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Exelon Nuclear

10 CFR 50.90

October 1, 2001

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555-0001

Braidwood Station, Unit 2
Facility Operating License No. NPF-77
NRC Docket No. STN 50-457

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

Subject: Request for Notice of Enforcement Discretion and Exigent License Amendment for Technical Specification 3.7.2, "Main Steam Isolation Valves (MSIVs)"

The purpose of this letter is to provide written follow-up to our request for a Notice of Enforcement Discretion (NOED) from compliance with Braidwood Station, Unit 2 and Byron Station, Units 1 and 2 Technical Specification (TS) 3.7.2, "Main Steam Isolation Valves (MSIVs)." TS 3.7.2 requires four MSIVs to be operable. Surveillance Requirement (SR) 3.7.2.1 verifies the closure time of each MSIV is ≤ 5 seconds with a frequency in accordance with the Inservice Testing Program. SR 3.7.2.2 verifies each MSIV actuates to the isolation position on an actual or simulated actuation signal every 18 months. The Surveillance Requirements section of the Bases for SR 3.7.2.1 states, "This test is conducted in Mode 3 with the unit at operating temperature and pressure. This SR is modified by a Note that allows entry into and operation in Mode 3 prior to performing the SR. This allows a delay of testing until Mode 3, to establish conditions consistent with those under which the acceptance criterion was generated." Additionally, the Surveillance Requirements section of the Bases for SR 3.7.2.2 states, "This SR is modified by a Note that allows entry into and operation in Mode 3 prior to performing the SR. This allows a delay of testing until Mode 3, to establish conditions consistent with those under which the acceptance criterion was generated."

At 1600 on September 26, 2001, it was determined that during start-up following the last refueling outages at Braidwood Station, Unit 2 and Byron Station, Units 1 and 2, SR 3.7.2.1 and SR 3.7.2.2 were performed in Mode 4 and not Mode 3 as required by TS. Therefore, at 1600 on September 26, 2001, SR 3.0.3 was entered due to a missed TS SR, allowing 24 hours to pursue enforcement discretion. Without enforcement discretion, at 1600 on September 27, 2001, Braidwood Station, Unit 2 and Byron Station, Units 1 and 2 would have been required to be in Mode 3 within the next 7 hours. Enforcement discretion was sought to allow continued operation of Braidwood Station, Unit 2 and Byron Station, Units 1 and 2 until approval of the proposed exigent license amendment request, which would allow SR 3.7.2.1 and SR 3.7.2.2 to not be met until the first startup after September 27, 2001.

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Enforcement discretion was requested during a teleconference between representatives of Exelon Generation Company, LLC and the NRC on September 27, 2001. The NRC subsequently granted the NOED at approximately 1205 CDT on September 27, 2001. The NOED addresses non-compliance with SR 3.7.2.1 and SR 3.7.2.2. As discussed during the September 27, 2001 teleconference, this letter providing the written follow-up NOED request and license amendment request was agreed to be submitted by October 1, 2001.

Enclosure 1 provides the following information regarding the requested enforcement discretion.

1. The TS or other license conditions that will be violated.

2. The circumstances surrounding the situation, including root causes, the need for prompt action and identification of any relevant historical events.

3. The safety basis for the request, including an evaluation of the safety significance and potential consequences of the proposed course of action.

4. The basis for the conclusion that the noncompliance will not be of potential detriment to the public health and safety and that no significant hazards consideration is involved.

5. The basis for the conclusion that the noncompliance will not involve adverse consequences to the environment.

6. Any proposed compensatory measures.

7. The justification for the duration of the noncompliance.

8. A statement that the request has been approved by the Plant Operations Review Committee.

9. Which of the NUREG-1600, "General Statement of Policy and Procedures for NRC Enforcement Action," criteria specified in Section B is satisfied and how.

10. Marked-up TS pages showing the proposed TS changes.

11. Specific NUREG-1600 criteria for NOEDs involving severe weather or other natural events. Not applicable.

Enclosure 2 contains our license amendment request and provides the following information.

1. Attachment A gives a description and safety analysis for the proposed TS changes.
2. Attachment B includes the marked-up TS pages with the proposed TS and Bases changes indicated.

3. Attachment C describes our evaluation performed in accordance with 10 CFR 50.92(c), which provides information supporting a finding of no significant hazards consideration.
4. Attachment D provides information supporting an Environmental Assessment.

Should you have any questions concerning this letter, please contact Ms. Kelly M. Root at (630) 657-2820.

Respectfully,

K. A. Ainger

K. A. Ainger - Director Licensing
Mid-west Regional Operating Group

Enclosure 1: Request for Notice of Enforcement Discretion
Enclosure 2: Request for Exigent License Amendment

cc: Regional Administrator – NRC Region III
NRC Senior Resident Inspector – Braidwood Station
NRC Senior Resident Inspector – Byron Station

STATE OF ILLINOIS	)	
COUNTY OF DUPAGE	)	
IN THE MATTER OF	)	
EXELON GENERATION CO., LLC	)	**Docket Numbers**
BRAIDWOOD STATION UNIT 2	)	**STN 50-457**
BYRON STATION UNITS 1 AND 2	)	**STN 50-454 AND STN 50-455**

SUBJECT: **Request for Exigent License Amendment for Technical Specification 3.7.2, "Main Steam Isolation Valves (MSIVs)"**

AFFIDAVIT

I affirm that the content of this transmittal is true and correct to the best of my knowledge, information and belief.

K. A. Ainger

K. A. Ainger - Director Licensing
Mid-west Regional Operating Group

Subscribed and sworn to before me, a Notary Public in and for the State above named, this 1st day of October, 2001.

Timothy A. Byam

Notary Public

* OFFICIAL SEAL *
Timothy A. Byam
Notary Public, State of Illinois
My Commission Expires 11/24/2001

1.0 The Technical Specification (TS) or other license conditions that will be violated.

Exelon Generation Company, LLC is requesting enforcement discretion for Braidwood Station, Unit 2 and Byron Station, Units 1 and 2 Technical Specification (TS) 3.7.2, "Main Steam Isolation Valves (MSIVs)." TS 3.7.2 requires four MSIVs to be operable. Surveillance Requirement (SR) 3.7.2.1 verifies the closure time of each MSIV is ≤ 5 seconds with a Frequency in accordance with the Inservice Testing Program. SR 3.7.2.2 verifies each MSIV actuates to the isolation position on an actual or simulated actuation signal every 18 months. The Surveillance Requirements section of the Bases for SR 3.7.2.1 states, "This test is conducted in Mode 3 with the unit at operating temperature and pressure. This SR is modified by a Note that allows entry into and operation in Mode 3 prior to performing the SR. This allows a delay of testing until Mode 3, to establish conditions consistent with those under which the acceptance criterion was generated." Additionally, the Surveillance Requirements section of the Bases for SR 3.7.2.2 states, "This SR is modified by a Note that allows entry into and operation in Mode 3 prior to performing the SR. This allows a delay of testing until Mode 3, to establish conditions consistent with those under which the acceptance criterion was generated."

At 1600 on September 26, 2001, it was determined that during start-up following the last refueling outages at Braidwood Station, Unit 2 and Byron Station, Units 1 and 2, SR 3.7.2.1 and SR 3.7.2.2 were performed in Mode 4 and not Mode 3 as required by TS. Therefore, at 1600 on September 26, 2001, SR 3.0.3 was entered due to a missed TS SR, allowing 24 hours to pursue enforcement discretion. Without enforcement discretion, at 1600 on September 27, 2001, Braidwood Station, Unit 2 and Byron Station, Units 1 and 2 would have been required to be in Mode 3 within the next 7 hours. Enforcement discretion was sought to allow continued operation of Braidwood Station, Unit 2 and Byron Station, Units 1 and 2 until approval of the proposed exigent license amendment request, which would allow SR 3.7.2.1 and SR 3.7.2.2 to not be met until the first startup after September 27, 2001.

2.0 The circumstances surrounding the situation, including root causes, the need for prompt action and identification of any relevant historical events.

While reviewing the Surveillance Requirements section of the Bases for SR 3.7.2.1 and SR 3.7.2.2 in support of Braidwood Station, Unit 1 refueling outage activities, it was discovered that the existing SRs were inconsistent with the TS Bases. The TS Bases for SR 3.7.2.1 states, "This test is conducted in MODE 3 with the unit at operating temperature and pressure. This SR is modified by a Note that allows entry into and operation in Mode 3 prior to performing the SR. This allows a delay of testing until Mode 3, to establish conditions consistent with those under which the acceptance criterion was generated." Additionally, the Surveillance Requirements section of the Bases for SR 3.7.2.2 states, "This SR is modified by a Note that allows entry into and operation in Mode 3 prior to performing the SR. This allows a delay of testing until Mode 3, to establish conditions consistent with those under which the acceptance

criterion was generated." The existing surveillance procedures for SR 3.7.2.1 and 3.7.2.2 allow testing in Mode 3, 4, or 5.

During the conversion to the Improved Technical Specifications (ITS), the TS Bases were enhanced to clarify the intent of these SRs. Previously, the TS included the statement that, "The provisions of Specification 4.0.4 are not applicable for entry into Mode 3." The purpose of this statement was to allow entry into the Mode of Applicability, i.e., Mode 3, to perform the SR. However, this statement did not necessarily preclude performing the SR prior to reaching Mode 3. The TS Bases were revised during the ITS conversion to specify that the SR must be conducted in Mode 3 with the units at operating temperature and pressure. The Bases were enhanced to clarify that the purpose of performing the SR at operating temperature and pressure is to establish conditions consistent with those under which the acceptance criteria was generated. As stated in the ITS conversion documentation, this enhancement was intended to be merely a reformatting of existing requirements, no technical change was intended to be made. However, the clarification specifically requires the plants to be in Mode 3 at operating temperature and pressure to perform the SRs, which is a technical change.

The judgement that the clarification was administrative in nature was based on the understanding that taking exception to the provisions of Specification 4.0.4 allowed testing to be performed in Mode 3 under similar conditions as assumed in the safety analyses. An extent of condition review of similar conversion actions was performed. A preliminary review has not identified any other instances of noncompliance and a more comprehensive review will be performed.

Without enforcement discretion, at 1600 on September 27, 2001, Braidwood Station, Unit 2 and Byron Station, Units 1 and 2 would have been required to be in Mode 3 within the next 7 hours.

3.0 The safety basis for the request, including an evaluation of the safety significance and potential consequences of the proposed course of action.

We requested a Notice of Enforcement Discretion (NOED) from SR 3.7.2.1 and 3.7.2.2 be approved in order to continue operation of Byron Station, Units 1 and 2 and Braidwood Station, Unit 2 to avoid cycling the units through a thermal transient. A shutdown could initiate unnecessary challenges, unexpected transients and place an unnecessary thermal cycle on the primary and secondary systems. Byron Station, Units 1 and 2, and Braidwood Station, Unit 2, are currently operating in Mode 1, "Power Operation." The long term integrity of the reactor vessel and other components of the primary and secondary systems can be adversely affected by the number of thermal transients they are subjected to during their lifetime. As each additional thermal transient can affect this integrity, it is prudent to avoid such transients to assure the health and safety of the public is preserved.

The MSIVs are required to isolate the steam generators (SGs) following a High Energy Line Break (HELB). MSIV closure terminates flow from the unaffected SGs. This design precludes the blowdown of more than one SG. The performance objectives of the MSIVs are:

A. Minimize the consequences of a HELB inside the containment.
B. Minimize the consequences of a HELB outside of the containment.
C. Minimize the radiological consequences following a Steam Generator Tube Rupture (SGTR).

The MSIVs automatically close on low steam line pressure, high negative steam pressure rates and high-high containment pressure.

Based on the following discussion, we considered it prudent to remain at power and minimize the potential safety consequences from a shutdown thermal transient on the units. We considered the risk associated with continued operation in this condition to be less than that associated with an immediate controlled shutdown of three operating reactors. A shutdown could initiate unnecessary challenges, unexpected transients and place an unnecessary thermal cycle on the primary and secondary systems.

The effect of operating for a timeframe without demonstrating the ability to isolate the MSIVs within the required time under limiting test conditions has been conservatively assessed. This has been done by postulating that valve stroke time could be greater than previously measured. The likelihood and magnitude of such a postulated increase, and the margin available to accommodate it, have been evaluated and determined to be acceptable. Failure to close has not been postulated due to the successful past history of fast exercise tests performed at both sites.

The following technical information provides the basis for the acceptability of continued operation.

Design features of the MSIV

The Braidwood and Byron Stations' MSIV configuration consists of four valves per unit with one valve per loop. The MSIVs are hydraulically actuated double disk gate valves. The actuator system is designed to provide a rapid closure in the event of an emergency. Because of complete redundancy (i.e., independent Train "A" and Train "B" components), the actuator is capable of performing its fast closure function with either one of the two hydraulic systems. When both Train "A" and Train "B" actuator components are utilized, as is the case upon receipt of a low steamline pressure or hi-hi containment pressure signal, the valve is designed to close within 2 ½ seconds. Assuming a single failure of one of the redundant trains, the valve is still capable of closing within five seconds.

The electrical design of the MSIV control circuit has independent and redundant Train "A" and Train "B" actuator components. Each train is powered from a separate electrical Engineered Safety Feature (ESF) division that is actuated by a separate and independent MSIV emergency closure signal.

The MSIVs Original Equipment Manufacturer (OEM) was contacted regarding the effect of system conditions on MSIV stroke times. The OEM indicated that the most significant impact on stroke time is main steam flow. The OEM also indicated that impact due to main steam line (MSL) pressure alone resulted in little change to valve closure time.

According to the OEM, a few tenths of a second would be added to the valve stroke time under full design steam line pressure versus valve stroke time without line pressure. The OEM's basis for these statements was from testing that was performed during the production of these and similar MSIVs.

Valve Performance

A review was conducted of the surveillance history for stroke time testing the MSIVs at Braidwood and Byron Stations. These SRs have generally been performed in Modes 4 and 5 (< 350 °F). In two instances, valves were tested in Mode 2. In each of these tests, the results are consistent with the OEM's input.

Byron valves had stroke times ranging from 1.1 to 3.2 seconds for the time period between 1993 and 2001. Braidwood valves had stroke times ranging from 2.1 to 4.5 seconds from the time period between 1993 and 2001.

Byron MSIV 1MS001D was stroke timed on April 24, 1999 at 2.63 seconds in Mode 2 under operating temperature and pressure, after valve packing was tightened. Eight days prior, the valve was timed under cold conditions at 2.34 sec. Braidwood MSIV 2MS001B was stroke timed on May 13, 1996 at 3.1 seconds in Mode 2 under operating pressure and temperature. On May 7,1996, the valve was timed under cold condition at 3.3 seconds. This further supports the OEM's estimate of steam pressure impact on stroke time.

The most recent stroke time data for Byron Station, Unit 1 indicates a maximum stroke time of 2.9 seconds. The most recent stroke time data for Byron Station, Unit 2 indicates a maximum stroke time of 2.94 seconds. The most recent stroke time data for Braidwood Station, Unit 2 indicates a maximum stroke time of 3.0 seconds.

A search was performed of the plant event database. These events were found and all resulted in full closure of the MSIVs.

Plant	Date	Power	Description
BYR 01	2-21-86	100%	A ground caused a spurious closure of the 1B MSIV
BYR 01	1-3-89	6.5%	All four MSIVs closed due to a Safety Injection.
BYR 01	1-7-91	0%	All four MSIVs were manually closed due to a MS sample probe leak.
BRW 01	8-11-94	100%	All four MSIVs closed due to SSPS card failure.
BRW 02	5-19-01	0%	All four MSIVs were manually closed due to Unit loss of offsite power.

In all of these events, full closure of the affected MSIVs occurred.

Other documents were reviewed concerning failure of MSIVs (Information Notice (IN) 94-44, IN 94-08, IN 85-84, and Operating Plant Experience (OPEX) review of MSIV failures). These documents involved air-operated valves (AOVs), a globe valve, or a check valve, none of which are similar to the Byron or Braidwood Stations' MSIV design.

Based on all of the above data, it is concluded that the ability of the MSIVs to close within the required time at operating pressure and temperature is not adversely affected.

An evaluation of the safety significance and potential consequences of the proposed course of action was performed, including the following qualitative risk assessment. As demonstrated above, sufficient justification exists to reasonably conclude that the MSIVs are fully capable of achieving the 5-second closure criteria at normal operating pressure and temperature. Performing the SR under less limiting test conditions will not affect the failure frequency assumed for the MSIVs. Therefore, since the failure frequency is unaffected, the results of the PRA are unaffected by this situation.

The Updated Final Safety Analysis Report (UFSAR) Chapter 15 analyses that rely on closure of the MSIVs are MSL break, feedwater line break, the containment mass and energy release analysis, and SGTR. The hot zero power steamline break analysis and the feedwater line break analysis assume a steamline isolation time of eight seconds. The containment pressure response to a steamline break also uses a steamline isolation time of eight seconds. This eight seconds includes logic delay and valve closure time.

The steamline break analysis is limiting at end of cycle based on the most negative moderator temperature coefficient and 0 ppm RCS boron concentration. The units will not reach that condition until near the end of the current operating cycles. As a result, during the majority of the period for which relief is being requested, additional margin in boron concentration will be available. One of the key parameters for this analysis is the moderator temperature coefficient. The measured to predicted difference for all three units have been less than 3 pcm/°F. In addition, typically the measured value has been more positive than the limit by at least 3 pcm/°F, which indicates that adequate conservatism exists in our moderator temperature coefficient input assumptions for the steamline break analysis.

The Byron and Braidwood Stations' feedwater line break analyses are performed separately to account for design differences between the Unit 1 replacement SGs and the Unit 2 original SGs. The feedwater line break analysis for Unit 1 has 43°F margin to hot leg saturation. The feedwater line break analysis for Unit 2 has less than 1°F margin to hot leg saturation. This analysis is performed at a RCS average temperature of 588°F. Byron Station, Unit 2 and Braidwood Station, Unit 2 are operating at 581°F and 582.7°F, respectively.

The containment pressure response analysis is performed with an NRC approved code (COCO), which contains substantial conservatisms. For example, physical dimensions of the containment and the passive heat sink structures are conservatively small to maximize the peak pressure response. In addition, thermal conductivity and the volumetric heat capacity of the heat sink materials are biased low to maximize the peak pressure response.

For the SGTR event, it is assumed that operators manually isolate the affected SG within 11 minutes. This includes closing the MSIV and isolating the auxiliary feedwater source to the affected SG. This SGTR analysis assumes the completion of the action and does not account for a specific closure rate for the MSIV. Based on past performance data and vendor information, we have reasonable assurance that the MSIVs will close in response to the required operator action. Therefore, there is no impact to the SGTR analysis.

The MSIVs will continue to close within the five-second closure time specified in the TS. Therefore, based on the additional margin and conservatisms described above, there is no impact on the eight-second closure time assumed in the accident analyses.

4.0 The basis for the licensee's conclusion that the noncompliance will not be of potential detriment to the public health and safety and that no significant hazards consideration is involved.

Exelon Generation Company, LLC has evaluated the proposed request and determined that it involves no significant hazards consideration. According to 10 CFR 50.92(c), the request involves no significant hazards consideration if operation of the facility in accordance with the request for enforcement discretion would not:

A. Involve a significant increase in the probability or consequences of any accident previously evaluated; or
B. Create the possibility of a new or different kind of accident from any accident previously evaluated; or
C. Involve a significant reduction in a margin of safety.

A. The request for enforcement discretion does not involve a significant increase in the probability of occurrence or consequences of any accident previously evaluated.

MSIV closure is the initiator of the Inadvertent MSIV Closure event. Operation of the affected units with MSIVs tested in Mode 4 instead of Mode 3 will not affect the probability of an inadvertent MSIV closure event, since the only effect would be to potentially delay to closure of the MSIVs. The MSIVs Original Equipment Manufacturer (OEM) was contacted regarding the effect of system conditions on MSIV stroke times. The OEM indicated that the most significant impact on stroke time is main steam flow. The OEM also indicated that impact due to MSL pressure alone resulted in little change to valve closure time. According to the OEM, a few tenths of a second would be added to the valve stroke time under full design steam line pressure versus valve stroke time without line pressure. The OEM's basis for these statements was from testing that was performed during the production of these and similar MSIVs. Any delay in closure time will mitigate the effects of the resulting pressure transient caused by the inadvertent closure of the MSIV. There are no modifications to the hardware associated with accomplishing the closure functions. Therefore there is no increase in the probability of the Inadvertent MSIV closure event. The safety function of the MSIVs is to close in the event of a high energy line break or to be closed in the event of a steam generator tube rupture. These are

mitigative actions and are not initiators to any other accident scenario previously analyzed in the updated final safety analysis report. Therefore, the proposed change will not increase the probability of any previously analyzed accident scenario.

The consequences of a previously analyzed accident will not be significantly increased. Based on past data related to closure time, and vendor information stating that the valve stroke time impact due to increase in steam line pressures is on the order of a few tenths of a second, we have reasonable assurance the valves will still function within the assumed analysis time, thereby maintaining the analyzed dose consequence for the steam line break and feedline break accident analysis. The MSIV will still function as assumed for the steam generator tube rupture event, in that the valve will function in response to operator action. Therefore, no additional source term is added to the steam generator tube rupture analysis and the consequence resulting from this event is not increased.

Therefore, due to the limited effect the deficient testing has on the valve stroke time and the appreciable margin between the required stroke time and the assumed isolation time in the limiting analyses, the probability of occurrence and consequences of any accident previously analyzed are not significantly increased.

B. The request for enforcement discretion does not create the possibility of a new or different kind of accident from any accident previously evaluated.

The proposed action does not involve physical alteration of the units. No new equipment is being introduced, and installed equipment is not being operated in a new or different manner. There is no change being made to the parameters within which the units are operated. There are no setpoints at which protective or mitigative actions are initiated that are affected by this proposed action. This proposed action will not alter the manner in which equipment operation is initiated, nor will the function demands on credited equipment be changed. The surveillance procedures for stroke time testing the MSIVs will be revised to ensure the MSIVs are tested in Mode 3. This change does not impact normal operation of the MSIVs. In addition, no alteration in the procedures, which ensure the units remain within analyzed limits, is proposed, and no change is being made to procedures relied upon to respond to an off-normal event. As such, no new failure modes are being introduced. The proposed action does not alter assumptions made in the safety analysis. Therefore, the proposed action does not create the possibility of a new or different kind of accident from any accident previously evaluated.

C. The proposed request for enforcement discretion does not involve a significant reduction in a margin of safety.

The proposed action does not involve a significant reduction in the margin of safety. The margin of safety is assured by the operation of the plant within the prescribed parameters and by the diverse and redundant protection afforded by the Reactor Protection System (RPS) and Engineered Safety Feature Actuation System (ESFAS). The identified testing deficiency does not affect the parameters within which the unit is maintained, and is not detrimental to the actuation of the RPS or ESFAS functions. Reasonable assurance is provided that the MSIVs will achieve full

closure within the required time interval. As noted above, there is additional margin between the required isolation time and that assumed in the limiting accident analyses.

Therefore, based on the above evaluation, Braidwood and Byron Stations have concluded that this request for enforcement discretion does not involve a significant hazards consideration.

5.0 The basis for the licensee's conclusion that the noncompliance will not involve adverse consequences to the environment.

Exelon Generation Company, LLC has evaluated the requested enforcement discretion against the criteria for identification of licensing and regulatory actions requiring environmental assessment in accordance with 10 CFR 51.21, "Criteria for and identification of and regulatory actions requiring environmental assessments." The proposed action involves noncompliance with the requirements of TS SRs. It has been determined that the requested action meets the criteria for categorical exclusion as provided in accordance with 10 CFR 51.22(c)(9), and as such it has been determined that no irreversible consequences exist in accordance with 10 CFR 50.92(b). This determination is based on the fact that the proposed action is being requested as enforcement discretion, to a license issued pursuant to 10 CFR 50, "Domestic Licensing of Production and Utilization Facilities," that affects a requirement with respect to use of a facility component located in the restricted area, as defined in 10 CFR 20, "Standards for Protection Against Radiation," and that the action meets the following specific criteria.

(i) The proposed action does not involve any significant hazards consideration as demonstrated in Section 4.0 of this submittal.

(ii) There is no significant change in the types or significant increase in the amounts of any effluent that may be released offsite. The proposed action does not affect the generation of any radioactive effluent.

(iii) There is no significant increase in individual or cumulative occupational radiation exposure. The action proposed in this request for enforcement discretion will not affect plant radiation levels, and therefore does not affect dose rates and occupational exposure.

6.0 Any proposed compensatory measures(s).

1. A briefing will be given to the Operating Departments to discuss this NOED, the initiating conditions, and potential impact on the MSIVs.

2. Procedures will be revised to ensure MSIV testing in Mode 3 following the first startup after September 27, 2001.

7.0 The justification for the duration of the noncompliance.

As explained in Section 3.0 of this request, we have determined that sufficient justification exists to reasonably conclude that the MSIVs will meet the required closure time under the more limiting test conditions. Therefore, they remain capable of fulfilling their safety function. We have determined that there is a minimal safety consequence involved in allowing SR 3.7.2.1 and SR 3.7.2.2 to not be met through the remainder of cycle 9 for Braidwood Station, Unit 2, through the remainder of cycle 11 for Byron Station, Unit 1, and through the remainder of cycle 10 for Byron Station, Unit 2. The requested duration of the noncompliance is the amount of time necessary for the NRC to disposition our request for exigent license amendments or until the first startup after September 27, 2001 of Braidwood Station, Unit 2 and Byron Station, Units 1 and 2.

8.0 A statement that the request has been approved by the facility organization that normally reviews safety issues (Plant Onsite Review Committee, or its equivalent).

The request for enforcement discretion has been approved by the Braidwood Station and the Byron Station Plant Operations Review Committees (PORC) to meet the requirements of the Braidwood and Byron Stations administrative procedures.

9.0 The request must specifically address which of the NUREG-1600, "General Statement of Policy and Procedures for NRC Enforcement Action," criteria is satisfied and how.

The requested enforcement discretion has been evaluated against the criteria specified in NUREG-1600. We have determined that the requested actions meet the NOED criteria for an operating plant. This determination is based on the intent to avoid an undesirable transient on the primary and secondary systems caused by the shutdown of the reactors to Mode 3 that would be required to meet the TS SRs. Additionally, performance of the SRs is inappropriate for the current plant conditions because it would result in a reactor trip. Therefore, the proposed enforcement discretion will minimize the potential safety consequences of unnecessary plant transients with the accompanying operational risks and impacts, as well as eliminate testing in the existing plant conditions.

10.0 Marked-up TS pages showing the proposed TS changes.

Marked-up TS pages are included in Enclosure 2.

11.0 Specific NUREG-1600 criteria for NOEDs involving severe weather or other natural events.

Not applicable.

ENCLOSURE 2
Request for Exigent License Amendment

ATTACHMENT A

DESCRIPTION AND SAFETY ANALYSIS FOR PROPOSED CHANGE

A. SUMMARY OF PROPOSED CHANGE

In accordance with 10 CFR 50.90, "Application for amendment of license or construction permit," we are proposing a change to the Technical Specifications (TS) of Facility Operating License No. NPF-77 for the Braidwood Station, Unit 2 and Facility Operating License Nos. NPF-37 and NPF-66 for the Byron Station, Units 1 and 2. TS 3.7.2 requires four MSIVs to be operable. Surveillance Requirement (SR) 3.7.2.1 verifies the closure time of each MSIV is ≤ 5 seconds with a Frequency in accordance with the Inservice Testing Program. SR 3.7.2.2 verifies each MSIV actuates to the isolation position on an actual or simulated actuation signal every 18 months. The Surveillance Requirements section of the Bases for SR 3.7.2.1 states, "This test is conducted in Mode 3 with the unit at operating temperature and pressure. This SR is modified by a Note that allows entry into and operation in Mode 3 prior to performing the SR. This allows a delay of testing until Mode 3, to establish conditions consistent with those under which the acceptance criterion was generated." Additionally, the Surveillance Requirements section of the Bases for SR 3.7.2.2 states, "This SR is modified by a Note that allows entry into and operation in Mode 3 prior to performing the SR. This allows a delay of testing until Mode 3, to establish conditions consistent with those under which the acceptance criterion was generated."

At 1600 on September 26, 2001, it was determined that during start-up following the last refueling outages at Braidwood Station, Unit 2 and Byron Station, Units 1 and 2, SR 3.7.2.1 and SR 3.7.2.2 were performed in Mode 4 and not Mode 3 as required by TS. Therefore, at 1600 on September 26, 2001, SR 3.0.3 was entered due to a missed TS SR, allowing 24 hours to pursue enforcement discretion.

The proposed change revises SR 3.7.2.1 and SR 3.7.2.2 to add a second Note to the SRs that states, "Not required to be met until the first startup after September 27, 2001." We request that this proposed change be processed on an exigent basis as the stations are currently operating in non-compliance with SR 3.7.2.1 and 3.7.2.2 under a Notice of Enforcement Discretion granted by the NRC on September 27, 2001 at 1205 CDT. The requested amendment, which will revise SR 3.7.2.1 and SR 3.7.2.2 so that they will not be required to be met until the first startups of Braidwood Station, Unit 2 and Byron Stations, Units 1 and 2 after September 27, 2001, is needed to restore compliance with TS 3.7.2.

B. DESCRIPTION OF THE CURRENT REQUIREMENTS

SR 3.7.2.1
This SR verifies that MSIV closure time is ≤ 5 seconds. The Frequency is in accordance with the Inservice Testing Program.

SR 3.7.2.2
This SR verifies that each MSIV can close on an actual or simulated actuation signal. The frequency of MSIV testing is every 18 months.

C. BASES FOR THE CURRENT REQUIREMENTS

TS 3.7.2 requires that four MSIVs in the steam lines be Operable. The MSIVs are considered Operable when the isolation times are within limits, and they close on an isolation actuation signal. TS 3.7.2 provides assurance that the MSIVs will perform their design safety function to mitigate the consequences of accidents that could result in offsite exposures comparable to the 10 CFR 100 limits or the NRC staff approved licensing basis.

SR 3.7.2.1
The MSIV closure time is assumed in the accident and containment analyses. This Surveillance is normally performed upon returning a unit to operation following a refueling outage. Based on American Society of Mechanical Engineers, Boiler and Pressure Vessel Code, Section XI, the MSIVs are not closure time tested at power. This test is to be conducted in Mode 3 with the unit at operating temperature and pressure. This SR is modified by a Note that allows entry into and operation in Mode 3 prior to performing the SR. This allows a delay of testing until Mode 3, to establish conditions consistent with those under which the acceptance criterion was generated.

SR 3.7.2.2
This Surveillance is normally performed upon returning the unit to operation following a refueling outage. The 18 month Frequency for testing is based on the refueling cycle. Operating experience has shown that these components pass the Surveillance when performed at the 18 month Frequency. Therefore, this Frequency is acceptable from a reliability standpoint. This SR is modified by a Note that allows entry into and operation in Mode 3 prior to performing the SR. This allows a delay of testing until Mode 3, to establish conditions consistent with those under which the acceptance criterion was generated.

D. NEED FOR REVISION OF THE REQUIREMENT

At 1600 on September 26, 2001, it was determined that during start-up following the last refueling outages at Braidwood Station, Unit 2 and Byron Station, Units 1 and 2, SR 3.7.2.1 and SR 3.7.2.2 were performed in Mode 4 and not Mode 3 as required by TS. On September 27, 2001, the NRC granted an NOED to allow operation of Braidwood Station, Unit 2 and Byron Station, Units 1 and 2 in non-compliance with SR 3.7.2.1 and SR 3.7.2.2. The requested amendment, which will revise SR 3.7.2.1 and SR 3.7.2.2 so that they will not be required to be met until the first startups of Braidwood Station, Unit 2 and Byron Stations, Units 1 and 2 after September 27, 2001, is needed to restore compliance with TS 3.7.2.

E. DESCRIPTION OF THE PROPOSED CHANGES

The proposed change revises SR 3.7.2.1 and SR 3.7.2.2 to add a second Note that states, "Not required to be met until the first startup after September 27, 2001."

F. SAFETY ANALYSIS OF THE PROPOSED CHANGES

We requested a Notice of Enforcement Discretion (NOED) from SR 3.7.2.1 and 3.7.2.2 be approved in order to continue operation of Byron Station, Units 1 and 2 and Braidwood Station, Unit 2 to avoid cycling the units through a thermal transient. A shutdown could initiate unnecessary challenges, unexpected transients and place an unnecessary thermal cycle on the primary and secondary systems. Byron Station, Units 1 and 2, and Braidwood Station, Unit 2, are currently operating in Mode 1, "Power Operation." The long term integrity of the reactor vessel and other components of the primary and secondary systems can be adversely affected by the number of thermal transients they are subjected to during their lifetime. As each additional thermal transient can affect this integrity, it is prudent to avoid such transients to assure the health and safety of the public is preserved.

The MSIVs are required to isolate the steam generators (SGs) following a High Energy Line Break (HELB). MSIV closure terminates flow from the unaffected SGs. This design precludes the blowdown of more than one SG. The performance objectives of the MSIVs are:

A. Minimize the consequences of a HELB inside the containment.
B. Minimize the consequences of a HELB outside of the containment.
C. Minimize the radiological consequences following a Steam Generator Tube Rupture (SGTR).

The MSIVs automatically close on low steam line pressure, high negative steam pressure rates and high-high containment pressure.

Based on the following discussion, we considered it prudent to remain at power and minimize the potential safety consequences from a shutdown thermal transient on the units. We considered the risk associated with continued operation in this condition to be less than that associated with an immediate controlled shutdown of three operating reactors. A shutdown could initiate unnecessary challenges, unexpected transients and place an unnecessary thermal cycle on the primary and secondary systems.

The effect of operating for a timeframe without demonstrating the ability to isolate the MSIVs within the required time under limiting test conditions has been conservatively assessed. This has been done by postulating that valve stroke time could be greater than previously measured. The likelihood and magnitude of such a postulated increase, and the margin available to accommodate it, have been evaluated and determined to be acceptable. Failure to close has not been postulated due to the successful past history of fast exercise tests performed at both sites.

The following technical information provides the basis for the acceptability of continued operation.

Design features of the MSIV

The Braidwood and Byron Stations' MSIV configuration consists of four valves per unit with one valve per loop. The MSIVs are hydraulically actuated double disk gate valves.
The actuator system is designed to provide a rapid closure in the event of an emergency. Because of complete redundancy (i.e., independent Train "A" and Train "B" components), the actuator is capable of performing its fast closure function with either one of the two hydraulic

systems. When both Train "A" and Train "B" actuator components are utilized, as is the case upon receipt of a low steamline pressure or hi-hi containment pressure signal, the valve is designed to close within 2 ½ seconds. Assuming a single failure of one of the redundant trains, the valve is still capable of closing within five seconds.

The electrical design of the MSIV control circuit has independent and redundant Train "A" and Train "B" actuator components. Each train is powered from a separate electrical Engineered Safety Feature (ESF) division that is actuated by a separate and independent MSIV emergency closure signal.

The MSIVs Original Equipment Manufacturer (OEM) was contacted regarding the effect of system conditions on MSIV stroke times. The OEM indicated that the most significant impact on stroke time is main steam flow. The OEM also indicated that impact due to main steam line (MSL) pressure alone resulted in little change to valve closure time. According to the OEM, a few tenths of a second would be added to the valve stroke time under full design steam line pressure versus valve stroke time without line pressure. The OEM's basis for these statements was from testing that was performed during the production of these and similar MSIVs.

Valve Performance

A review was conducted of the surveillance history for stroke time testing the MSIVs at Braidwood and Byron Stations. These SRs have generally been performed in Modes 4 and 5 (< 350 °F). In two instances, valves were tested in Mode 2. In each of these tests, the results are consistent with the OEM's input.

Byron valves had stroke times ranging from 1.1 to 3.2 seconds for the time period between 1993 and 2001. Braidwood valves had stroke times ranging from 2.1 to 4.5 seconds from the time period between 1993 and 2001.

Byron MSIV 1MS001D was stroke timed on April 24, 1999 at 2.63 seconds in Mode 2 under operating temperature and pressure, after valve packing was tightened. Eight days prior, the valve was timed under cold conditions at 2.34 sec. Braidwood MSIV 2MS001B was stroke timed on May 13, 1996 at 3.1 seconds in Mode 2 under operating pressure and temperature. On May 7,1996, the valve was timed under cold condition at 3.3 seconds. This further supports the OEM's estimate of steam pressure impact on stroke time.

The most recent stroke time data for Byron Station, Unit 1 indicates a maximum stroke time of 2.9 seconds. The most recent stroke time data for Byron Station, Unit 2 indicates a maximum stroke time of 2.94 seconds. The most recent stroke time data for Braidwood Station, Unit 2 indicates a maximum stroke time of 3.0 seconds.

A search was performed of the plant event database. These events were found and all resulted in full closure of the MSIVs.

Plant	Date	Power	Description
BYR 01	2-21-86	100%	A ground caused a spurious closure of the 1B MSIV
BYR 01	1-3-89	6.5%	All four MSIVs closed due to a Safety Injection.
BYR 01	1-7-91	0%	All four MSIVs were manually closed due to a MS sample probe leak.
BRW 01	8-11-94	100%	All four MSIVs closed due to SSPS card failure.
BRW 02	5-19-01	0%	All four MSIVs were manually closed due to Unit loss of offsite power.

In all of these events, full closure of the affected MSIVs occurred.

Other documents were reviewed concerning failure of MSIVs (Information Notice (IN) 94-44, IN 94-08, IN 85-84, and Operating Plant Experience (OPEX) review of MSIV failures). These documents involved air-operated valves (AOVs), a globe valve, or a check valve, none of which are similar to the Byron or Braidwood Stations' MSIV design.

Based on all of the above data, it is concluded that the ability of the MSIVs to close within the required time at operating pressure and temperature is not adversely affected.

An evaluation of the safety significance and potential consequences of the proposed course of action was performed, including the following qualitative risk assessment. As demonstrated above, sufficient justification exists to reasonably conclude that the MSIVs are fully capable of achieving the 5-second closure criteria at normal operating pressure and temperature. Performing the SR under less limiting test conditions will not affect the failure frequency assumed for the MSIVs. Therefore, since the failure frequency is unaffected, the results of the PRA are unaffected by this situation.

The Updated Final Safety Analysis Report (UFSAR) Chapter 15 analyses that rely on closure of the MSIVs are MSL break, feedwater line break, the containment mass and energy release analysis, and SGTR. The hot zero power steamline break analysis and the feedwater line break analysis assume a steamline isolation time of eight seconds. The containment pressure response to a steamline break also uses a steamline isolation time of eight seconds. This eight seconds includes logic delay and valve closure time.

The steamline break analysis is limiting at end of cycle based on the most negative moderator temperature coefficient and 0 ppm RCS boron concentration. The units will not reach that condition until near the end of the current operating cycles. As a result, during the majority of the period for which relief is being requested, additional margin in boron concentration will be available. One of the key parameters for this analysis is the moderator temperature coefficient. The measured to predicted difference for all three units have been less than 3 pcm/°F. In addition, typically the measured value has been more positive than the limit by at least 3

pcm/°F, which indicates that adequate conservatism exists in our moderator temperature coefficient input assumptions for the steamline break analysis.

The Byron and Braidwood Stations' feedwater line break analyses are performed separately to account for design differences between the Unit 1 replacement SGs and the Unit 2 original SGs. The feedwater line break analysis for Unit 1 has 43°F margin to hot leg saturation. The feedwater line break analysis for Unit 2 has less than 1°F margin to hot leg saturation. This analysis is performed at a RCS average temperature of 588°F. Byron Station, Unit 2 and Braidwood Station, Unit 2 are operating at 581°F and 582.7°F, respectively.

The containment pressure response analysis is performed with an NRC approved code (COCO), which contains substantial conservatisms. For example, physical dimensions of the containment and the passive heat sink structures are conservatively small to maximize the peak pressure response. In addition, thermal conductivity and the volumetric heat capacity of the heat sink materials are biased low to maximize the peak pressure response.

For the SGTR event, it is assumed that operators manually isolate the affected SG within 11 minutes. This includes closing the MSIV and isolating the auxiliary feedwater source to the affected SG. This SGTR analysis assumes the completion of the action and does not account for a specific closure rate for the MSIV. Based on past performance data and vendor information, we have reasonable assurance that the MSIVs will close in response to the required operator action. Therefore, there is no impact to the SGTR analysis.

The MSIVs will continue to close within the five-second closure time specified in the TS. Therefore, based on the additional margin and conservatisms described above, there is no impact on the eight-second closure time assumed in the accident analyses.

G. IMPACT ON PREVIOUS SUBMITTALS

We have reviewed the proposed change regarding its impact on any previous submittals and have determined that there is no impact on any previous submittals.

H. SCHEDULE REQUIREMENTS

We request that the proposed change be processed on an exigent basis in accordance with 10 CFR 50.91 (a)(6), "Notice for public comment; State consultation," to restore the plants' compliance with the TS. We have concluded that the circumstances surrounding this request for exigent review were unavoidable and not created by a failure to make a timely application for a license amendment. We request this change be made effective immediately upon issuance and we intend to implement this proposed change upon issuance.

ENCLOSURE 2
Request for Exigent License Amendment

ATTACHMENT B-1

MARKED-UP TS PAGE FOR PROPOSED CHANGE
BRAIDWOOD STATION, UNITS 1 AND 2

MARKED-UP TS PAGE

3.7.2-2

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.7.2.1 ----------NOTES---------- 1. Only required to be performed in MODES 1 and 2. ---------- Verify closure time of each MSIV is ≤ 5 seconds. 2. Not required to be met until the first startup after September 27, 2001.	In accordance with the Inservice Testing Program
SR 3.7.2.2 ----------NOTES---------- 1. Only required to be performed in MODES 1 and 2. ---------- Verify each MSIV actuates to the isolation position on an actual or simulated actuation signal.	18 months

ENCLOSURE 2
Request for Exigent License Amendment

ATTACHMENT B-2

MARKED-UP TS PAGE FOR PROPOSED CHANGE BYRON STATION, UNITS 1 AND 2

MARKED-UP TS PAGE

3.7.2-2

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.7.2.1 ----------NOTES---------- 1. Only required to be performed in MODES 1 and 2. ---------- Verify closure time of each MSIV is ≤ 5 seconds. 2. Not required to be met until the first startup after September 27, 2001.	In accordance with the Inservice Testing Program
SR 3.7.2.2 ----------NOTES---------- 1. Only required to be performed in MODES 1 and 2. ---------- Verify each MSIV actuates to the isolation position on an actual or simulated actuation signal.	18 months

ATTACHMENT B-3

INCORPORATED TS PAGE FOR PROPOSED CHANGE
BRAIDWOOD STATION, UNITS 1 AND 2

TS PAGE

3.7.2-2

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.2.1	----------NOTES---------- 1. Only required to be performed in MODES 1 and 2. 2. Not required to be met until the first startup after September 27, 2001. ---------- Verify closure time of each MSIV is ≤ 5 seconds.	In accordance with the Inservice Testing Program
SR 3.7.2.2	----------NOTES---------- 1. Only required to be performed in MODES 1 and 2. 2. Not required to be met until the first startup after September 27, 2001. ---------- Verify each MSIV actuates to the isolation position on an actual or simulated actuation signal.	18 months

ATTACHMENT B-4

INCORPORATED TS PAGE FOR PROPOSED CHANGE
BYRON STATION, UNITS 1 AND 2

TS PAGE

3.7.2-2

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.2.1	----------NOTES---------- 1. Only required to be performed in MODES 1 and 2. 2. Not required to be met until the first startup after September 27, 2001. --- Verify closure time of each MSIV is ≤ 5 seconds.	In accordance with the Inservice Testing Program
SR 3.7.2.2	----------NOTES---------- 1. Only required to be performed in MODES 1 and 2. 2. Not required to be met until the first startup after September 27, 2001. --- Verify each MSIV actuates to the isolation position on an actual or simulated actuation signal.	18 months

ATTACHMENT B-5

INCORPORATED TS BASES PAGE FOR PROPOSED CHANGE
BRAIDWOOD STATION, UNITS 1 AND 2
(FOR INFORMATION ONLY)

TS BASES PAGES

B 3.7.2-6

SURVEILLANCE REQUIREMENTS

SR 3.7.2.1

This SR verifies that MSIV closure time is ≤ 5 seconds. The MSIV closure time is assumed in the accident and containment analyses. This Surveillance is normally performed upon returning the unit to operation following a refueling outage. Based on ASME Code Section XI (Ref. 5), the MSIVs are not closure time tested at power.

The Frequency is in accordance with the Inservice Testing Program. This test is conducted in MODE 3 with the unit at operating temperature and pressure. This SR is modified by two Notes. Note 1 allows entry into and operation in MODE 3 prior to performing the SR. This allows a delay of testing until MODE 3, to establish conditions consistent with those under which the acceptance criterion was generated. Note 2 allows the SR to not be met until the first startup after September 27, 2001.

SR 3.7.2.2

This SR verifies that each MSIV can close on an actual or simulated actuation signal. This Surveillance is normally performed upon returning the unit to operation following a refueling outage. The frequency of MSIV testing is every 18 months. The 18 month Frequency for testing is based on the refueling cycle. Operating experience has shown that these components usually pass the Surveillance when performed at the 18 month Frequency. Therefore, this Frequency is acceptable from a reliability standpoint.

This SR is modified by two Notes. Note 1 allows entry into and operation in MODE 3 prior to performing the SR. This allows a delay of testing until MODE 3, to establish conditions consistent with those under which the acceptance criterion was generated. Note 2 allows the SR to not be met until the first startup after September 27, 2001.

ATTACHMENT B-6

INCORPORATED TS BASES PAGE FOR PROPOSED CHANGE
BYRON STATION, UNITS 1 AND 2
(FOR INFORMATION ONLY)

TS BASES PAGES

B 3.7.2-6

SURVEILLANCE REQUIREMENTS

SR 3.7.2.1

This SR verifies that MSIV closure time is ≤ 5 seconds. The MSIV closure time is assumed in the accident and containment analyses. This Surveillance is normally performed upon returning the unit to operation following a refueling outage. Based on ASME Code Section XI (Ref. 5), the MSIVs are not closure time tested at power.

The Frequency is in accordance with the Inservice Testing Program. This test is conducted in MODE 3 with the unit at operating temperature and pressure. This SR is modified by two Notes. Note 1 allows entry into and operation in MODE 3 prior to performing the SR. This allows a delay of testing until MODE 3, to establish conditions consistent with those under which the acceptance criterion was generated. Note 2 allows the SR to not be met until the first startup after September 27, 2001.

SR 3.7.2.2

This SR verifies that each MSIV can close on an actual or simulated actuation signal. This Surveillance is normally performed upon returning the unit to operation following a refueling outage. The frequency of MSIV testing is every 18 months. The 18 month Frequency for testing is based on the refueling cycle. Operating experience has shown that these components usually pass the Surveillance when performed at the 18 month Frequency. Therefore, this Frequency is acceptable from a reliability standpoint.

This SR is modified by two Notes. Note 1 allows entry into and operation in MODE 3 prior to performing the SR. This allows a delay of testing until MODE 3, to establish conditions consistent with those under which the acceptance criterion was generated. Note 2 allows the SR to not be met until the first startup after September 27, 2001.

ATTACHMENT C

INFORMATION SUPPORTING A FINDING OF NO SIGNIFICANT HAZARDS CONSIDERATION

According to 10 CFR 50.92(c), "Issuance of amendment," a proposed amendment to an operating license involves no significant hazards consideration if operation of the facility in accordance with the proposed amendment would not:

(1) Involve a significant increase in the probability or consequences of an accident previously evaluated; or
(2) Create the possibility of a new or different kind of accident from any accident previously evaluated; or
(3) Involve a significant reduction in a margin of safety.

In accordance with 10 CFR 50.90, "Application for amendment of license or construction permit," we are proposing a change to the Technical Specifications (TS) of Facility Operating License No. NPF-77 for the Braidwood Station, Unit 2 and Facility Operating License Nos. NPF-37 and NPF-66 for the Byron Station, Units 1 and 2. TS 3.7.2 requires four MSIVs to be operable. Surveillance Requirement (SR) 3.7.2.1 verifies the closure time of each MSIV is ≤ 5 seconds with a Frequency in accordance with the Inservice Testing Program. SR 3.7.2.2 verifies each MSIV actuates to the isolation position on an actual or simulated actuation signal every 18 months.

At 1600 on September 26, 2001, it was determined that during start-up following the last refueling outages at Braidwood Station, Unit 2 and Byron Station, Units 1 and 2, SR 3.7.2.1 and SR 3.7.2.2 were performed in Mode 4 and not Mode 3 as required by TS. On September 27, 2001, the NRC granted an NOED to allow operation of Braidwood Station, Unit 2 and Byron Station, Units 1 and 2 in non-compliance with SR 3.7.2.1 and SR 3.7.2.2. The requested amendment, which will revise SR 3.7.2.1 and SR 3.7.2.2 so that they will not be required to be met until the first startups of Braidwood Station, Unit 2 and Byron Stations, Units 1 and 2 after September 27, 2001, is needed to restore compliance with TS 3.7.2.

Information supporting the determination that the criteria set forth in 10 CFR 50.92 are met for this amendment request is provided below.

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

   MSIV closure is the initiator of the Inadvertent MSIV Closure event. Operation of the affected units with MSIVs tested in Mode 4 instead of Mode 3 will not affect the probability of an inadvertent MSIV closure event, since the only effect would be to potentially delay to closure of the MSIVs. The MSIVs Original Equipment Manufacturer (OEM) was contacted regarding the effect of system conditions on MSIV stroke times. The OEM indicated that the most significant impact on stroke time is main steam flow. The OEM also indicated that impact due to MSL pressures alone resulted in little change to valve closure time. According to the OEM, a few tenths of a second is added to full design steam line pressure stroke test versus stroke tests as performed without line pressure. The OEM's basis for these statements was from testing that was performed during the production of these and

similar MSIVs. Any delay in closure time will mitigate the effects of the resulting pressure transient caused by the inadvertent closure of the MSIV. There are no modifications to the hardware associated with accomplishing the closure functions. Therefore there is no increase in the probability of the Inadvertent MSIV closure event. The safety function of the MSIVs is to close in the event of a high energy line break or to be closed in the event of a steam generator tube rupture. These are mitigative actions and are not initiators to any other accident scenario previously analyzed in the updated final safety analysis report. Therefore, the proposed change will not increase the probability of any other previously analyzed accident.

The consequences of previously analyzed accidents will not be significantly increased. Based on past data related to closure time, and vendor information stating that the valve stroke time impact due to increase in steam line pressure is on the order of a few tenths of a second, we have reasonable assurance the valves will still function within the assumed analysis time, thereby maintaining the analyzed dose consequence for the steam line break and feedline break accident analyses. The MSIVs will still function as assumed for the steam generator tube rupture event, in that the valves will function in response to operator action. Therefore, no additional source term is added to the steam generator tube rupture analysis and the consequence resulting from that event are not increased.

Therefore, due to the limited effect the deficient testing has on the valve stroke time and the appreciable margin between the required stroke time and the assumed isolation time in the limiting analyses, the probability of occurrence and consequences of any accident previously analyzed are not significantly increased.

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

The proposed action does not involve physical alteration of the units. No new equipment is being introduced, and installed equipment is not being operated in a new or different manner. There is no change being made to the parameters within which the units are operated. There are no setpoints at which protective or mitigative actions are initiated that are affected by this proposed action. This proposed action will not alter the manner in which equipment operation is initiated, nor will the function demands on credited equipment be changed. The surveillance procedures for stroke time testing the MSIVs will be revised to ensure the MSIVs are tested in Mode 3. This change does not impact normal operation of the MSIVs. In addition, no alteration in the procedures, which ensure the units remain within analyzed limits, is proposed, and no change is being made to procedures relied upon to respond to an off-normal event. As such, no new failure modes are being introduced. The proposed action does not alter assumptions made in the safety analysis. Therefore, the proposed action 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 a margin of safety?**

The proposed action does not involve a significant reduction in the margin of safety. The margin of safety is assured by the operation of the plant within the prescribed parameters and by the diverse and redundant protection afforded by the Reactor Protection System (RPS) and Engineered Safety Feature Actuation System (ESFAS). The identified testing deficiency does not affect the parameters within which the unit is maintained, and is not detrimental to the actuation of the RPS or ESFAS functions. Reasonable assurance is

provided that the MSIVs will achieve full closure within the required time interval. As noted above, there is additional margin between the required isolation time and that assumed in the limiting accident analysis.

Therefore, based on the above evaluation, we have concluded that the proposed changes do not involve a significant hazards consideration.

ATTACHMENT D

INFORMATION SUPPORTING AN ENVIRONMENTAL ASSESSMENT

Exelon Generation Company, LLC has evaluated the proposed change against the criteria for identification of licensing and regulatory actions requiring environmental assessment in accordance with 10 CFR 51.21, "Criteria for and identification of licensing and regulatory actions requiring environmental assessments." We have determined that the proposed change meets the criteria for a categorical exclusion set forth in 10 CFR 51.22(c)(9), "Criteria for categorical exclusion; identification of licensing and regulatory actions eligible for categorical exclusion or otherwise not requiring environmental review," and as such, have determined that no irreversible consequences exist in accordance with 10 CFR 50.92(b), "Issuance of amendment." This determination is based on this change being proposed as an amendment to a license issued pursuant to 10 CFR 50, "Domestic Licensing of Production and Utilization Facilities," which changes a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, "Standards for Protection Against Radiation," or which changes an inspection or a surveillance requirement, and the requested amendment meets the following specific criteria.

At 1600 on September 26, 2001, it was determined that during start-up following the last refueling outages at Braidwood Station, Unit 2 and Byron Station, Units 1 and 2, SR 3.7.2.1 and SR 3.7.2.2 were performed in Mode 4 and not Mode 3 as required by TS. On September 27, 2001, the NRC granted an NOED to allow operation of Braidwood Station, Unit 2 and Byron Station, Units 1 and 2 in non-compliance with SR 3.7.2.1 and SR 3.7.2.2. The requested amendment, which will revise SR 3.7.2.1 and SR 3.7.2.2 so that they will not be required to be met until the first startups of Braidwood Station, Unit 2 and Byron Stations, Units 1 and 2 after September 27, 2001, is needed to restore compliance with TS 3.7.2.

(i) **The proposed change involves no significant hazards consideration.**
As demonstrated in Attachment C, the proposed change does not involve any significant hazards consideration.

(ii) **There is no significant change in the types or significant increase in the amounts of any effluents that may be released offsite.**
The proposed change does not allow for an increase in the unit power level, does not increase the production, nor alter the flow path or method of disposal of radioactive waste or by-products. The proposed change does not affect actual unit effluents. Therefore, the proposed change does not change the types or increase the amounts of any effluents released offsite.

(iii) **There is no significant increase in individual or cumulative occupational radiation exposure.**
The proposed change will not result in changes in the operation or configuration of the facility. There will be no change in the level of controls or methodology used for processing of radioactive effluents or handling of solid radioactive waste, nor will the proposal result in any change in the normal radiation levels within the plant. Therefore, there will be no increase in individual or cumulative occupational radiation exposure resulting from the proposed change.