

RS-19-008

10 CFR 50.90

January 31, 2019

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555-0001

Braidwood Station, Units 1 and 2  
Renewed Facility Operating License Nos. NPF-72 and NPF-77  
NRC Docket Nos. STN 50-456 and STN 50-457

Byron Station, Units 1 and 2  
Renewed Facility Operating License Nos. NPF-37 and NPF-66  
NRC Docket Nos. STN 50-454 and STN 50-455

Subject: Application for Technical Specifications Change to Add LCO 3.0.9 on the Inoperability of Snubbers Using the Consolidated Line Item Improvement Process

- References:
1. TSTF-372-A, Revision 4, "Addition of LCO 3.0.8, Inoperability of Snubbers," dated April 27, 2004
  2. 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, dated May 4, 2005 (70 FR 23252)

In accordance with 10 CFR 50.90, Exelon Generation Company, LLC (EGC) is submitting a request for an amendment to the Technical Specifications (TS) for Braidwood Station, Units 1 and 2, and Byron Station, Units 1 and 2.

The proposed amendment would modify TS requirements for inoperable snubbers by adding Limiting Condition for Operation (LCO) 3.0.9. The change is consistent with the Nuclear Regulatory Commission (NRC) approved Revision 4 to Technical Specification Task Force (TSTF) Standard Technical Specifications Change Traveler, TSTF-372, "Addition of LCO 3.0.8, Inoperability of Snubbers" (Reference 1). The availability of this TS improvement was announced in the *Federal Register* on May 4, 2005 (70 FR 23252) as part of the consolidated line item improvement process (CLIIP) (Reference 2).

Due to the already existing LCO 3.0.8 within Braidwood Station, Units 1 and 2, and Byron Station, Units 1 and 2 TS, adoption of TSTF-372 will be identified as LCO 3.0.9. This deviation in nomenclature is insignificant with regard to ensuring proper application of TSTF-372, Revision 4, intent and purposes.

The proposed changes have been reviewed by the Braidwood Station and Byron Station Plant Operations Review Committees in accordance with the requirements of the EGC Quality Assurance Program.

Attachment 1 provides a description of the proposed change, the requested confirmation of applicability, assessment, regulatory analysis, and environmental consideration of the proposed changes. Attachments 2 and 3 provide the existing TS pages for Braidwood Station and Byron Station, respectively, marked up to show the proposed change. Attachment 4 provides a summary of the regulatory commitments made in this submittal. Attachments 5 and 6 provide the existing TS Bases pages for Braidwood Station and Byron Station, respectively, marked up to show the proposed changes (for information only).

EGC requests approval of the proposed License Amendment by August 7, 2019, in accordance with the Consolidated Line Item Improvement Process (CLIP). This date will also support the Braidwood Unit 1 fall refueling outage (A1R21). Upon issuance, the amendments shall be implemented within 30 days.

In accordance with 10 CFR 50.91, a copy of this application, with attachments, is being provided to the State of Illinois.

If you should have any questions regarding this submittal, please contact Ms. Lisa Simpson at (630) 657-2815.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 31st day of January 2019.

Respectfully,



David M. Gullott  
Director – Licensing  
Exelon Generation Company, LLC

Attachments:

1. Description and Assessment
2. Proposed Technical Specifications Changes for Braidwood Station, Units 1 and 2
3. Proposed Technical Specifications Changes for Byron Station, Units 1 and 2
4. Regulatory Commitments
5. Proposed Technical Specifications Bases Changes for Braidwood Station, Units 1 and 2
6. Proposed Technical Specifications Bases Changes for Byron Station, Units 1 and 2

cc: NRC Regional Administrator – Region III  
NRC Senior Resident Inspector – Braidwood Station  
NRC Senior Resident Inspector – Byron Station  
NRC Project Manager, NRR – Braidwood and Byron Stations  
Illinois Emergency Management Agency – Division of Nuclear Safety

# ATTACHMENT 1

## Description and Assessment

### 1.0 DESCRIPTION

The proposed amendment would modify Technical Specifications (TS) requirements for inoperable snubbers by adding Limiting Condition for Operation (LCO) 3.0.9.

The changes are consistent with Nuclear Regulatory Commission (NRC) approved Industry/Technical Specification Task Force (TSTF) Standard Technical Specifications Change Traveler TSTF-372, Revision 4, "Addition of LCO 3.0.8, Inoperability of Snubbers." The availability of this TS improvement was published in the *Federal Register* on May 4, 2005 (70 FR 23252) as part of the consolidated line item improvement process (CLIP).

### 2.0 ASSESSMENT

#### 2.1 Applicability of Published Safety Evaluation

Exelon Generation Company, LLC (EGC) has reviewed the Model safety evaluation (SE) dated May 4, 2005, as part of the CLIP. This review included a review of the NRC's evaluation, as well as the supporting information provided to support TSTF-372, Revision 4. EGC has concluded that the justifications presented in the TSTF proposal and the safety evaluation prepared by the NRC are applicable to Braidwood Station, Units 1 and 2, and Byron Station, Units 1 and 2, and justify this amendment for the incorporation of the changes to the Braidwood Station and Byron Station TS.

#### 2.2 Optional Changes and Variations

2.2.1 EGC proposes the following minor variation from the TS and Bases changes described in the TSTF-372, Revision 4, and the NRC's model safety evaluation dated May 4, 2005:

- The Braidwood Station, Units 1 and 2, and Byron Station, Units 1 and 2, TS currently contain an LCO 3.0.8 that pertains to the applicability of Actions throughout the TS for these dual-unit facilities. Specifically, LCOs shall apply to each unit individually, unless otherwise indicated. Whenever the LCO refers to a system or component that is shared by both units, the LCOs will apply to both units simultaneously. This LCO is renumbered as LCO 3.0.9 to align with TSTF-372-A for the affected plants.

This variation is administrative in nature and does not affect the applicability of TSTF-372 to the Braidwood, Units 1 and 2, or Byron, Units 1 and 2 TS. Attachments 5 and 6 provide the existing TS Bases pages for Braidwood Station and Byron Station, respectively, marked up to show the proposed changes (for information only).

2.2.2 EGC is not proposing any variations or deviations from the TS changes described in TSTF-372, Revision 4, or the NRC Model SE. However, based on Revision 1 of TSTF-IG-05-03, "Implementation Guidance for TSTF-372, Revision 4, 'Addition of LCO 3.0.8, Inoperability of Snubbers'," issued February 2009, EGC is proposing minor deviations from the NRC Model SE, associated with the maintenance of Braidwood Station, Units 1 and 2, and Byron Station, Units 1 and 2, TS wording and usage rules in the adoption of TSTF-372. The NRC Model SE contained the following stipulations:

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**Description and Assessment**

1. Appropriate plant procedures and administrative controls will be used to implement the following Tier 2 restrictions [i.e., Avoidance of Risk-Significant Plant Configurations" as defined in Regulatory Guide 1.177, "An Approach for Plant Specific, Risk-Informed Decisionmaking: Technical Specifications," August 1998].
  - (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 snubbers), 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 [configuration risk management program (CRMP)] to ensure that potentially risk-significant configurations resulting from maintenance and

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### **Description and Assessment**

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.

Each of these stipulations is addressed below.

#### Stipulations 1(a) and 1(b)

Stipulations 1(a) and 1(b) are incorporated in the associated TS Bases for LCO 3.0.9. When this proposed amendment is approved, associated plant procedures will be revised to include these requirements.

#### Stipulation 1(c)

Stipulation 1(c) is applicable only to West Coast PWR plants; therefore, it is not applicable to Braidwood Station, Units 1 and 2, or Byron Station, Units 1 and 2.

#### Stipulation 1(d)

Stipulation 1(d) is applicable only to BWR plants; therefore, it is not applicable to Braidwood Station, Units 1 and 2, or Byron Station, Units 1 and 2.

#### Stipulation 1(e)

Regarding Stipulation 1(e), the revised Bases state that every time the provisions of LCO 3.0.9 are used, EGC will confirm that at least one train (or subsystem) of systems supported by the inoperable snubbers will remain capable of performing their required safety or support functions for postulated design loads other than seismic loads.

Item 1(e) of the Model SE, Section 3.2, contains the statement "LCO 3.0.8 does not apply to non-seismic snubbers." This statement is not specifically addressed in the implementation process of TSTF-372; therefore, EGC proposes to include this statement in the LCO 3.0.9 Bases (see Attachments 5 and 6 of this submittal). Further guidance associated with the intent of this statement, as discussed in Section 3.0 of the Model SE and in TSTF-IG-05-03, "Implementation Guidance for TSTF-372, Revision 4, 'Addition of LCO 3.0.8, Inoperability of Snubbers'," is also included in the Bases.

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#### Stipulation 2

Stipulation 2 of the NRC Model SE directs that decision making must ensure that the proposed LCO 3.0.9 and seismic risk is considered in conjunction with maintenance activities. The revised TS Bases for LCO 3.0.9 provide guidance and details on how to implement the new requirements. LCO 3.0.9 requires that risk be managed and assessed. The revised 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 3.0.9 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, EGC has a Bases Control Program (TS 5.5.14) consistent with Section 5.5 of the Standard Technical Specifications.

The proposed TS Bases changes are consistent with those described in TSTF-372, Revision 4, except that the specific restrictions identified in the NRC Model SE dated May 4, 2005, are added to the proposed new TS Bases for LCO 3.0.9. These variations do not affect the proper application of TSTF-372.

2.2.3 EGC proposes the following minor variation from TSTF-372, Revision 4:

- The model application provided in TSTF-372, Revision 4, includes an attachment for revised (clean) TS pages reflecting the proposed changes. Braidwood Station and Byron Station are not including attachments for revised TS pages as they may have the potential to be affected by other unrelated license amendment requests and due to the straightforward nature of the proposed changes. Providing only mark-ups of the proposed TS changes satisfies the requirements of 10 CFR 50.90, "Application for amendment of license, construction permit, or early site permit, in that the mark-ups fully describe the changes desired.

This variation is an administrative deviation from TSTF-372, Revision 4, with no impact on the NRC's model safety evaluation. Because of this deviation, the contents and numbering of the attachments for this amendment request differ from the attachments specified in the model application in TSTF-372, Revision 4.

### **3.0 REGULATORY ANALYSIS**

#### **3.1 No Significant Hazards Consideration Determination**

In accordance with 10 CFR 50.90, Exelon Generation Company, LLC (EGC), is submitting a request for an amendment to the Technical Specifications (TS) for Braidwood Station, Units 1 and 2, and Byron Station, Units 1 and 2.

## ATTACHMENT 1 Description and Assessment

The proposed amendment would modify TS requirements for inoperable snubbers by adding Limiting Condition for Operation (LCO) 3.0.9. The change is consistent with the Nuclear Regulatory Commission (NRC) approved Revision 4 to Technical Specification Task Force (TSTF) Standard Technical Specifications Change Traveler, TSTF-372, "Addition of LCO 3.0.8, Inoperability of Snubbers" (Reference 1). The availability of this TS improvement was announced in the *Federal Register* on May 4, 2005 (70 FR 23252) as part of the consolidated line item improvement process (CLIP) (Reference 2).

EGC has evaluated whether or not a significant hazards consideration is involved with the proposed amendment for Braidwood Station, Units 1 and 2, and Byron Station, Units 1 and 2, by focusing on the three standards set forth in 10 CFR 50.92(c), "Issuance of amendment," as discussed 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 allows a delay time before declaring supported Technical Specifications (TS) systems inoperable when the associated snubber(s) cannot perform its required safety function. Entrance into Actions or delaying entrance into Actions is not an initiator of any accident previously evaluated. Consequently, the probability of an accident previously evaluated is not significantly increased. The consequences of an accident while relying on the delay time allowed before declaring a TS supported system inoperable and taking its Conditions and Required Actions are no different than the consequences of an accident under the same plant conditions while relying on the existing TS supported system Conditions and Required Actions. Therefore, the consequences of an accident previously evaluated are not significantly increased by this change.

Therefore, this proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

Response: No.

The proposed change allows a delay time before declaring supported TS systems inoperable when the associated snubber(s) cannot perform its required safety function. The proposed change does not involve a physical alteration of the plant (no new or different type of equipment will be installed) or a change in the methods governing normal plant operation.

Therefore, the proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the proposed change involve a significant reduction in margin of safety?

Response: No.

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### **Description and Assessment**

The proposed change allows a delay time before declaring supported TS systems inoperable when the associated snubber(s) cannot perform its required safety function. The proposed change restores an allowance in the pre-Improved Standard Technical Specifications (ISTS) conversion TS that was unintentionally eliminated by the conversion. The pre-ISTS TS were considered to provide an adequate margin of safety for plant operation, as does the post-ISTS conversion TS.

Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Based on the above, EGC concludes that the proposed amendments do not involve a 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.

In conclusion, based on the considerations discussed above, (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 proposed change will not be inimical to the common defense and security or to the health and safety of the public.

### **3.2 Verification and Commitments**

As discussed in the Notice of Availability published in the *Federal Register* (70 FR 23252) on May 4, 2005, for this TS improvement, plant-specific verifications were performed as follows:

EGC has established TS Bases for LCO 3.0.9 that provide guidance and details on how to implement the new requirements. LCO 3.0.9 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 3.0.9 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, EGC has a Bases Control Program (TS 5.5.14) consistent with Section 5.5 of the Standard Technical Specifications.

EGC has provided a regulatory commitment to ensure that the TS Bases for LCO 3.0.9 will be established with the implementation of the amendment (i.e., Attachment 4). Additionally, this requirement is documented in the proposed TS Bases. The inclusion of these configuration restrictions in the TS Bases will ensure that they are retained and controlled in accordance with the TS Bases Control Program as defined in the Administrative Controls TS Section 5.5, "Programs and Manuals."



**ATTACHMENT 1**  
**Description and Assessment**

**4.0 ENVIRONMENTAL EVALUATION**

A review has determined that the proposed change would change a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR 20, or would change an inspection or surveillance requirement. However, the proposed change does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluent that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendment.

**ATTACHMENT 2**  
**Proposed Technical Specifications Changes for Braidwood Station, Units 1 and 2**

**Braidwood Station, Units 1 and 2**  
**Facility Operating License Nos. NPF-72 and NPF-77**

**Mark-up of Technical Specifications Pages**

3.0 – 1  
3.0 – 4  
INSERT 1

3.0 LIMITING CONDITION FOR OPERATION (LCO) APPLICABILITY

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LCO 3.0.1 LCOs shall be met during the MODES or other specified conditions in the Applicability, except as provided in LCO 3.0.2 ~~and~~ LCO 3.0.7.

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, ,and LCO 3.0.9.

LCO 3.0.2 Upon discovery of a failure to meet an LCO, the Required Actions of the associated Conditions shall be met, except as provided in LCO 3.0.5 and LCO 3.0.6.

If the LCO is met or is no longer applicable prior to expiration of the specified Completion Time(s), completion of the Required Action(s) is not required unless otherwise stated.

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LCO 3.0.3 When an LCO is not met and the associated ACTIONS are not met, an associated ACTION is not provided, or if directed by the associated ACTIONS, the unit shall be placed in a MODE or other specified condition in which the LCO is not applicable. Action shall be initiated within 1 hour to place the unit, as applicable, in:

- a. MODE 3 within 7 hours;
- b. MODE 4 within 13 hours; and
- c. MODE 5 within 37 hours.

Exceptions to this Specification are stated in the individual Specifications.

Where corrective measures are completed that permit operation in accordance with the LCO or ACTIONS, completion of the actions required by LCO 3.0.3 is not required.

LCO 3.0.3 is only applicable in MODES 1, 2, 3, and 4.

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### 3.0 LCO Applicability

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LCO 3.0.7            Exception LCOs allow specified Technical Specification (TS) requirements to be changed to permit performance of special tests and operations. Unless otherwise specified, all other TS requirements remain unchanged. Compliance with Exception LCOs is optional. When an Exception LCO is desired to be met but is not met, the ACTIONS of the Exception LCO shall be met. When an Exception LCO is not desired to be met, entry into a MODE or other specified condition in the Applicability shall be made in accordance with the other applicable Specifications.

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LCO 3.0.8            LCOs, including associated ACTIONS, shall apply to each unit individually, unless otherwise indicated. Whenever the LCO refers to a system or component that is shared by both units, the ACTIONS will apply to both units simultaneously.

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INSERT 1

INSERT 1

LCO 3.0.9

When one or more required snubbers are unable to perform their associated support functions(s), any affected support 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 functions(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 functions(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.

**ATTACHMENT 3**  
**Proposed Technical Specifications Changes for Byron Station, Units 1 and 2**

**Byron Station, Units 1 and 2**  
**Facility Operating License Nos. NPF-37 and NPF-66**

**Mark-up of Technical Specifications Pages**

3.0 – 1  
3.0 – 4  
INSERT 1

3.0 LIMITING CONDITION FOR OPERATION (LCO) APPLICABILITY

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LCO 3.0.1 LCOs shall be met during the MODES or other specified conditions in the Applicability, except as provided in LCO 3.0.2 and LCO 3.0.7.

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, and LCO 3.0.9.

LCO 3.0.2 Upon discovery of a failure to meet an LCO, the Required Actions of the associated Conditions shall be met, except as provided in LCO 3.0.5 and LCO 3.0.6.

If the LCO is met or is no longer applicable prior to expiration of the specified Completion Time(s), completion of the Required Action(s) is not required unless otherwise stated.

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LCO 3.0.3 When an LCO is not met and the associated ACTIONS are not met, an associated ACTION is not provided, or if directed by the associated ACTIONS, the unit shall be placed in a MODE or other specified condition in which the LCO is not applicable. Action shall be initiated within 1 hour to place the unit, as applicable, in:

- a. MODE 3 within 7 hours;
- b. MODE 4 within 13 hours; and
- c. MODE 5 within 37 hours.

Exceptions to this Specification are stated in the individual Specifications.

Where corrective measures are completed that permit operation in accordance with the LCO or ACTIONS, completion of the actions required by LCO 3.0.3 is not required.

LCO 3.0.3 is only applicable in MODES 1, 2, 3, and 4.

### 3.0 LCO Applicability

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LCO 3.0.7            Exception LCOs allow specified Technical Specification (TS) requirements to be changed to permit performance of special tests and operations. Unless otherwise specified, all other TS requirements remain unchanged. Compliance with Exception LCOs is optional. When an Exception LCO is desired to be met but is not met, the ACTIONS of the Exception LCO shall be met. When an Exception LCO is not desired to be met, entry into a MODE or other specified condition in the Applicability shall be made in accordance with the other applicable Specifications.

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LCO 3.0.8            LCOs, including associated ACTIONS, shall apply to each unit individually, unless otherwise indicated. Whenever the LCO refers to a system or component that is shared by both units, the ACTIONS will apply to both units simultaneously.

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INSERT 1

LCO 3.0.9

When one or more required snubbers are unable to perform their associated support functions(s), any affected support 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 functions(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 functions(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.

**ATTACHMENT 4**  
**Regulatory Commitments**

**Braidwood Station, Units 1 and 2**  
**Facility Operating License Nos. NPF-72 and NPF-77**

**Byron Station, Units 1 and 2**  
**Facility Operating License Nos. NPF-37 and NPF-66**

**ATTACHMENT 4  
Regulatory Commitments**

**SUMMARY OF REGULATORY COMMITMENTS**

The following table identifies a commitment made in this document. (Any other actions discussed in the submittal represent intended or planned actions. They are described to the NRC for the NRC's information and are not regulatory commitments.)

<b>COMMITMENT</b>	<b>COMMITTED DATE OR "OUTAGE"</b>	<b>COMMITMENT TYPE</b>	
		<b>One-Time Action (Yes/No)</b>	<b>Programmatic (Yes/No)</b>
EGC will establish the Technical Specifications Bases for LCO 3.0.9 as adopted with the applicable license amendments.	Within 30 days of issuance of amendment.	Yes	No

**ATTACHMENT 5**  
**Proposed Technical Specifications Bases Changes for Braidwood Station, Units 1 and 2**

**Braidwood Station, Units 1 and 2**  
**Facility Operating License Nos. NPF-72 and NPF-77**

**Mark-up of Technical Specifications Bases Pages**

B 3.0 – 1  
B 3.0 – 13  
INSERT 2

B 3.0 LIMITING CONDITION FOR OPERATION (LCO) APPLICABILITY

BASES

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LCOs	LCO 3.0.1 through LCO <del>3.0.8</del> establish the general requirements applicable to all Specifications and apply at all times, unless otherwise stated.
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LCO 3.0.1	LCO 3.0.1 establishes the Applicability statement within each individual Specification as the requirement for when the LCO is required to be met (i.e., when the unit is in the MODES or other specified conditions of the Applicability statement of each Specification).
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LCO 3.0.2	<p>LCO 3.0.2 establishes that upon discovery of a failure to meet an LCO, the associated ACTIONS shall be met. The Completion Time of each Required Action for an ACTIONS Condition is applicable from the point in time that an ACTIONS Condition is entered, unless otherwise specified. The Required Actions establish those remedial measures that must be taken within specified Completion Times when the requirements of an LCO are not met. This Specification establishes that:</p> <ul style="list-style-type: none"><li>a. Completion of the Required Actions within the specified Completion Times constitutes compliance with a Specification; and</li><li>b. Completion of the Required Actions is not required when an LCO is met within the specified Completion Time, unless otherwise specified.</li></ul>
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3.0.9



BASES

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LCO 3.0.7 There are certain special tests and operations required to be performed at various times over the life of the unit. These special tests and operations are necessary to demonstrate select unit performance characteristics, to perform special maintenance activities, and to perform special evolutions. Exception LCOs (e.g., LCO 3.1.8, "PHYSICS TESTS Exceptions-MODE 2") allow specified Technical Specification (TS) requirements to be changed to permit performances of these special tests and operations, which otherwise could not be performed if required to comply with the requirements of these TS. Unless otherwise specified, all the other TS requirements remain unchanged. This will ensure all appropriate requirements of the MODE or other specified condition not directly associated with or required to be changed to perform the special test or operation will remain in effect.

The Applicability of an Exception LCO represents a condition not necessarily in compliance with the normal requirements of the TS. Compliance with Exception LCOs is optional. A special operation may be performed either under the provisions of the appropriate Exception LCO or under the other applicable TS requirements. If it is desired to perform the special operation under the provisions of the Exception LCO, the requirements of the Exception LCO shall be followed.

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LCO 3.0.8 LCO 3.0.8 establishes the applicability of each Specification to both Unit 1 and Unit 2 operation. Whenever a requirement applies to only one unit, or is different for each unit, this will be identified in the appropriate section of the Specification (e.g., Applicability, Surveillance, etc.) with parenthetical reference, Notes, or other appropriate presentation within the body of the requirement.

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**INSERT 2**

 **Add line**

## INSERT 2

LCO 3.0.9 LCO 3.0.9 establishes conditions under which systems are considered to remain capable of performing their intended safety function when associated snubbers are not capable of providing their associated support function(s). This LCO states that the supported system is not considered to be inoperable solely due to one or more snubbers not capable of performing their associated support function(s). This is appropriate because a limited length of time is allowed for maintenance, testing, or repair of one or more snubbers not capable of performing their associated support function(s) and appropriate compensatory measures are specified in the snubber requirements, which are located outside of the Technical Specifications (TS) under licensee control. The snubber requirements do not meet the criteria in 10 CFR 50.36(c)(2)(ii), and, as such, are appropriate for control by the licensee.

When applying LCO 3.0.9.a, at least one train of Auxiliary Feedwater (AFW) system must be OPERABLE during MODES when AFW is required to be OPERABLE. When applying LCO 3.0.9.a during MODES when AFW is not required to be OPERABLE, a core cooling method (such as the Residual Heat Removal (RHR) system) must be available per applicable site procedures. When applying LCO 3.0.9.b, a means of core cooling must remain available (AFW, RHR, equipment necessary for feed and bleed operations, etc.). Reliance on availability of a core cooling source during modes where AFW is not required by TSs provides an equivalent safety margin for plant operations were LCO 3.0.9 not applied and meets the intent of Technical Specifications Task Force Change Traveler TSTF-372, Revision 4, "Addition of LCO 3.0.8, Inoperability of Snubbers."

When a snubber is to be rendered incapable of performing its related support function (i.e., nonfunctional) for testing or maintenance or is discovered to not be functional, it must be determined whether any system(s) require the affected snubber(s) for system OPERABILITY, and whether the plant is in a MODE or specified condition in the Applicability that requires the supported system(s) to be OPERABLE.

If an analysis determines that the supported system(s) do not require that snubber(s) to be functional in order to support the OPERABILITY of the system(s), LCO 3.0.9 is not needed. If the LCO(s) associated with any supported system(s) are not currently applicable (i.e., the plant is not in a MODE or other specified condition in the Applicability of the LCO), LCO 3.0.9 is not needed. If the supported system(s) are inoperable for reasons other than snubbers, LCO 3.0.9 cannot be used. LCO 3.0.9 is an allowance, not a requirement. When a snubber is nonfunctional, any supported system(s) may be declared inoperable instead of using LCO 3.0.9.

Every time the provisions of LCO 3.0.9 are used, the station will confirm that at least one train (or subsystem) of systems supported by the inoperable snubbers will remain capable of performing their required safety or support functions for postulated design loads other than seismic loads. A record of the design function of the inoperable snubber (i.e., seismic vs. non-seismic) and the associated plant configuration will be available on a recoverable basis for NRC staff inspection.

LCO 3.0.9 does not apply to non-seismic snubbers. The provisions of LCO 3.0.9 are not to be applied to supported TS systems unless the supported systems would remain capable of performing their required safety or support functions for postulated design loads other than seismic loads. The risk impact of dynamic loadings other than seismic loads was not assessed as part of the development of LCO 3.0.9. These shock-type loads include thrust loads, blowdown loads, water-hammer loads, steam-hammer 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, every time LCO 3.0.9 is applied, at least one train of each system that is supported by the inoperable snubber(s) should remain capable of performing their required safety or support functions for postulated design loads other than seismic loads.

If the allowed time expires and the snubber(s) are unable to perform their associated support function(s), the affected support system's LCO(s) must be declared not met and the Conditions and Required Actions entered in accordance with LCO 3.0.2.

LCO 3.0.9.a applies when one or more snubbers are not capable of providing their associated support function(s) to a single train or subsystem of a multiple train or subsystem supported system or to a single train or subsystem supported system. LCO 3.0.9.a allows 72 hours to restore the snubber(s) before declaring the supported system inoperable. The 72 hour Completion Time is reasonable based on the low probability of a seismic event concurrent with an event that would require operation of the supported system occurring while the snubber(s) are not capable of performing their associated support function and due to the availability of the redundant train of the supported system.

LCO 3.0.9.b applies when one or more snubbers are not capable of providing their associated support function(s) to more than one train or subsystem of a multiple train or subsystem supported system. LCO 3.0.9.b allows 12 hours to restore the snubber(s) before declaring the supported system inoperable. The 12 hour Completion Time is reasonable based on the low probability of a seismic event concurrent with an event that would require operation of the supported system occurring while the snubber(s) are not capable of performing their associated support function.

LCO 3.0.9 requires that risk be assessed and managed. Industry and NRC guidance on the implementation of 10 CFR 50.65(a)(4) (the Maintenance Rule) does not address seismic risk. However, use of LCO 3.0.9 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 awareness of the vulnerability of systems and components when one or more snubbers are not able to perform their associated support function.



**ATTACHMENT 6**  
**Proposed Technical Specifications Bases Changes for Byron Station, Units 1 and 2**

**Byron Station, Units 1 and 2**

**Facility Operating License Nos. NPF-37 and NPF-66**

**Mark-up of Technical Specifications Bases Pages**

B 3.0 – 1  
B 3.0 – 13  
INSERT 2

B 3.0 LIMITING CONDITION FOR OPERATION (LCO) APPLICABILITY

BASES

3.0.9

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LCOs LCO 3.0.1 through LCO ~~3.0.8~~ establish the general requirements applicable to all Specifications and apply at all times, unless otherwise stated.

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LCO 3.0.1 LCO 3.0.1 establishes the Applicability statement within each individual Specification as the requirement for when the LCO is required to be met (i.e., when the unit is in the MODES or other specified conditions of the Applicability statement of each Specification).

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LCO 3.0.2 LCO 3.0.2 establishes that upon discovery of a failure to meet an LCO, the associated ACTIONS shall be met. The Completion Time of each Required Action for an ACTIONS Condition is applicable from the point in time that an ACTIONS Condition is entered, unless otherwise specified. The Required Actions establish those remedial measures that must be taken within specified Completion Times when the requirements of an LCO are not met. This Specification establishes that:

- a. Completion of the Required Actions within the specified Completion Times constitutes compliance with a Specification; and
- b. Completion of the Required Actions is not required when an LCO is met within the specified Completion Time, unless otherwise specified.

BASES

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LCO 3.0.7 There are certain special tests and operations required to be performed at various times over the life of the unit. These special tests and operations are necessary to demonstrate select unit performance characteristics, to perform special maintenance activities, and to perform special evolutions. Exception LCOs (e.g., LCO 3.1.8, "PHYSICS TESTS Exceptions-MODE 2") allow specified Technical Specification (TS) requirements to be changed to permit performances of these special tests and operations, which otherwise could not be performed if required to comply with the requirements of these TS. Unless otherwise specified, all the other TS requirements remain unchanged. This will ensure all appropriate requirements of the MODE or other specified condition not directly associated with or required to be changed to perform the special test or operation will remain in effect.

The Applicability of an Exception LCO represents a condition not necessarily in compliance with the normal requirements of the TS. Compliance with Exception LCOs is optional. A special operation may be performed either under the provisions of the appropriate Exception LCO or under the other applicable TS requirements. If it is desired to perform the special operation under the provisions of the Exception LCO, the requirements of the Exception LCO shall be followed.

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LCO 3.0.8 LCO 3.0.8 establishes the applicability of each Specification to both Unit 1 and Unit 2 operation. Whenever a requirement applies to only one unit, or is different for each unit, this will be identified in the appropriate section of the Specification (e.g., Applicability, Surveillance, etc.) with parenthetical reference, Notes, or other appropriate presentation within the body of the requirement.

  
**INSERT 2**

 **Add line**

## INSERT 2

LCO 3.0.9 LCO 3.0.9 establishes conditions under which systems are considered to remain capable of performing their intended safety function when associated snubbers are not capable of providing their associated support function(s). This LCO states that the supported system is not considered to be inoperable solely due to one or more snubbers not capable of performing their associated support function(s). This is appropriate because a limited length of time is allowed for maintenance, testing, or repair of one or more snubbers not capable of performing their associated support function(s) and appropriate compensatory measures are specified in the snubber requirements, which are located outside of the Technical Specifications (TS) under licensee control. The snubber requirements do not meet the criteria in 10 CFR 50.36(c)(2)(ii), and, as such, are appropriate for control by the licensee.

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