet the acceptance criteria of 1E–6/year and 1E–7/year, respectively, based on guidance provided in RG 1.174. This conclusion is true without taking any credit for the removal of potential undesirable consequences associated with the current inconsistent treatment of snubbers (*e.g.*, reduced snubber

testing frequency, increased safety system unavailability and treatment of snubbers impacting multiple trains) discussed in Section 1 above, and given the bounding nature of the risk assessment.

The assessed ICCDP and ICLERP values are compared to acceptance guidelines provided in RG 1.177, which aim at ensuring that the plant risk does not increase unacceptably during the period the equipment is taken out of service. This comparison indicates that the addition of LCO 3.0.8 to the existing TS meets the RG 1.177 numerical guidelines of 5E–7 for ICCDP and 5E–8 for ICLERP. The small deviations shown for West Coast plants are acceptable because of the bounding nature of the risk assessments, as discussed in section 2.

The risk assessment results of Table 1 are also compared to guidance provided in the revised section 11 of NUMARC 93–01, Revision 2 (Reference 8), endorsed by RG 1.182 (Reference 9), for implementing the requirements of paragraph (a)(4) of the Maintenance Rule, 10 CFR 50.65. Such guidance is summarized in Table 2. Guidance regarding the acceptability of conditional risk increase in terms of CDF (*i.e.*, ΔR_{CDF}) for a planned configuration is provided. This guidance states that a specific configuration that is associated with a CDF higher than 1E–3/year should not be entered voluntarily. Since the assessed conditional risk increase, ΔR_{CDF}, is significantly less than 1E–3/year, plant configurations including out of service snubbers and other equipment may be entered voluntarily if supported by the results of the risk assessment required by 10 CFR 50.65(a)(4), by LCO 3.0.8, or by other TS.

TABLE 2.—GUIDANCE FOR IMPLEMENTING 10 CFR 50.65(A)(4)

ΔR_{CDF}	Guidance	
Greater than 1E–3/year	Configuration should not normally be entered voluntarily.	
ICCDP	Guidance	ICLERP
Greater than 1E–5	Configuration should not normally be entered voluntarily	Greater than 1E–6.
1E–6 to 1E–5	Assess non-quantifiable factors; Establish risk management actions	1E–7 to 1E–6.
Less than 1E–6	Normal work controls	Less than1E–7.

Guidance regarding the acceptability of ICCDP and ICLERP values for a specific planned configuration and the establishment of risk management actions is also provided in NUMARC 93–01. This guidance, as shown in Table 2, states that a specific plant configuration that is associated with ICCDP and ICLERP values below 1E–6 and 1E–7, respectively, is considered to require ''normal work controls.'' Table 1 shows that for the majority of plants (*i.e.*, for all plants in the Central and East Coast category) the conservatively assessed ICCDP and ICLERP values are over an order of magnitude less than what is recommended as the threshold for the ''normal work controls'' region. For West Coast plants, the conservatively assessed ICCDP and ICLERP values are still within the ''normal work controls'' region. Thus, the risk contribution from out of service snubbers is within the normal range of maintenance activities carried out at a plant. Therefore, plant configurations involving out of service snubbers and other equipment may be entered voluntarily if supported by the results of the risk assessment required by 10 CFR 50.65(a)(4), by LCO 3.0.8, or by other TS. However, this simplified bounding analysis indicates that for West Coast plants the provisions of LCO 3.0.8 must be used cautiously and in conjunction with appropriate management actions, especially when equipment other than snubbers is also inoperable, based on the results of configuration-specific risk assessments required by 10 CFR 50.65(a)(4), by LCO 3.0.8, or by other TS.

The staff finds that the risk assessment results support the proposed addition of LCO 3.0.8 to the TS. The risk increases associated with this TS change will be insignificant based on guidance provided in RGs 1.174 and 1.177 and within the range of risks associated with normal maintenance activities. In addition, LCO 3.0.8 will remove potential undesirable consequences stemming from the current inconsistent treatment of snubbers in the TS, such as reduced frequency of snubber testing, increased safety system unavailability and the treatment of snubbers impacting multiple trains.

3.1.2 Identification of High-Risk Configurations

The second tier of the three-tiered approach recommended in RG 1.177 involves the identification of potentially high-risk configurations that could exist if equipment, in addition to that associated with the TS change, were to be taken out of service simultaneously. Insights from the risk assessments, in conjunction with important assumptions made in the analysis and defense-in-depth considerations, were used to identify such configurations. To avoid these potentially high-risk configurations, specific restrictions to the implementation of the proposed TS changes were identified.

For cases where all inoperable snubbers are associated with only one train (or subsystem) of the impacted systems (*i.e.*, when LCO 3.0.8a applies), it was assumed in the analysis that there will be unaffected redundant trains (or subsystems) available to mitigate the seismically initiated LOOP accident sequences. This assumption implies that there will be at least one success path available when LCO 3.0.8a applies. Therefore, potentially high-risk configurations can be avoided by ensuring that such a success path exists when LCO 3.0.8a applies. Based on a review of the accident sequences that contribute to the risk increase associated with LCO 3.0.8a, as modeled by the simplified bounding analysis (*i.e.*, accident sequences initiated by a seismically-induced LOOP event with concurrent loss of all safety system trains supported by the out of service snubbers), the following restrictions were identified to prevent potentially high-risk configurations:

- For PWR plants, at least one AFW train (including a minimum set of supporting equipment required for its successful operation) not associated with the inoperable snubber(s), must be available when LCO 3.0.8a is used.
- For BWR plants, one of the following two means of heat removal must be available when LCO 3.0.8a is used:

—At least one high pressure makeup path (*e.g.*, using high pressure coolant injection (HPCI) or reactor core isolation cooling (RCIC) or equivalent) and heat removal capability (*e.g.*,

suppression pool cooling), including a minimum set of supporting equipment required for success, not associated with the inoperable snubber(s), or

—At least one low pressure makeup path (*e.g.*, low pressure coolant injection (LPCI) or containment spray (CS)) and heat removal capability (*e.g.*, suppression pool cooling or shutdown cooling), including a minimum set of supporting equipment required for success, not associated with the inoperable snubber(s).

For cases where one or more of the inoperable snubbers are associated with multiple trains (or subsystems) of the same safety system (*i.e.*, when LCO 3.0.8b applies), it was assumed in the bounding analysis that all safety systems are unavailable to mitigate the accident, except for West Coast plants. Credit for using F&B to provide core cooling is taken for plants having F&B capability (*e.g.*, Diablo Canyon) when a snubber impacting more than one train of the AFW system is inoperable. Credit for one AFW train to provide core cooling is taken for West Coast PWR plants with no F&B capability (*e.g.*, San Onofre) because it has been determined that there is no single snubber whose non-functionality would disable more than one train of AFW in a seismic event of magnitude up to the plant's SSE. Based on a review of the accident sequences that contribute to the risk increase associated with LCO 3.0.8b (as modeled by the simplified bounding analysis) and defense-in-depth considerations, the following restrictions were identified to prevent potentially high-risk configurations:

• LCO 3.0.8b cannot be used at West Coast PWR plants with no F&B capability when a snubber whose non-functionality would disable more than one train of AFW in a seismic event of magnitude up to the plant's SSE is inoperable (it should be noted, however, that based on information provided by the industry, there is no plant that falls in this category)

• When LCO 3.0.8b is used at PWR plants, at least one AFW train (including a minimum set of supporting equipment required for its successful operation) not associated with the inoperable snubber(s), or some alternative means of core cooling (*e.g.*, F&B, firewater system or ''aggressive secondary cooldown'' using the steam generators) must be available.

• When LCO 3.0.8b is used at BWR plants, it must be verified that at least one success path exists, using equipment not associated with the inoperable snubber(s), to provide makeup and core cooling needed to mitigate LOOP accident sequences.

3.1.3 Configuration Risk Management

The third tier of the three-tiered approach recommended in RG 1.177 involves the establishment of an overall configuration risk management program (CRMP) to ensure that potentially risk-significant configurations resulting from maintenance and other operational activities are identified. The objective of the CRMP is to manage configuration-specific risk by appropriate scheduling of plant activities and/or appropriate compensatory measures. This objective is met by licensee programs to comply with the requirements of paragraph (a)(4) of the Maintenance Rule (10 CFR 50.65) to assess and manage risk resulting from maintenance activities, and by the TS requiring risk assessments and management using (a)(4) processes if no maintenance is in progress. These programs can support licensee decision making regarding the appropriate actions to manage risk whenever a risk-informed TS is entered. Since the 10 CFR 50.65(a)(4) guidance, the revised (May 2000) Section 11 of NUMARC 93–01, does not currently address seismic risk, licensees adopting this change must ensure that the proposed LCO 3.0.8 is considered with respect to other plant maintenance activities and integrated into the existing 10 CFR 50.65(a)(4) process whether the process is invoked by a TS or (a)(4) itself.

3.2 Summary and Conclusions

The option to relocate the snubbers to a licensee controlled document, as part of the conversion to Improved STS, has resulted in non-uniform and inconsistent treatment of snubbers. Some potential undesirable consequences of this inconsistent treatment of snubbers are:

• Performance of testing during crowded windows when the supported system is inoperable with the potential to reduce the snubber testing to a minimum since the relocated snubber requirements are controlled by the licensee.

• Performance of testing during crowded windows when the supported system is inoperable with the potential to increase the unavailability of safety systems.

• Performance of testing and maintenance on snubbers affecting multiple trains of the same supported system during the 7 hours allotted before entering MODE 3 under LCO 3.0.3.

To remove the inconsistency among plants in the treatment of snubbers, licensees are proposing a risk-informed TS change which introduces a delay time before entering the actions for the supported equipment when one or more snubbers are found inoperable or removed for testing. Such a delay time will provide needed flexibility in the performance of maintenance and testing during power operation and at the same time will enhance overall plant safety by (1) avoiding unnecessary unscheduled plant shutdowns, thus, minimizing plant transition and realignment risks; (2) avoiding reduced snubber testing, thus, increasing the availability of snubbers to perform their supporting function; (3) performing most of the required testing and maintenance during the delay time when the supported system is available to mitigate most challenges, thus, avoiding increases in safety system unavailability; and (4) providing explicit risk-informed guidance in areas in which that guidance currently does not exist, such as the treatment of snubbers impacting more than one redundant train of a supported system.

The risk impact of the proposed TS changes was assessed following the three-tiered approach recommended in RG 1.177. A simplified bounding risk assessment was performed to justify the proposed TS changes. This bounding assessment assumes that the risk increase associated with the proposed addition of LCO 3.0.8 to the TS is associated with accident sequences initiated by a seismically-induced LOOP event with concurrent loss of all safety system trains supported by the out-of-service snubbers. In the case of snubbers associated with more than one train, it is assumed that all affected trains of the supported system are failed. This assumption was introduced to allow the performance of a simple bounding risk assessment approach with application to all plants and was selected due to the lack of detailed plant-specific seismic risk assessments for most plants and the lack of fragility data for piping when one or more supporting snubbers are inoperable. The impact from the addition of the proposed LCO 3.0.8 to the TS on defense-in-depth was also evaluated in conjunction with the risk assessment results.

Based on this integrated evaluation, the staff concludes that the proposed addition of LCO 3.0.8 to the TS would lead to insignificant risk increases, if any. Indeed, this conclusion is true without taking any credit for the removal of potential undesirable consequences associated with the current inconsistent treatment of

snubbers, such as the effects of avoiding a potential reduction in the snubber testing frequency and increased safety system unavailability. Consistent with the staff's approval and inherent in the implementation of TSTF–372, licensees interested in implementing LCO 3.0.8 must, as applicable, operate in accordance with the following stipulations:

1. Appropriate plant procedures and administrative controls will be used to implement the following Tier 2 Restrictions.

(a) At least one AFW train (including a minimum set of supporting equipment required for its successful operation) not associated with the inoperable snubber(s), must be available when LCO 3.0.8a is used at PWR plants.

(b) At least one AFW train (including a minimum set of supporting equipment required for its successful operation) not associated with the inoperable snubber(s), or some alternative means of core cooling (e.g., F&B, fire water system or ''aggressive secondary cooldown'' using the steam generators) must be available when LCO 3.0.8b is used at PWR plants.

(c) LCO 3.0.8b cannot be used by West Coast PWR plants with no F&B capability when a snubber, whose non-functionality would disable more than one train of AFW in a seismic event of magnitude up to the plant's SSE, is inoperable.

(d) BWR plants must verify, every time the provisions of LCO 3.0.8 are used, that at least one success path, involving equipment not associated with the inoperable snubber(s), exists to provide makeup and core cooling needed to mitigate LOOP accident sequences.

(e) Every time the provisions of LCO 3.0.8 are used licensees will be required to confirm that at least one train (or subsystem) of systems supported by the inoperable snubbers would remain capable of performing their required safety or support functions for postulated design loads other than seismic loads. LCO 3.0.8 does not apply to non-seismic snubbers. In addition, a record of the design function of the inoperable snubber (i.e., seismic vs. non-seismic), implementation of any applicable Tier 2 restrictions, and the associated plant configuration shall be available on a recoverable basis for staff inspection.

2. Should licensees implement the provisions of LCO 3.0.8 for snubbers, which include delay times to enter the actions for the supported equipment when one or more snubbers are out of service for maintenance or testing, it must be done in accordance with an overall CRMP to ensure that potentially risk-significant configurations resulting from maintenance and other operational activities are identified and avoided, as discussed in the proposed TS Bases. This objective is met by licensee programs to comply with the requirements of paragraph (a)(4) of the Maintenance Rule, 10 CFR 50.65, to assess and manage risk resulting from maintenance activities or when this process is invoked by LCO 3.0.8 or other TS. These programs can support licensee decisionmaking regarding the appropriate actions to manage risk whenever a risk-informed TS is entered. Since the 10 CFR 50.65(a)(4) guidance, the revised (May 2000) Section 11 of NUMARC 93–01, does not currently address seismic risk, licensees adopting this change must ensure that the proposed LCO 3.0.8 is considered in conjunction with other plant maintenance activities and integrated into the existing 10 CFR 50.65(a)(4) process. In the absence of a detailed seismic PRA, a bounding risk assessment, such as utilized in this Safety Evaluation, shall be followed.

4.0 State Consultation

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

5.0 Environmental Consideration

The amendments change 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 and change surveillance requirements. [For licensees adding a Bases Control Program: The amendment also changes record keeping, reporting, or administrative procedures or requirements.] 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 considerations, and there has been no public comment on the finding [FR]. Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9) [and (c)(10)]. Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

6.0 Conclusion

The Commission has concluded, on the basis of the considerations discussed above, 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.

7.0 References

1. TSTF–372, Revision 4, ''Addition of LCO 3.0.8, Inoperability of Snubbers,'' April 23, 2004.

2. Regulatory Guide 1.174, ''An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis,'' USNRC, August 1998.

3. Regulatory Guide 1.177, ''An Approach for Plant-Specific, Risk-Informed Decisionmaking: Technical Specifications,'' USNRC, August 1998.

4. Budnitz, R.J. *et al.*, ''An Approach to the Quantification of Seismic Margins in Nuclear Power Plants,'' NUREG/CR–4334, Lawrence Livermore National Laboratory, July 1985.

5. Advanced Light Water Reactor Utility Requirements Document, Volume 2, ALWR Evolutionary Plant, PRA Key Assumptions and Groundrules, Electric Power Research Institute, August 1990.

6. Bier V.M. *et al.*, ''Development and Application of a Comprehensive Framework for Assessing Alternative Approaches to Snubber Reduction,'' International Topical Conference on Probabilistic Safety Assessment and Risk Management PSA '87, Swiss Federal Institute of Technology, Zurich, August 30–September 4, 1987.

7. NUREG–1488, ''Revised Livermore Seismic Hazard Estimates for Sixty-Nine Nuclear Power Plant Sites East of the Rocky Mountains,'' April 1994.

8. NEI, Revised Section 11 of Revision 2 of NUMARC 93–01, May 2000.

9. Regulatory Guide 1.182, ''Assessing and Managing Risk Before Maintenance Activities at Nuclear Power Plants,'' May 2000.

The Following Example of an Application Was Prepared by the NRC Staff To Facilitate Use of the Consolidated Line Item Improvement Process (CLIIP). The Model Provides the Expected Level of Detail and Content for an Application To Revise Technical Specifications Regarding Missed

Surveillance (and Adoption of a Technical Specification Bases Control Program) * Using CLIIP. Licensees Remain Responsible for Ensuring That Their Actual Application Fulfills Their Administrative Requirements as Well as Nuclear Regulatory Commission Regulations.

U.S. Nuclear Regulatory Commission,
Document Control Desk,
Washington, DC 20555.

Subject: Plant Name
Docket No. 50—Application for Technical Specification Change To Add LCO 3.0.8 on the Inoperability of Snubbers (and Adoption of a Technical Specifications Bases Control Program) * Using the Consolidated Line Item Improvement Process

Gentleman:

In accordance with the provisions of 10 CFR 50.90 [LICENSEE] is submitting a request for an amendment to the technical specifications (TS) for [PLANT NAME, UNIT NOS.].

The proposed amendment would modify TS requirements for inoperable snubbers by adding LCO 3.0.8, (and, in conjunction with the proposed change, TS requirements for a Bases control program consistent with TS Bases Control Program described in Section 5.5 of the applicable vendor's Standard Technical Specifications).

Attachment 1 provides a description of the proposed change, the requested confirmation of applicability, and plant-specific verifications. Attachment 2 provides the existing TS pages marked up to show the proposed change. Attachment 3 provides revised (clean) TS pages. Attachment 4 provides a summary of the regulatory commitments made in this submittal. (IF APPLICABLE: Attachment 5 provides the existing TS Bases pages marked up to show the proposed change (for information only).)

[LICENSEE] requests approval of the proposed License Amendment by [DATE], with the amendment being implemented [BY DATE OR WITHIN X DAYS].

In accordance with 10 CFR 50.91, a copy of this application, with attachments, is being provided to the designated [STATE] Official.

I declare under penalty of perjury under the laws of the United States of America that I am authorized by [LICENSEE] to make this request and that the foregoing is true and correct. (Note that request may be notarized in lieu of using this oath or affirmation statement).

If you should have any questions regarding this submittal, please contact [NAME, TELEPHONE NUMBER]

Sincerely,
[Name, Title]

Attachments:
1. Description and Assessment
2. Proposed Technical Specification Changes
3. Revised Technical Specification Pages
4. Regulatory Commitments
5. Proposed Technical Specification Bases Changes

cc: NRC Project Manager
NRC Regional Office
NRC Resident Inspector
State Contact

Attachment 1—Description and Assessment

1.0 Description

The proposed amendment would modify technical specifications (TS) requirements for inoperable snubbers by adding LCO 3.0.8.[2]

The changes are consistent with Nuclear Regulatory Commission (NRC) approved Industry/Technical Specification Task Force (TSTF) STS change TSTF–372 Revision 4. The availability of this TS improvement was published in the **Federal Register** on [DATE] as part of the consolidated line item improvement process (CLIIP).

2.0 Assessment

2.1 Applicability of Published Safety Evaluation

[LICENSEE] has reviewed the safety evaluation dated [DATE] as part of the CLIIP. This review included a review of the NRC staff's evaluation, as well as the supporting information provided to support TSTF–372. [LICENSEE] has concluded that the justifications presented in the TSTF proposal and the safety evaluation prepared by the NRC staff are applicable to [PLANT, UNIT NOS.] and justify this amendment for the incorporation of the changes to the [PLANT] TS.

2.2 Optional Changes and Variations

[LICENSEE] is not proposing any variations or deviations from the TS changes described in the TSTF–372 Revision 4 or the NRC staff's model safety evaluation dated [DATE].

3.0 Regulatory Analysis

3.1 No Significant Hazards Consideration Determination

[LICENSEE] has reviewed the proposed no significant hazards consideration determination (NSHCD) published in the **Federal Register** as part of the CLIIP. [LICENSEE] has concluded that the proposed NSHCD presented in the **Federal Register** notice is applicable to [PLANT] and is hereby incorporated by reference to satisfy the requirements of 10 CFR 50.91(a).

3.2 Verification and Commitments

As discussed in the notice of availability published in the **Federal Register** on [DATE] for this TS improvement, plant-specific verifications were performed as follows:

The licensee has established TS Bases for LCO 3.0.8 which provide guidance and details on how to implement the new requirements. LCO 3.0.8 requires that risk be managed and assessed. The Bases also state that while the Industry and NRC guidance on implementation of 10 CFR 50.65(a)(4), the Maintenance Rule, does not address seismic risk, LCO 3.0.8 should be considered with respect to other plant maintenance activities, and integrated into the existing Maintenance Rule process to the extent possible so that maintenance on any unaffected train or subsystem is properly controlled, and emergent issues are properly addressed. The risk assessment need not be quantified, but may be a qualitative assessment of the vulnerability of systems and components when one or more snubbers are not able to perform their associated support function. Finally, the licensee is expected to have a Bases Control Program consistent with Section 5.5 of the STS.

4.0 Environmental Evaluation

[LICENSEE] has reviewed the environmental evaluation included in the model safety evaluation dated [DATE] as part of the CLIIP. [LICENSEE] has concluded that the staff's findings presented in that evaluation are applicable to [PLANT] and the evaluation is hereby incorporated by reference for this application.

Attachment 2—Proposed Technical Specification Changes (Mark-Up)

Attachment 3—Proposed Technical Specification Pages

Attachment 4—List of Regulatory Commitments

The following table identifies those actions committed to by [LICENSEE] in this document. Any other statements in this submittal are provided for information purposes and are not considered to be regulatory commitments. Please direct questions regarding these commitments to [CONTACT NAME].

Regulatory commitments—[LICENSEE] will establish the Technical Specification Bases for LCO 3.0.8 as adopted with the applicable license amendment.

Due date/event—[Complete, implemented with amendment OR within X days of implementation of amendment]

Attachment 5—Proposed Changes to Technical Specification Bases Pages

[FR Doc. E5–2171 Filed 5–3–05; 8:45 am]

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SECURITIES AND EXCHANGE COMMISSION

[Investment Company Act Release No. 26861; 812–13163]

Edward D. Jones & Co., L.P.; Notice of Application

April 28, 2005.

AGENCY: Securities and Exchange Commission (''Commission'').

ACTION: Notice of an application for an order under section 6(c) of the Investment Company Act of 1940 (the ''Act'') for an exemption from section 22(d) of the Act, as well as certain disclosure requirements.

SUMMARY OF APPLICATION: Edward D. Jones & Co., L.P. (''Edward Jones'')

* If not already in the facility Technical Specifications.

[2] [In conjunction with the proposed change, technical specifications (TS) requirements for a Bases Control Program, consistent with the TS Bases Control Program described in Section 5.5 of the applicable vendor's standard TS (STS), shall be incorporated into the licensee's TS, if not already in the TS.]