NRC FORM 757
(06-2019)
NRC MD 10.156

U.S. NUCLEAR REGULATORY COMMISSION

NON-CONCURRENCE PROCESS COVER PAGE

The U.S. Nuclear Regulatory Commission (NRC) strives to establish and maintain an environment that encourages all employees to promptly raise concerns and differing views without fear of reprisal and to promote methods for raising concerns that will enhance a strong safety culture and support the agency's mission.

Employees are expected to discuss their views and concerns with their immediate supervisors on a regular, ongoing basis. If informal discussions do not resolve concerns, employees have various mechanisms for expressing and having their concerns and differing views heard and considered by management.

Management Directive, MD 10.158, “NRC Non-Concurrence Process,” describes the Non-Concurrence Process (NCP).

The NCP allows employees to document their differing views and concerns early in the decisionmaking process, have them responded to (if requested), and include them with proposed documents moving through the management approval chain to support the decisionmaking process.

NRC Form 757, “Non-Concurrence Process," is used to document the process.

Section A of the form includes the personal opinions, views, and concerns of a non-concurring NRC employee.

Section B of the form includes the personal opinions and views of the non-concurring employee's immediate supervisor.

Section C of the form includes the agency's evaluation of the concerns and the agency's final position and outcome.

NOTE: Content in Sections A and B reflects personal opinions and views and does not represent the official agency's position of the issues, nor official rationale for the agency decision. Section C includes the agency's official position on the facts, issues, and rationale for the final decision.

1. If the process was discontinued, please indicate the reason (and skip to #3):

   - ☐ Non-concurring employee(s) requested that the process be discontinued
   - ☐ Subject document was withdrawn

2. At the completion of the process, the non-concurring employee(s):

   - ☐ Concurred
   - ☑ Continued to non-concur
   - ☐ Agreed with some of the changes to the subject document, but continued to non-concur

3. For record keeping purposes:

   - ☐ This record is non-public and for official use only
   - ☑ This record has been reviewed and approved for public dissemination

U.S. NUCLEAR REGULATORY COMMISSION

NON-CONCURRENCE PROCESS (Continued)

1. NCP Tracking Number: NCP-2021-001

Date: 1/21/2021

Section A - To Be Completed By Non-Concurring Employee

2. Title of Subject Document
05000454/2018004 and 05000455/2018004 "Use of 10 CFR 50.54(x) for Unit AFW Cross-Tie" Closure

3. ADAMS Accession Number
Not available at this time

4. Document Signer
Karla Stoedter

5. Document Signer's Phone Number (Enter 10 numeric digits)
(630) 829-9731

6. Title of Document Signer
RIII/DRS/EB2/Branch Chief

7. Office (Choose from the drop down list or fill in)
RIII

8. Name of Non-Concurring Employee(s)
Jamie Benjamin and John Robbins

9. Employee's Telephone Number (Enter 10 numeric digits)
(630) 829-9747

10. Title of Non-Concurring Employee
RIII/DRS/EB2/Senior Reactor Inspector and RIII/DRS/Operations

11. Office (Choose from the drop down list or fill in)
RIII

12. ☐ Document Author ☑ Document Contributor ☐ Document Reviewer ☐ On Concurrence

13. Name of Non-Concurring Employee's Supervisor
Karla Stoedter and Patricia Pelke

14. Office (Choose from the drop down list or fill in)
RIII

15. Title of Non-Concurring Employee's Supervisor
RIII/DRS/EB2 Chief and Operations Chief

16. Supervisor's Telephone Number (Enter 10 numeric digits)
(630) 829-8747

17. ☑ I would like my non-concurrence considered and would like a written evaluation in Section B and C.
☐ I would like my non-concurrence considered, but a written evaluation in Sections B and C is not necessary.

18. When the process is complete, I would like management to determine whether public release of the NCP Form (with or without redactions) is appropriate (Select "No" if you would like the NCP Form to be non-public):
☑ Yes ☐ No

19. Reasons for the Non-Concurrence, Potential Impact on Mission, and the Proposed Alternatives
See attached pdf file. "Byron AFW non con benjamin and robbins final.pdf"

20. Signature and Date of Non-Concurring Employee
Jamie C. Benjamin
Digitally signed by Jamie C. Benjamin
Date: 2021.01.21 11:16:17 -06'00'

Section B - To Be Completed By Non-Concurring Employee's Supervisor

2. Title of Subject Document	3. ADAMS Accession Number
05000454/2018004 and 05000455/2018004 "Use of 10 CFR 50.54(x) for Unit AFW Cross-Tie" Closure	Not available at this time

4. Name of Non-Concurring Employee's Supervisor	5. Office (Choose from the drop down list or fill in)
Karla Stoedter and Patricia Pelke	RIII

6. Title of Non-Concurring Employee's Supervisor	7. Supervisor's Telephone Number (Enter 10 numeric digits)
RIII/DRS/EB2 Chief and Operations Chief	(630) 829-8747

8. Comments for the NCP Reviewer to Consider

Patricia Pelke on 1/28/21- I am John Robbins current supervisor; however, I was not involved in the inspection nor decision-making process that led to the final action and non-concurrence. I have no comments to offer. For additional information or supervisory comments, please contact Karla Stoedter, Chief, Engineering Branch 2, who will also be the supervisor signing this document.

Karla Stoedter on 1/28/21 - I am Jamie Benjamin's current supervisor and the branch chief responsible for closing the Byron unresolved item on the auxiliary feedwater cross tie. I inherited this unresolved item when I became the chief of Engineering Branch 2 in October 2018. Since that time, I have been involved in multiple discussions with Mr. Benjamin, Mr. Robbins, other inspectors and managers, Mr. Jared Heck (previous Region III regional counsel), and OGC attorneys (specifically Mr. David Roth). Discussions between Mr. Heck and OGC led to the creation of a draft document from Mr. Heck regarding the legalities of this issue. The draft document was not used to develop our proposed closure of the Byron issue but may provide insights on the legal aspects of this issue. Rather, the inspector who drafted the proposed closure of the Byron unresolved item utilized several of the references listed in this non-concurrence as a basis for closure.

9. Signature and Date of Non-Concurring Employee's Supervisor

Karla K. Stoedter

Digitally signed by Karla K. Stoedter
Date: 2021.01.28 11:07:17 -06'00'

NON-CONCURRENCE PROCESS (Continued)

1. NCP Tracking Number
NCP-2021-001

Date
1/21/2021

Section C - To Be Completed By NCP Coordinator

2. Title of Subject Document
05000454/2018004 and 05000455/2018004 "Use of 10 CFR 50.54(x) for Unit AFW Cross-Tie" Closure

3. ADAMS Accession Number
Not available at this time

4. Name of NCP Coordinator
David Curtis

5. Office (Choose from the drop down list or fill in)
RIII

6. Title of NCP Coordinator
Deputy Division Director, Division of Reactor Safety

7. Coordinator's Telephone Number (Enter 10 numeric digits)
(630) 829-9701

8. Agreed Upon Summary of Issues

1. URI Closure should result in three violations:

    a. 10 CFR 50.59(c)(2)(ii) violation

    b. 10 CFR 50.71(e) violation

    c. Technical Specification 5.4 violation

2. Staff needs clear guidance for evaluating procedural invocations of 10 CFR 50.54(x) under 10 CFR 50.59 to determine when they should “screen in” for 50.59 evaluation and when an evaluation should result in an amendment.

9. Evaluation of Non-Concurrence and Rationale for Decision
See attached pdf file. "Byron AFW URI Closure.Non-Concurrence.Evaluation and Rationale for Decision.pdf"

10. Signature and Date of NCP Coordinator
David Curtis
Digitally signed by David Curtis
Date: 2021.03.15 13:26:19 -05'00'

11. Signature and Date of NCP Approver
David Curtis
Digitally signed by David Curtis
Date: 2021.03.15 13:28:17 -05'00'

Begin Non-Concurrence

Part 1 Summary

I non-concur with NRC Region III management's decision to close [URI 05000454/2018010-004; 05000455/2018-004: "Use of 10 CFR 50.54(x) for Unit AFW Cross-Tie" (ML18127B698)] to "No findings were identified". I believe that closure of this URI should result in three violations of NRC requirements with associated performance deficiencies and require corrective action by the licensee to restore compliance.

I believe that it is not appropriate for Byron licensee to introduce and implement a facility change via an Emergency Operation Procedure (EOP) change that expresses a new licensee management's expectation for Operations to implement 10 CFR 50.54(x) and donate an auxiliary feedwater (AFW) train for a unit operating within its design and licensing basis to mitigate a loss of all feedwater event in the other unit unless all methods that have been approved by the Agency and determine equivalent or adequate have first been exhausted. The correct place for the change (described in URI 05000454/2018010-004; 05000455/2018-004) is a 10 CFR 50.90 license amendment as required by Agency rules and regulations.

The licensee had previously submitted a 10 CFR 50.90 license amendment request (LAR) as a corrective action to address a previous 2011 NRC identified non-cited violation (NCV) [Ref: Severity Level IV NCV of 10 CFR 50.59 in Inspection Report 05000454/2011004; 05000455/2011004 as NCV 05000454/2011004-02; 05000455/2011004-02, "Modification of the Auxiliary Feedwater System Without Prior NRC Approval" (REF: Accession No. ML 113070678). The LAR purpose was to gain NRC approval to update the UFSAR to describe the use of the recently installed AFW cross-tie between units and describe the intended use of the cross-tie to support a beyond design basis (but within current licensing basis) total loss of secondary heat sink in one unit. If approved the AFW cross-tie would have been part of the licensee's current licensing basis as an approved GDC-5 related unit to unit 'shared system" akin to the Byron safety-related service water system. Both the loss of all service water and a loss of all feedwater/auxiliary feedwater events are events that require mitigation stemming from Technical Specification 5.4.1, *("Procedures" b. The emergency operation procedures required to implement the requirements of NUREG 0737, Supplement 1, as stated in Generic Letter 82-33, Section 7.1.")* The LAR was later withdrawn and, therefore, the change was not approved by the Agency with one reason identified as not being able to meet single failure criteria for the non-accident unit and therefore not being able to meet the requirements of 10 CFR Part 50, Appendix A, GDC-5, "Shared Systems". Nonetheless, the change was implemented following LAR withdrawal in a manner that not only reintroduced the original 2011 violation but had the potential for a more significant safety impact upon the donating unit (i.e. potential loss of all AFW for the donating unit if the donating unit's diesel driven pump was out of service before the accident as observed during a simulate event during on-site inspection).

Instead of an actual step in the procedure directing the use of the unit AFW cross-tie before implementing primary bleed and feed after verifying the donating unit diesel driven AFW pump was operable, the licensee introduced a more limiting change to the facility by revising the EOP with a 'note' and 'caution' statement expressing management expectation to direct the use of the unapproved AFW unit cross-tie use before the approved 'bleed and feed' method and to inform the SRO/Shift Manager that 50.54(x) is required to do so. This new change did not require the donating unit diesel driven AFW pump to be operable and or available. As observed during the inspection, following the EOP 'should' management expectation could result in a loss of all AFW in

the donating unit with a resulting unknown impact to safety for the unit operating in the mode of TS applicability (e.g. at power). By reading the rule's plain language, reviewing the Federal Resister related 10 CFR 50.54(x) statements of consideration, researching historic Agency correspondence, on-site inspection including simulator observations, and discussions with inspection staff and other 10 CFR 50.59 experts, my view is that 10 CFR 50.54(x) usage in this manner is not appropriate and circumvents the required 10 CFR 50.90 license amendment process and 10 CFR 50.54(y) rule requirements and associated intent.

The primary 'bleed and feed' method is approved as an adequate method to mitigate a loss of secondary heat sink event at Byron. Therefore, a generic management expectation to use 10 CFR 50.54(x) is not appropriate since 10 CFR 50.54(x) usage has specific words within the rule that do not allow implementation (*i.e .....and no action consistent with license conditions and technical specifications that can provide adequate or equivalent protection is immediately apparent.)* Primary 'bleed and feed' method may or may not be the preferred method amongst the choice of other approved methods. That is not the question that the rule establishes for usage. The bleed and feed method was approved by the Agency and determined to be adequate and, therefore, part of the facilities current licensing basis. What was not approved was the use of the AFW cross-tie to mitigate events within the current licensing basis (i.e. a beyond design basis event in one unit but not the other.) When inspected, the licensee informed the team that primary bleed and feed was not equivalent to an auxiliary feedwater train but was adequate to mitigate the event. Donating an AFW train for a unit operating within its design and licensing basis to mitigate a beyond design basis event in another unit without using all approved methods has not been approved by the Agency at Byron. A LAR was submitted and subsequently withdrawn with outstanding docketed issues. 10 CFR Part 50, Appendix A, GDC 5, Shared Systems, is one of the applicable regulatory requirements that ensures the safety of the donating unit. The service water system at Byron is an example for how a safety-related system can be licensed for use in a beyond design basis event at one unit and maintain safe operation of the donating unit as it was during the March 22, 2012 Byron Unit 2 open phase event.

Treatment of the AFW unit to unit cross-tie system as both inside and outside of the current licensing basis causes an unclear foundation for how the AFW cross-tie should be treated within other NRC regulated activities and licensing programs. The fundamental question of "Is the AFW cross-tie inside or outside of the current licensing basis?" is one of the foundational questions pertaining to how a shared system is regulated and scoped into various regulations. (i.e. crediting in PRA, treatment in Technical Specifications, 10 CFR 50.65 maintenance rule scoping and risk management during work activities, time critical action programs, GL 89-10 programs, etc.). NRC rules set forth the minimum requirements for nuclear safety.

The information presented in this non-concurrence provides the information that I used during and following the inspection to inform my conclusions not supported by Region III management and senior management. My inspection related activities discussed in this non-concurrence have been shared with the NRC staff involved in the URI closure, Region III DRS management, and the Region III Regional Administrator and Deputy senior managers.

This document serves to ensure my inspection conclusions and basis for those conclusions are preserved. I believe that the Byron licensee is in violation of three nuclear safety regulatory requirements and I have raised that concern to my management and senior management representatives and requested that the document be made publicly available to the maximum extent allowable.

Part 2 Summary

I non-concur with NRC Region III management's decision to close [URI 05000454/2018010-004; 05000455/2018-004: "Use of 10 CFR 50.54(x) for Unit AFW [also known as AF or auxiliary feedwater] Cross-Tie" (ML18127B698)] to "No findings were identified". I believe that actions taken by the licensee cause them not to be compliant with NRC requirements. While the discussion below mentions 50.54(x), any regulatory issue resides in another location (Technical Specifications, 10 CFR 50.59, or other).

I would like to focus on two issues: 1) the planned invocation of 50.54(x) and 2) the use of 50.59, the endorsed NEI guidance, and interpretations found in evaluations performed by NRR.

Guidance associated with implementation of 50.54(x) is, as a matter of policy, sparse. In general, I recognize and agree with the reasons for this approach. I feel that this issue can be resolved without disturbing this policy by focusing on the 50.59 aspects. In this instance, I believe that the licensee has implemented a change that falls within the scope of 50.59, that sufficient time has passed to allow the licensee to process an amendment, and that they have circumvented the normal amendment process with an invocation of 50.54(x). Some key inputs that allow me to reach this conclusion are:

- The condition of the loss of both divisions of AF is specifically addressed in technical specifications under Technical Specification 3.7.5, Two AF [auxiliary feedwater] trains shall be OPERABLE. Condition C, Two AF trains inoperable directs the licensee to immediately restore one train of AF and the following note: LCO 3.0.3 and all other LCO Required Actions requiring MODE changes are suspended until one AF train is restored to OPERABLE status. i.e., the note suspends the need to maneuver the unit until one train has been restored.
- Emergency Operating Procedures (EOP) are symptom based and contain an evaluated method (feed-and-bleed) for removing decay heat that does not rely on normal feedwater or auxiliary feedwater;
- With regard to removal of decay heat, feed-and-bleed represents one method to ensure adequate protection of public health and safety is provided;
- direction to establish feed-and-bleed is located within the EOPs;
- EOPs are within the current licensing basis (CLB); and
- as EOPs are part of the CLB, changes to them are subject to 50.59;
- A licensee may take reasonable action that departs from a license condition or a technical specification in an emergency when this action is immediately needed to protect the public health and safety and no action consistent with license conditions and technical specifications that can provide adequate or equivalent protection is immediately apparent.

The closure finds no fault with the licensee's planned invocation. Therefore, we have affirmed the licensee's position that the use of the AF crosstie is needed to protect public health and safety. We reach this conclusion even though there is an evaluated method for removing decay heat located within the CLB; feed-and-bleed. Additionally, we reached this conclusion without discussing any of the technical details. What harm or hazard is the public protected from due to the use of the crosstie? What benefit does the crosstie provide that use of feed-and-bleed does not? The closure document does not discuss these items, our evaluation of them, or how we concluded that the

planned invocation was without fault. The closure writeup has a purely regulatory focus, a focus staff have been encouraged to change.

The closure document relies, in part, on information from OGC regarding the proceduralization or use of 50.54(x):

> "whether or not the EOP (or any procedure) gives suggestions about using 10 CFR 50.54 (x), the regulation remains a condition in the license, the licensee remains obliged to use it. However, no license amendment is needed to add statements about the availability of 10 CFR 50.54 (x), because, by being published in in § 50.54, "Conditions of licenses," 10 CFR 50.54(x) applies to, and is a condition of, all operating licenses."

I submit that the information provided is for a question that staff was not asking. The question is not:

> Can a licensee take reasonable action that departs from a license condition or a technical specification (contained in a license issued under this part) in an emergency when this action is immediately needed to protect the public health and safety and no action consistent with license conditions and technical specifications that can provide adequate or equivalent protection is immediately apparent?

But rather:

> Can a licensee take reasonable action that departs from a license condition or a technical specification (contained in a license issued under this part) in an emergency when this action is NOT immediately needed to protect the public health and safety?

The EOPs contain a method that has been evaluated and found to provide adequate protection (Feed-and-Bleed sometimes referred to as Bleed-and-Feed). If the CLB has a method that is adequate, the action to use the crosstie is not needed for protection of public health or safety. It might be reasonable to assume that both the crosstie and feed-and-bleed provide an adequate method for removing decay heat. In my view, both being adequate is not a basis that supports invocation of 50.54(x). It may be that the use of the crosstie is not just adequate but desirable or superior. Unfortunately, the closure document does not contain any technical information to demonstrate one method is better than the other or that better is a basis supporting invocation. Based on the information contained within the closure document, I have difficulty concluding that the planned invocation of 50.54(x) is without flaw.

In my view, it appears that the licensee's invocation would be relying on the words "equivalent protection." i.e., the licensee believes that the use of the crosstie provides benefits to use of feed-and-bleed. If we agree and we are also relying on these words as the basis for concluding the planned invocation is without fault, the closure document should say so. If we have a different basis than the licensee, we should evaluate the licensee's position and then provide our own view on the basis for acceptability.

The statements of consideration for 50.54 indicate a few things. First, 50.54(x) is not a substitute for the amendment process. Second, amendments should be requested when time allows. Third, hours is an insufficient time to review an amendment. Many sites have proceduralized invocations of 50.54(x). If advanced warning was limited to 10 seconds, there is little doubt that a post-event analysis would find that there was not time for an amendment. When the timeline changes to 10 years, there has been enough time for an amendment. Somewhere between 10 seconds and 10 years we should be able to conclude that there has been time to request an amendment. In this

specific case, more than 5 years ago, an amendment was withdrawn after being under review for ~2.5 years.

Part of NRRs review of a previous amendment request for sharing of Train A of AF includes a reference to the term “operational convenience”. The closure of this URI represents an opportunity for the agency to reiterate its view on the use of this term as it relates to accident mitigation. Additionally, it represents an opportunity to provide a framework for the unit not in an accident, the unit sharing equipment:

- Is the only required action for the donating unit to declare the shared equipment inoperable and make the associated TS entry? (how does this work when the completion time for the action is immediately?)
- Is it sharing, in the traditional sense, when procedures restrict use of sharing to event mitigation vs routine/everyday usage?
- Would invocation of 50.54(x) be reasonable for the unit sharing equipment. One that is not in an emergency and one that has not entered their EOPs?
- When reviewing under 50.59, is the sharing of equipment for event mitigation not a reduction in redundancy or diversity as discussed in NEI 96-07, McGuire TIA 2009-011 (ML110490060), or Safety Evaluation for Crosstie (ML13086A601)?
- For the donating unit, is there a need to apply single failure criteria when evaluating shared equipment for event mitigation under 50.59 or an amendment? (Safety Evaluation for Crosstie, ML13086A601)

I am suggesting that answers to questions like these have already been documented and that we could collect that material so that the closure document can become a ready reference for future issues.

In part of a review of an issue at McGuire that involved sharing equipment between units, NRR put forward the following logic:

> […] by aligning one train of NSW [NSW was the system being evaluated for sharing between units] from the unit donating the NSW train to the unit that lost all NSW, the licensee is reducing the redundancy of the NSWS in the donor unit. The reduction of redundancy in the NSWS requires a license amendment to be approved by the NRC. This is clearly described in paragraph 4.3.2 of NEI 96-07, Revision 1 (Example 6).

Part of NRRs review of the crosstie amendment concluded that the plant can not meet the GDC 5 criteria for sharing AFW flow without significantly impairing its safety function.

Lastly, in the McGuire evaluation NRR cited the endorsed guidance from NEI:

> NEI [Nuclear Energy Institute] 96-0[7], [“Guidelines for 10 CFR 50.59 Evaluations,”] [S]ection 4.3.1, addresses the more than minimal increase in the frequency of occurrence of an accident and states that departures from the design, fabrication, testing, and performance standards in the GDC [General Design Criteria] are not compatible with a “no more than minimal increase” standard.

The logic above, taken together, lead me to conclude that the sharing of AF between units should be accomplished by amendment.

I understand and appreciate that our practice is to ensure capacity is sufficient for the needs of two units when systems are designed as shared. None the less, post construction crossties provide

additional defense-in-depth and risk assessments can quantify this benefit. If we are going to be a risk-informed agency, we need a way to approve amendments that show a positive influence on risk even though they fall short of our normal practice.

In my view, there is no issue with preserving the previous precedent and requiring licensees to request amendments. This allows the agency to provide oversight and ensure that the sharing is not being implemented in a manner that is undesirable or that might require constraints (additional technical specification LCOs). I struggle with the idea that inspection staff should find a condition or configuration acceptable when the amendment process has not.

Due to the presence of a mitigating strategy within the CLB that provides adequate protection and the absence of information that indicates use of the crosstie is more than merely adequate, I struggle to conclude that the planned invocation of 50.54(x) is supported. In this instance, I struggle to conclude that there has not been time for an amendment. Based on previous precedent, I struggle to conclude that the changes to the procedures (EOPs) are outside the scope of 50.59 or that use of 50.59 would lead to an outcome other than an amendment request.

EOPs, FLEX, and risk-informed approaches continue to integrate; to be intermingled within procedures. Licensees will, from time to time, incorporate alternative approaches into procedures and the incorporation may include use of 50.54(x). Staff need clear guidance for evaluating procedural invocations of 50.54(x) under 50.59 to determine when they should result in an amendment.

Jamie Benjamin
NRC/RIII/DRS/Senior Reactor Inspector

John Robbins
NRC/RIII/DRS/Operations Examiner

INDEX

I. Issue Time Line:

- 2008: AFW cross-tie modification implemented, and steps added to Emergency Operating Procedure 1/2BFR-H.1, "Response to Loss of Secondary Heat Sink". The physical change consisted of adding approximately 6-8 feet of piping between, two isolation valves connecting the units' "A" motor driven AFW pumps' discharge piping.

- 2009: Similar issue resolved via a Task Interface Agreement (TIA) within NRC (ML 110490060). RII TIA 2009-11, McGuire Nuclear Station Service Water System Unit Crossties Relative to Sharing/Donating in Abnormal Procedures.

- May 6, 2011: Resultant violations for TIA 2009-11. (ML111290291). Related NCVs

- November 3, 2011: NRC issued SL IV Green NCV to Byron based upon the licensee was required to have had prior NRC approval to instruct the use of the AFW cross-tie in EOP 1/2BFR-H-1 before using the primary bleed and feed method. Specifically, the change had a more than minimal impact on an AFW train. 10 CFR Part 50.59, "Changes, Tests, and Experiments," Section (c)(2)(ii), requires, in part, that the licensee obtain a license amendment prior to implementing a proposed change to the plant that would result in more than a minimal increase in the likelihood of occurrence of a malfunction of a structure, system or component important to safety previously evaluated in the UFSAR. [REF: Severity Level IV Green NCV 05000455/2011004 as NCV 05000454/2011004-02; 05000455/2011004-02, "Modification of the Auxiliary Feedwater System Without Prior NRC Approval"]

- 2011: Licensee corrected NCV 05000454/2011004-02; 05000455/2011004-02 by removing the AFW cross-tie usage steps before the primary bleed and feed method in EOP 1/2BFR-H-1, and removed credit for the AFW cross-tie within the license PRA model.

- January 31, 2012, the license submitted a license amendment request (ML 12033A023) to add information to the UFSAR describing the design and shared x-tie piping between the discharges of the Unit 1 and Unit 2, "A" train motor-driven AFW pumps.

- February 1, 2013, the January 31, 2012 submittal was supplemented by a new letter answering four 'request for additional information' (RAI) questions from NRC (ML 13035A017).

- September 10, 2014. Related public meeting held at NRC headquarters.

- June 3, 2015, the license withdrew the license amendment request (ML15154B363).

- August 27, 2015 Category 1 public meeting to discuss Exelon's proposal to resubmit a license amendment request supporting the use of a piping cross-tie (x-tie) between the "A" trains of the auxiliary feedwater systems (AFW) of Units 1 and 2, for both Bryon and Braidwood to provide additional design flex bilities for responding to a beyond design basis event. Licensee's presentation available (ML 15232A683). NRC meeting summary (ML15272A210).

- August 8, 2017 the licensee implemented a facility change by revising EOP 1/2BFR-H.1, “Response to Loss of Secondary Heat Sink Unit 1/2” to Rev. 300 to use the Unit to Unit AFW cross-tie by invoking 10 CFR 50.54(x). Specifically, the change added a “note” and a “caution” statement to the EOP that provided Byron management’s expectation to initiate the AFW unit cross-tie before primary bleed and feed.

- 2018 NRC opened the URI to evaluate if the August 2017 change was a performance deficiency and/or violation occurred (ML18127B698.)

- This non-concurrence issue upon closure of URI 05000454/2018010-004; 05000455/2018-004: Use of 10 CFR 50.54(x) for Unit AFW Cross-Tie to no findings or violations occurred.

II. URI 05000454/2018010-004; 05000455/2018-004: Use of 10 CFR 50.54(x) for Unit AFW Cross-Tie (ML18127B698)

Description: In 2008, the licensee added steps to Emergency Operating Procedure (EOP) 1/2BFR-H.1, "Response to Loss of Secondary Heat Sink," to use the motor driven auxiliary feedwater (MDAFW) of a non-accident unit to combat a loss of all feedwater event in the opposite unit by using a recently installed unit cross-tie. The EOPs also directed operators to enter the technical specification LCO action statement for the unit donating the MDAFW train because the MDAFW trains were not designed and licensed to be shared between the reactor units.

In 2011, the resident inspectors noted that the EOP change resulted in more than a minimal increase in the likelihood of occurrence of a malfunction of a SSC important to safety previously evaluated in the Updated Final Safety Analysis Report because the Updated Final Safety Analysis Report described the MDAFW trains as non-shared systems. However, the licensee implemented this change without prior NRC approval. As a result, the inspectors documented a Severity Level IV NCV of 10 CFR 50.59 in Inspection Report 05000454/2011004; 05000455/2011004 as NCV 05000454/2011004-02; 05000455/2011004-02, "Modification of the Auxiliary Feedwater System Without Prior \NRC Approval" (REF: Accession No. ML 113070678).

As corrective actions to this NCV, the licensee removed the steps in the EOPs that directed the unit cross-tie to be used and removed credit for the cross-tie in the station's Probabilistic Risk Assessment model. However, on August 8, 2017, the licensee added direction in EOP 1/2BFR-H.1 to use the Unit Auxiliary Feedwater cross-tie by invoking 10 CFR 50.54(x). Specifically, the change added a "note" and a "caution" that provided direction to initiate the MDAFW unit cross-tie before bleed and feed.

The note stated: "If at any time it has been determined that restoration of feed flow to any SG is untimely or may be ineffective in heat sink restoration, then the AF crosstie should be implemented per Step 5 (Page 8)." The caution stated: "The AF crosstie should be implemented per Step 5 if other attempts to restore feed flow to the SG(s) will not prevent the initiation of feed and bleed." Step 5 provided instructions on how to perform the cross-tie and did not include instructions on when to initiate it. The caution also stated, "Use of the AF crosstie requires invoking 50.54(x)."

During this inspection period, the inspectors challenged the use of 10 CFR 50.54(x) to implement this permanent change. In addition, the inspectors noted that the licensee's 10 CFR 50.59 screening for the procedure change did not include in its review the added note and caution statements. Because the added note and caution were the only procedure provisions that provided direction on when to use the MDAFW cross-tie, the 10 CFR 50.59 screening did not review the instructions about when to use the MDAFW cross-tie. As a result, the screening failed to determine that the change may have required a technical specification change and, thus, a license amendment as originally planned.

At the end of the inspection, the NRC continued to evaluate if a performance deficiency and or violation occurred. This Unresolved Item will remain open pending the outcome of this ongoing review.

III. Licensee's procedural usage guide for "cautions" and "notes" statements.

Licensee Procedure AD-AA-101-1002, "Writer's Guide for Procedures and T&RM), Revision 17

[redacted]

IV. Change to the facility made using a caution and a note statement.

EOP Byron Emergency Operating Procedure 1/2 BFR-H.1, Revision 300, Response to Loss of Secondary Heat Sink Unit 1/2

Between Step 2 and Step 3.

"NOTE:

If at any time it has been determined that restoration of feed flow to any SG is untimely or may be ineffective in heat sink restoration, then the AF cross-tie should be implemented per Step 5 (Page 8)."

After Step 4 and before step 5.

"CAUTION

The AF cross-tie should be implemented per Step 5 if other attempts to restore feed flow to the SG(s) will not prevent the initiation of feed and bleed. Use of the AF crosstie requires invoking 50.54(x)."

5. CROSSTIE TRAIN A AF FROM UNIT 2/1:

ACTION/EXPECTED RESPONSE COLUMNM

a. Shift Manager has:

- *Determined other heat sink restoration efforts are not available or are untimely*
- *Has implemented 10 CFR 50.54(x)*
- *Approved implementation of 1BFSG-3, ALTERNATE LOW PRESSURE FEEDWATER for AF crosstie*

RESPONSE NOT OBTAINED :

a. When the Shift Manager has determined AF cross-tie is required, THEN RETURN TO Step 5. GO TO Step 6

V. Applicable NRC Regulations.

- *10 CFR Part 50, Appendix A, General Design Criteria. ".....These General Design Criteria establish **minimum requirements** for the principal design criteria for water-cooled nuclear power plants similar in design and location to plants for which construction permits have been issued by the commission.*

- *10 CFR Part 50, Appendix A GDC 5: Sharing of structures, systems, and components. Structures, systems, and components important to safety **shall not be shared** among nuclear power units **unless** it can be shown that such sharing will not significantly impair their ability to perform their safety functions, including, in the event of an accident it one unit an orderly shutdown and cooldown of the remaining units. . .*

- *10 CFR 50.54(x): A licensee may take reasonable action that departs from a license condition or a technical specification (contained in a license issued under this part) in an emergency when this action is immediately needed to protect the public health and safety **and** no action consistent with license conditions and technical specifications that can provide adequate or equivalent protection is immediately apparent.*

- *10 CFR 50.54(y): Licensee action permitted by paragraph (x) of this section shall be approved, as a minimum, by a licensed senior operator, or, at a nuclear power reactor facility for which the certification required under 50.82(a)(1) have been submitted, by either a licensed senior operator or a certified fuel handler, prior to taking the action.*

- *10 CFR 50.71(e): Each person licensed to operate a nuclear power reactor under the provisions of 50.21 and 50.22, and each applicant for a combined license under part 52 of this chapter, shall update periodically, as provided in paragraphs (e)(3) and (4) of this section, the final safety analysis report (FSAR) originally submitted as part of the application for the licensee, to assure that the information included in the report contains the latest information developed. This submittal shall contain all the changes necessary to reflect information and analyses submitted to the Commission by the applicant or licensee or prepared by the applicant or licensee pursuant to Commission requirement since the submittal of the original FSAR, or as appropriate, the last update to the FSAR under this section. The submittal shall include the effects of all changes made in the facility or procedures described in the FGSAR; all safety analyses and evaluations performed by the applicant or licensee either in support of approved licensee amendments or in support of conclusions that changes did not require a license amendment in accordance with 50.59 or, in the case of a licensee that references a certified design, in accordance with 52.98(c) of this chapter, and all analyses of new safety issues performed by or on behalf of the applicant or licensee at Commission required. The updated information shall be appropriately located within the update to the UFSAR.*

(4) Subsequent revisions must be filed annually or 6 months after each refueling outage procedure the interval between successive updates does not exceed 24 months. The revisions must reflect all changes up to a maximum o f6 months prior to the date of filing. For nuclear power reactor facilities that have submitted the certifications required by 50.82, subsequence revisions must be filed every 24 months.

- *Technical Specification 5.0 ADMINISTRATIVE CONTROLS, 5.4 Procedures*, require,

5.4.1 Written procedures shall be established, implemented, and maintained covering the following activities:

a. The applicable procedures recommended in Regulatory Guide 1.33, Revision 3, Appendix A, February 1978

- *Regulatory Guide 1.33, Revision 2, February 1978*

1. *Administrative Procedures, d. Procedure Adherence and Temporary Change Method*

6. *Procedures for Combating Emergencies and Other Significant Events, j. Loss of Feedwater or Feedwater System Failure*

VI. Byron safety-related service water shared unit similarities and approved current licensing basis

- Bryon safety-related service-water is treated as a 10 CFR Party 50 GDC-5 'like' shared system in the current licensing basis and is discussed in the UFSAR. It is a GDC-5 'like' shared system because the plant was originally licensed before the GDC rule was implemented. However, the plant was licensed based upon similar criteria.

- Service water system is comprised of two trains per unit. A unit can share a service water train in the event of a beyond design basis event in the other unit and maintains the ability to shutdown and cooldown the non-accident unit and do so within the approved current licensing basis.

- The service water cross-tie is modeled in the PRA. AFW cross-tie capability was removed from the PRA following the original NCV.

- The service water unit to unit shared capability is reflected in Technical Specifications (TS). (i.e. one service water train will result in a TS action statement entry in both units if both units are in the mode of applicability). AFW shared capability is not reflected in TS.

- The NRC reviewed and approved the use of service water as a shared system through licensing action. Therefore, the Agency had the opportunity to ensure all outstanding issues and questions were satisfactory answered prior to approval. Several outstanding NRC questions were docketed and responded to by the licensee. It is not known if the licensee's answers to NRC were ultimately acceptable. However, the LAR was not approved and the use of the AFW cross-tie is not part of the current licensing basis.

VII. Discussion of on-site inspection activities including simulator scenario and discussion with the licensee for why the procedure was changed following the LAR withdrawal.

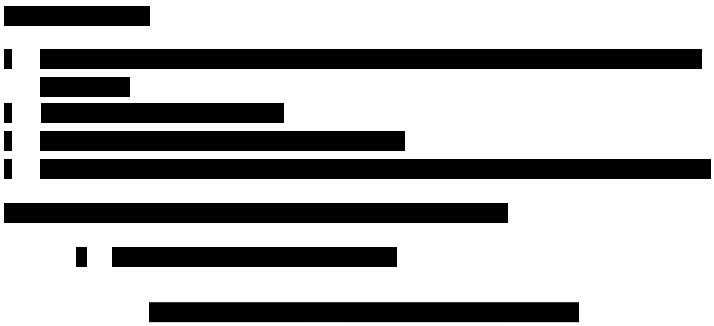
- During the 2018 on-site inspection activities, and following the identification of an item of interest, the licensee performed a simulated loss of feedwater event for the inspectors to observe how the caution and note statements would be used to assist the inspectors in determining if a 10 CFR 50.59 facility changed occurred. The licensee bounded the event by starting both simulated units at 100 percent power. The unit 2 2B diesel driven auxiliary feedwater (AFW) pump was simulated out of service for maintenance and not recoverable to further bound the activity. Unit 1 1B diesel driven AFW pump was also out of service and not available.

  In the simulator, Unit 1 experienced a main turbine trip causing a reactor trip. Following the reactor trip offsite power was lost to Unit 1 and the Unit 1 motor 1A AFW pump tripped on motor overcurrent resulting in a total loss of feedwater to Unit 1. The Unit 1 main condenser was not available. The crew worked through the EOP network, and the senior reactor operator read the EOP caution statement in EOP Byron Emergency Operating Procedure 1/2 BFR-H.1, Revision 300, Response to Loss of Secondary Heat Sink Unit 1 involving management's expectation to use the unit to unit AFW cross-tie before feed and bleed out loud. The approved primary feed and bleed method was available with no deficiencies or issues (i.e. at 100 percent condition). After reading the caution and note statements, the SRO invoked 50.54(x) and used the AFW cross-tie by using the unit 2 motor driven AFW pump to supply the unit 1 steam generators. This mitigated the Unit 1 loss of feed event but resulted in an adverse condition in Unit 2 since both unit 2 AFWs train became unavailability with unit 2 at 100 percent power as a result of following the facility change. The applicable Station Technical Specifications for Unit 2 action statement requires immediate restoration of any unit 2 AFW pump but this action was not done because the unit 2 diesel driven pump was assumed out of service for maintenance and not recoverable and the unit 2 motor driven AFW pump was being used for unit 1. A reactor trip of unit 2 would now place unit 2 in a beyond design basis event with a loss of AFW safety function. A 10 CFR 50.65(a) risk evaluation was not performed, and therefore, the risk impact to Unit 2 was not known.

  Following the simulator scenario, the inspectors discussed the reason why the unapproved unit to unit cross-tie was used before the approved primary feed and bleed method. Specifically, the decision to enter 10 CFR 50.54(x) when it was not necessary to meet the functional requirement objectives for the loss of secondary heat sink EOP. **The inspectors were informed that the EOP was updated to make it clear to the operators of station management's expectation to use the unit to unit cross-tie before bleed and feed. The licensee staff informed the inspectors that the change was necessary because there was confusion amongst the crews as to whether to follow their approved licensing basis or to deviate from it and implement 10 CFR 50.54(x). The inspectors were informed that this changed solved any confusion and made it clear. The licensee informed the inspectors that the TS action to restore AFW immediately was not applicable because 10 CFR 50.54(x) was invoked**. The inspectors observed that the operators did not have time or procedural direction to determine if donating the motor driven "A" AFW train was acceptable or not acceptable in accordance with the maintenance rule 10 CFR 50.65a(4) requirement.

The presumption was that if the procedure expected the action to be performed then it was safe to do so because it was allowed within the current licensing basis. Additionally, the PRA model did not reflect the AFW unit cross-tie because credit had been removed following the 2011 related NCV. In this simulated case, the risk impact to the donating unit was not known and may or may not have been acceptable from a maintenance rule perspective (i.e. licensee related procedures require orange risk management actions, and red risk is not allowed from a planned perspective).

In reviewing the developed simulator scenario guide, the listed Expected Operator Actions were:



I included this summary in the non-concurrence to highlight that my first hand inspection results provided insight to assist the Agency determining if the addition to the caution and note statements was a 10 CFR 50.59 facility change and, if so, met the 10 CFR 50.59 criteria for requiring a licensee amendment.

- During the on-site inspection, the team inspected the adequacy of primary bleed and feed to meet the EOP functional loss safety criteria (i.e. adequacy to remove decay heat). This aspect of the inspection was performed to determine if the use of 10 CFR 50.54(x) was appropriate since primary bleed and feed was a method already approved within the current licensing basis and the rule requires, "*and no action consistent with license conditions and technical specifications that can provide adequate or equivalent protection is immediately apparent".*

    - DBA Inspection 2018 – Issue Response, Issue 073—00, Inspector BENJAMIN, Question*, "What is the Station's position on Bleed and Feed – Is it equivalent or adequate for Decay Heat Removal?", Answer – Bleed and Feed is <u>not equivalent to 500 GPB of Auxiliary Feed flow with respect to heat removal</u>. As shown in calculation VRY15-001, 500 GPM (69lbm/sec) of AF flow at 100 F is sufficient to remove all decay heat beginning 15 minutes after a Reactor Trip. As shown in Figure 5.3.1-4 of WCAP-16902-P, Loss of Secondary Heat Sink Upgrade Analysis for Emergency Response Guideline FR-H.1, during Bleed and Feed ECCS Flow does not reach this value for approximately 5000 seconds (83.3 minutes) due to the time it takes for the RCS pressure to decrease.*

Bleed and Feed is an adequate *method of Decay Heat Removal as shown on Figure 5.3.1-2 of WCAP-16902-P. This shows that the mixture level remains at least 1 Ft above the top of the core and core exit temperatures remain below 650 F.*

The graphs used in the 5.3.1 series of WCAP-16902-P is for a plant similar to Bryon. The graphs use the following:

Plots of Four-loop, 3,459 MWt, Model 51 SG, HP ECCS

Minimum safeguards (1 charging pump + 1 IHSI pump)

2 PORVs (with Cd variation)

-Successful Mitigation

VIII. Discussion on why implementing management's expectation to use 50.54(x) under EOP caution statements is a change to the facility.

NRC Regulatory Guide 1.187, November 2000, "Guidance for Implementation of 10 CFR 50.59, Changes, Tests, and Experiments".

- *NRC Regulatory Guide 1.187, November 2000, "Guidance for Implementation of 10 CFR 50.59, Changes, Tests, and Experiments".*

  C. REGULATORY POSITION

  Revision 1 of NEI 96-07, "Guidelines for 10 CFR 50.59 Evaluations", dated, November 2000, provides methods that are acceptable to the NRC staff for complying with the provisions of 10 CFR 50.59.

  D. IMPLEMENTATION

  The purpose of this section is to provide information to licensees and applicants regarding the NRC staff's plans for using this regulatory guide.

  Except in those cases in which a licensee proposes an acceptable alternative method for complying with the specified portions of the NRC's regulations, the methods described in the guide will be used in the evaluation of licensee compliances with the regulation of 10 CFR 50.59.

- *NEI 96-07*

Section 3.3 Change

Definition: Change means a modification or addition to, or removal from, the facility or procedure that affects: (1) a design function, (2) method of performing or controlling the function, or (3) an evaluation that demonstrates that intended function, (3) an evaluation that demonstrates that intended function will be accomplished.

Section 3.2

The term "accidents" refers to the anticipated (or abnormal) operational transients and postulated design basis accidents that are analyzed to demonstrate that the facility can be operated without undue risk to the health and safety of the public. ***The term "accidents" encompasses other events for which the plant is required to cope and which are described in the UFSAR (e.g., turbine missiles, fire, earthquakes and flooding).*** *Note that, although fire is an event for which a plant is required to cope and is described in the UFSAR (by reference to the Fire Hazards Analysis for some licensees), changes to the fire protection program are governed by licensee requirements other than 10 CFR 50.59, as discussed in Section 4.1.5.*

Accidents also include new transients or postulated events added to the licensing basis based on new NRC requirements and reflected in the UFSAR pursuant to 10 CFR 50.71(e), e.g., ATWS and SBO.

Discussion:

Additions and removals to the facility or procedures can adversely impact the performance of SSCs and the bases for the acceptability of their design and operations. The definition of change includes modification of an existing provisions (e.g. SSC design requirement, analysis method or parameter) additions or removals (physical removals, abandonment, or non-reliance on a system to meet a requirement) to the facility or procedures.

The definitions of 'change…," "facility…" (see Section 3.6), and "procedures…" (see Section 3.11) make clear that 10 CFR 50.59 applies to changes to underlying analytical bases for the facility design and operations as well as for changes to SSCs and procedures.

Design function means an SSC function that is credited in safety analyses or that support or impacts an SSC function credited in safety analyses. This may include (1) functions performed by safety-related SSCs or non-safety-related SSCs, and (2) function of non-safety-related SSCs that, if not permitted, would initiate a plant transient or accident. Design functions include the conditions under which intended functions are required to be performed, such as equipment response times, environmental and process conditions, equipment qualification, and single failure.

3.9 Malfunction of an SSC Important o Safety

> *Definition:*
>
> *Malfunction of SSCs important to safety means the failure of SSCs to perform their intended design functions described in the UFSAR (whether or not classified as safety-related in accordance with 10 CFR 50, Appendix B).*
>
> Guidance and examples for applying this definition is provided in Section 4.3

4.3.2 Does the Activity Result in More than a Minimal Increase in the Likelihood of Occurrence of a Malfunction of an SSC Important to Safety?

> *The term "malfunction of an SSC important to safety" refers to the failure of structures, systems and components (SSCs) to perform their intended design functions – including both non-safety-related and safety-related SSCs. The cause and mode of a malfunction should be considered in determining whether there is a change in the likelihood of a malfunction. The effect or result of a malfunction should be considered in determining whether a malfunction with a different result is involved per Section 4.3.6*

The following changes would require prior NRC approval *because they would result in more than a minimal increase in the likelihood of occurrence of a malfunction of an SSC important to safety:*

2. The change would ***reduce system/equipment redundancy****, diversity, separation, or independence.*

"Further, departures from the design, fabrication, construction, testing, and performance standards as outlines in the General Design Criteria (Appendix A to Part 50) are not compatible with a "no more than minimal increase" standard.

IX. Discussion of applicability: ML 110490060, "Final Response to Task Interface Agreement – McGuire Nuclear Station Service Water System Unit Crossties Relative to Sharing/Donating in Abnormal Procedures (TIA 2009-011)

This TIA was specific to answering questions for McGuire licensee and not Byron. It was used with that context in mind. However, this TIA was also used in the context of reviewing the Agency conclusions of a similar issue at a different license for regulatory consistency in interpreting NRC rules and requirements based upon Region III Management's decision to not use the TIA process in addressing this issue. The TIA process was not used in closure of the 2018 Byron AFW cross-tie TIA.

Summary Response to Question 2**:** A discussion of 'operational convenience' and prohibition for entering a TS LCO action statement in order to provide a safety benefit for a different unit in a beyond design basis accident.

Summary Response to Question 3: A. The applicable regulatory position should have been "Yes to the 10 CFR 50.59(c)(2)(i) question of "Does the proposed activity result in more than a minimal increase in the likelihood of occurrence of a malfunction of a SSC important to safety previously evaluated in the UFSAR?"

B. The intent of GDC-5 is to disallow sharing SSCs in the context of the SSCs performing safety functions unless the SSCs can perform its safety functions in both units simultaneously.

Summary Response to Question 4: Where procedures are changed to address actions for severe accidents and only affect the beyond design basis unit, the guidance in NEI 96-07 applies in that a 10 CFR 50.59 evaluation is not required. <u>When the procedure change addresses actions for severe accidents involving a unit that is not part of the event, then 10 CFR 50.59 applies regardless of whether the action is attempting to provide mitigation actions to help the unit in the severe accident.</u> <u>This ensures that the 10 CFR 50.59 requirements for considering the risk and consequences of the action are evaluated in determining whether prior NRC approval is needed.</u>

The TIA subject: Region II questions the McGuire Nuclear Station evaluation conclusion pursuant to Section 50.59 of Title 10 of the Code of Federal Regulations (10 CFR) that prior Nuclear Regulatory Commission (NRC) approval was not required for changes made to abnormal procedures for sharing/donating nuclear service water (NSW) between units and for conforming Updated Final Safety Analysis Report (UFSAR) changes. The background below and reference documents listed at the end of this document provide the historical context of this issue at McGuire Nuclear Station (McGuire) along with the applicable licensing documents.

The TIA concluded the following, for McGuire licensee.

Question 2: Is the entry into a TS LCO to allow sharing SSCs between units (or donating a train) for the LOSW event considered operational convenience for the donating/sharing unit as defined in the Bases for the TS?

In response to question two, the NRC staff understands the phrase "to allow sharing SSCs between units" as referring to sharing NSW by opening the NSWS pump discharge crossover valves.

Operational convenience is a term used in the Bases for LCO 3.0.2 to limit the reasons licensees may have for intentionally relying on the TS Actions. The following excerpt from the Bases for LCO 3.0.2 establishes the reasons for intentionally relying on TS Actions as permitted by LCO 3.0.2:

- ***TIA 2009-011 states, "When the procedure changes addresses actions for severe accidents involving a unit that is not part of the event, the 10 CFR 50.59 applies regardless of whether the action is attempting to provide mitigation actions to help the unit in the severe accident."***

Reasons for intentionally relying on TS Actions include, but are not limited to, performance of surveillances, preventive maintenance, corrective maintenance, or investigation of operational problems. Unacceptable reasons for intentionally relying on TS Actions are those done for operational convenience, which includes entering TS Actions by removing a system or component from service intentionally if it is done in a manner that compromises safety.

The McGuire Unit 1 and Unit 2 operating licensing basis requires the NSWS pump discharge crossover valves to be locked closed in accordance with GDC-5 and as described in TS Bases Figure B 3.7.7-1. This is because the licensee cannot assure the NRC staff that sharing NSWS between units will not significantly impair the ability of the unit-specific NSWS to perform the specified safety function required by the TS. The McGuire Unit 1 and Unit 2 combined TS apply individually to each unit, unless otherwise specified. The NSWS TS are not identified to be shared between the units as discussed above.

In order to achieve sharing/donating a train of service water during a LOSW event on one unit, the NSWS pump discharge crossover valves must be opened. When NSWS pump discharge crossover valves are opened (removed from service) by the licensee with the intent to rely on the TS 3.7.7 Completion Times of the Required Actions in accordance with the allowances of LCO 3.0.2, ***the licensee must consider the reason(s) for opening the valves.*** *The permitted reasons are described above and the reasons must be for conditions related to the unit that is planning to enter TS LCO 3.7.7 Actions because the TS are written to apply to the valves as unshared, unit-specific components.* ***Furthermore, entering ACTIONS must be done in a manner that does not compromise safety and intentional entry into ACTIONS should not be made for operational convenience.*** *Although the opening of the pump discharge crossover valves may provide a safety benefit to the unit that is experiencing a LOSW, opening these valves to enter TS LCO 3.7.7 Actions for one unit with the intent of supplying water to the other unit under the application of TS LCO 3.0.2 is not allowed by the current TS.* ***This action is not allowed because the pump discharge crossover valves are not***

identified as shared components and application of LCO 3.0.2 for the benefit of one unit does not apply to TS LCOs of another unit.

Question 3: [A.] Was the licensee's answer to 10 CFR 50.59(c)(2)(i) of "No more than minimal increase in the frequency of occurrence of an accident" correct? Nuclear Energy Institute (NEI) 96-07, Section 4.3.1, addresses the more than minimal increase in the frequency of occurrence of an accident and states that departures from the design, fabrication, testing, and performance standards in the GDC are not compatible with a "no more than minimal increase" standard. The answer to this question hinges on whether GDC-5, "Sharing of structures, systems, and components," is applicable to the sharing/donating described in the change. [B.] Given that the change to the LOSW procedure AP-20 specifies that the donated service water train be declared inoperable and the TS LCO entered, do the requirements in GDC-5 for shared systems and components apply to this inoperable donated train (which would require a safety analysis for the sharing/donating operation that meets the criteria stated in GDC-5)? The licensee's contention is that "GDC-5 does not apply to a train donated during beyond design basis events (LOSW) to provide a risk mitigation strategy that would otherwise not be available."

In 1991, the NRC issued Generic Letter (GL) 91-13 in response to Generic Issue 130,"Essential Service Water Failures at Multi-Unit Sites," to seven dual unit plants where service water system failures were a significant contributor to overall plant risk. These seven plants each had only one service water pump per NSW train. McGuire is one of these plants. In GL 91-13, the NRC suggested TS that are more rigorous and auto operated crossover valves for each recipient of GL 91-13 and asked each licensee to evaluate and respond.

McGuire's response was that imposing additional TSs would not result in a decrease in calculated core melt frequency and cited three methods for assisting a unit that lost all NSW. The three methods are as follows: (1) the availability of the separate containment service water system, (2) a procedure to crossover service water between units, and (3) the ability to provide RCP seal cooling from the safe shutdown facility. The NRC accepted this response. The effect of the licensee's response to specify mitigating measures for a LOSW event should have been documented in the UFSAR as required by 10 CFR 50.71(e). The procedure that the licensee cited in its response to GL 91-13 would then have become a procedure as described in the UFSAR as defined in 10 CFR 50.59, and this ability to mitigate a LOSW event would have become a part of the licensee's current licensing basis.

When changing the UFSAR in accordance with 10 CFR 50.71(e) for its response to GL 91-13, the licensee should evaluate the UFSAR update and the procedure in accordance with 10 CFR 50.59. The NRC's prior acceptance of the licensee's response to GL 91-13 did not constitute approval of the implementing procedure and any related analysis. In 2009, the licensee updated the UFSAR, the TS Bases and the AP for its response to GL 91-13 and reviewed the changes in accordance with 10 CFR 50.59. The licensee's response to Question 2 of 10 CFR 50.59 Evaluation 266451, "Does the proposed activity result in more than a minimal increase in the likelihood of occurrence of a malfunction of a SSC important to safety previously evaluated in the UFSAR?" was answered "No."

The applicable regulatory position should have been "Yes." This is because by aligning one train of NSW from the unit donating the NSW train to the unit that lost all NSW, ***the licensee is reducing the redundancy of the NSWS in the donor unit. The reduction of redundancy in the NSWS requires a license amendment to be approved by the NRC. This is clearly described in paragraph 4.3.2 of NEI 96-07, Revision 1 (Example 6).*** *Although the change may have an effect on the frequency of occurrence of an accident, this effect would only be a result from the reduced redundancy within the NSWS of the donor unit. The licensee's justification in response to Question 2 of 10 CFR 50.59 Evaluation 266451 that the NRC already reviewed and accepted this change is inaccurate. The NRC's acceptance of the licensee's response to GL 91-13 was for the licensee's method to resolve the generic issue and was not a safety evaluation of the changes to the UFSAR and its AP, which would implement and describe the licensee's response to GL 91-13 as required by 10 CFR 50.71(e).*

B. The licensee is not departing from GDC-5 because the donated train (or the shared SSCs) is considered inoperable and not credited as performing a safety function for either unit. As such, a safety analysis to determine whether the safety function can be performed is irrelevant. ***The intent of GDC-5 is to disallow sharing SSCs in the context of the SSCs performing safety functions unless the SSCs can perform its safety functions in both units simultaneously. The licensee cannot credit an SSC important to safety as performing a safety function for both units unless the SSCs can perform the safety function in both units simultaneously, including its safety function for an accident in one unit and its safety function for an orderly shutdown and cool down in the other unit.*** *The sharing context of GDC-5 is sharing while the SSCs that are important to safety are required to perform safety functions.*

Therefore, as discussed in the answers to Questions 2 and 3[A.], this activity cannot be accomplished without a TS change and license amendment. *Consequently, the safety analysis that would be required is not one under GDC-5 but one that would be submitted with the TS change and license amendment that will receive NRC review and approval prior to its implementation. This analysis would then become part of the UFSAR on the next update after the approval of the amendment.*

Question 4: [A.] Is the licensee's contention in the 10 CFR 50.59 evaluation valid in concluding that the LOSW event is a "beyond design basis event?" [B.] Would the above classification also apply to the unaffected unit operating normally at 100 percent power whose train of NSW would be donated (resulting in a 72-hr LCO on that unit)?

The licensee's contention is that GDC-5 does not apply to a train donated during "beyond design basis events (LOSW)" to provide a risk mitigation strategy that would otherwise not be available. NEI 96-07 section 4.2.1.2 (example 1) indicates that a procedure change that involves parts that are dealing with operator actions during severe accidents ("beyond design basis events") would screen out. **Therefore, a change involving procedure steps for a "beyond design basis event" is not a change under 50.59 and therefore (c)(1) and (c)(2)** questions would not need to be answered. Indirectly, the licensee is using this approach to say that normal rules for sharing (GDC-5) don't apply to the 50.59 evaluation

for this case. As such, there will be no safety analysis for this activity. The answer to this question is directly applicable to question 3 above as well.

The change in licensing basis from the GL 91-13 response associated with risk reduction measures for a LOSW event should have been added to Section 9 of the UFSAR during the next scheduled update. This change has no affect on previously analyzed conditions considered in Chapter 15 of the UFSAR, and because the Condition III and IV faults that would result from a LOSW event were not assumed to be caused by a LOSW event during the licensing of McGuire, the LOSW event was considered to be a beyond design basis condition for McGuire.

In 1991, the NRC determined that service water system failures were a significant contributor to overall plant risk because they had only one service water pump per safety-related train. GL 91-13 indicates that a number of dual unit sites may have the capability to reduce risk because they have existing crossover piping and valves which provide the capability to share service water between units. McGuire was one of those plants.

Where procedures are changed to address actions for severe accidents and only affect the beyond design basis unit, the guidance in NEI 96-07 applies in that a 10 CFR 50.59 evaluation is not required. **When the procedure change addresses actions for severe accidents involving a unit that is not part of the event, then 10 CFR 50.59 applies regardless of whether the action is attempting to provide mitigation actions to help the unit in the severe accident.** This ensures that the 10 CFR 50.59 requirements for considering the risk and consequences of the action are evaluated in determining whether prior NRC approval is needed.

X. (ML111290291) McGuire NCVs related to TIA 2009-011.

Enforcement section for a similar issue determined to constitute two violations of NRC requirements.

- *05000369,370/2011002-01, Failure to update the UFSAR for GL 91013 (10 CFR 50.71(e).*

Enforcement: 10 CFR 50.71(e) required, in part, that licensees shall periodically update the Final Safety Analysis Report originally submitted as part of the applications for the license, to assure that the information included in the report contains the latest information developed. This submittal shall contain all the changes necessary to reflect information and analyses submitted to the Commission by the licensee since the submittal of the last update to the UFSAR. Contrary to the above, from February 27, 1992, to June 16, 2009, the licensee did not update the UFSAR to include the information submitted in response to GL 91-13 pertaining to the cross-connecting of RN between units.

- *05000369,370/2011002-02, Failure to Obtain a License Amendment for RN Sharing Between Units*

Introduction: an NRC-identified SL-IV NCV of 10 CFR 50.59 was identified for making changes to the UFSAR, section 9.2, and Abnormal Procedure AP-20, Loss of RN, which required prior NRC approval. The changes allowed donating a train of RN to the unit experiencing a Loss of Service Water event by opening the unit cross-over valves.

Enforcement: 10 CFR 50.59(c)(1) stated, in part, that a licensee may make changes in the procedures as described in the Final Safety Analysis (as updated) without obtaining a license amendment pursuant to 10 CFR 50.90 only if the change does not require a change to the TSs and does not meet any of the criteria in 10 CFR 59(c)(2). Contrary to the above, on June 16, 2009, the licensee made changes to procedures described in the UFSAR that required a change to the TSs. The licensee changed UFSAR, section 9.2, and AP-20, Loss of RN, to allow one train of RN to be donated from one unit to the unit that was experiencing a LOSW event without obtaining a license amendment (TS change).

XI. (ML 113070678) November 3, 2011: Severity Level IV NCV of 10 CFR 50.59 in Inspection Report 05000454/2011004; 05000455/2011004 as NCV 05000454/2011004-02; 05000455/2011004-02, "Modification of the Auxiliary Feedwater System Without Prior NRC Approval"

Installation of a Pump Discharge Crosstie Between Unit 1 and Unit 2 Motor Driven Auxiliary Feedwater Pumps Without NRC Approval

Introduction: The inspectors identified a finding of very low safety significance (Green) and an associated Severity Level IV NCV of 10 CFR 50.59, "Changes, Tests, and Experiments," when licensee personnel failed to obtain a license amendment prior to implementing a proposed change to the plant that resulted in more than a minimal increase in the likelihood of occurrence of a malfunction of a structure, system or component important to safety previously evaluated in the UFSAR. Specifically, the licensee performed a modification to the facility that permitted the Unit 1 and Unit 2 "A" AF trains to be shared between units and the 10 CFR 50.59 evaluation that was performed reached the erroneous conclusion that prior NRC approval was not required.

Description: Engineering Change 362168, Revision 0, dated August 7, 2008, approved the installation of a modification to add a crosstie line between the Unit 1 and Unit 2 "A" AF trains to permit the sharing of the Unit 1 and Unit "A" AF trains between the Units. The inspectors selected an IR for a more detailed review that questioned whether this plant modification required NRC review and approval prior to implementation. Issue Report 1232153 referenced operating experience (OpEx) from another licensee facility which pre-dated the installation of the crosstie modification and discussed an NRC-identified violation on the sharing of a service water system between Units (reference NRC Integrated Inspection Report 05000369/370-2011002, issued May 6, 2011). Issue Report 1232153 stated, in part, that "The concerns raised by the NRC [in the referenced NRC inspection report] which resulted in the NCV appear to be consistent with the Byron/Braidwood modifications and subsequent incorporation into station procedures, A-Train AF crosstie line modifications." On June 28, 2011, the licensee's conclusion in Issue Report 1232153 stated that "…the McGuire finding does not apply to the AF crosstie modification at B/B [Byron and Braidwood]."

After the licensee concluded the OpEx did not apply to the AF crosstie modification, the inspectors began reviewing background material related to the AF crosstie modification. The inspectors determined that the licensee's AF crosstie modification created a shared system that had not previously existed and was not described in the UFSAR or other

licensing basis documents. In addition, the inspectors determined that the processes and procedures for placing the opposite unit's "A" Train of AF in service for the accident unit resulted in the non-accident unit losing the redundancy and diversity of the AF system that would otherwise have been available if the Unit 1 and Unit 2 "A" AF trains were not crosstied. The crosstie piping was isolated with the use of two manual closed and locked isolation valves and was controlled by the licensee's Emergency Operating Procedures (EOPs). With the use of two manually closed isolation valves separating the two unit's "A" train AF pumps from each other, the crosstie would only be open during the implementation of certain portions of Byron EOP 1/2BFR H.1, "Loss of Secondary Heat Sink."

In the 10 CFR 50.59 evaluation for the AF crosstie modification and associated EOP 1/2BFR H.1, the licensee determined that the modification and the procedure change did not result in more than a minimal increase in the likelihood of occurrence of a malfunction of a structure, system and component important to safety previously evaluated in the UFSAR. However, based on the loss of redundancy and diversity when the crosstie was implemented, the inspectors determined that the modification and procedure change did, in fact, result in more than a minimal increase in the likelihood of occurrence of a malfunction of the AF system of the donor unit. Therefore, prior NRC approval was required for the licensee to utilize the crosstie but had not been requested.

The inspectors determined that this issue did not affect the operability of the AF system because the licensee required that prior to use of the crosstie, both of the non-accident unit AF trains be operable. This would have ensured that at least one train of the AF system was available for use on the non-accident unit. The AF crosstie modification had not been used by the licensee as it would have required a beyond design basis event (loss of both trains of AF on one unit) with entry into EOP 1/2BFR H.1, and no such event had occurred.

In addition to initiating IR 1257908, as part of their corrective actions the licensee issued Standing Order 11-050, which had the effect of modifying EOP 1/2BFR H.1. Prior to executing the step of this EOP which prescribed the use of the crosstie modification, Shift Manager approval and invocation of 10 CFR 50.54(x) were required. The licensee planned to submit a License Amendment Request (LAR) to the NRC for this design change by mid-December 2011. In addition, at the end of the inspection period, the licensee was in the process of revising EOP 1/2BFR H.1 to require the use of 10 CFR 50.54(x) prior to making use of the crosstie modification. This procedure revision was expected to be completed by October 1, 2011.

Analysis: The inspectors determined that the failure to perform an adequate 10 CFR 50.59 evaluation and obtain a license amendment prior to implementing the portion of EOP1/2BFR H.1 which utilized the crosstie between the Unit 1 and Unit 2 "A" AF pumps was a performance deficiency warranting a significance evaluation. Consistent with the guidance in IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," the inspectors evaluated the issue using the traditional enforcement process and assessed the significance of the underlying issue using the SDP.

Violations of 10 CFR 50.59 are dispositioned using the traditional enforcement process instead of the SDP because they are considered to be violations that potentially impede

or impact the regulatory process. However, if possible, the underlying technical issue is evaluated under the SDP to determine the severity of the violation. In this case, the inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," Tables 4a, for the Mitigating Systems Cornerstone. The inspectors answered "Yes" to Question 1 of the Mitigating Systems Cornerstone column of the Phase 1 worksheet because the inspectors concluded that this was a change confirmed not to result in the loss of operability. Based upon this Phase 1 screening, the inspectors concluded that the finding was of very low safety significance (Green).

Therefore, in accordance with Section 6.1.d.2 of the NRC Enforcement Policy, this violation was categorized as Severity Level IV because the resulting changes were evaluated by the SDP as having very low safety significance (Green).

This finding had a cross-cutting aspect in the Operating Experience component of the Problem Identification and Resolution (PI&R) cross-cutting area [P.2.(b)] because the licensee failed to make adequate use of known industry operating experience in the evaluation of a modification.

Enforcement: 10 CFR Part 50.59, "Changes, Tests, and Experiments," Section (c)(2)(ii), requires, in part, that the licensee obtain a license amendment prior to implementing a proposed change to the plant that would result in more than a minimal increase in the likelihood of occurrence of a malfunction of a structure, system or component important to safety previously evaluated in the UFSAR.

Contrary to the above, on August 7, 2008, the licensee implemented Engineering Change 362168 and EOP 1/2BFR H.1, which resulted in more than a minimal increase in the likelihood of occurrence of a malfunction of a structure, system or component important to safety previously evaluated in the UFSAR, without obtaining a required license amendment. Specifically, Engineering Change 362168, Revision 0, dated August 7, 2008, approved a modification to add a crosstie line between the Unit 1 and Unit 2 "A" AF trains to permit the sharing of the Unit 1 and Unit "A" AF trains between the Units and the modification was subsequently installed. The crosstie piping was isolated with the use of two manual closed and locked isolation valves and was controlled by EOP 1/2BFR H.1, "Loss of Secondary Heat Sink." In accordance with the Enforcement Policy, the violation was classified as a Severity Level IV violation because the underlying technical issue was of very low safety significance. Because this violation was of very low safety significance, was not repetitive or willful, and was entered the licensee's CAP as IR 1257908, this violation is being treated as an NCV, consistent with Section 2.3.2 of the NRC Enforcement Policy. **(NCV 05000454/2011004-02; 05000455/2011004-02, Modification of the Auxiliary Feedwater System Without Prior NRC Approval)**

XII. (Federal Register 13966, Volume 48, No. 64, Friday April 1, 1983 / Rules and Regulations) Discussion on 50.54(x) statements of consideration.

- Statements of consideration 13966: *"However, technical specifications also require the implementation of a wide range of operating procedures which go into great detail as to actions to be taken in the course of operation to maintain facility safety. These procedures are based on the various conditions – normal, transient, and accident conditions – analyzed as part of the licensing process. Nevertheless, unanticipated circumstances can occur during emergencies. These circumstances may call for response different from any considered during the course of licensing – e.g. the need to isolate the accumulators to prevent nitrogen injection to the core while there was still substantial pressure in the primary system was unforeseen in the licensing process before TMI-2; thus, the technical specifications prohibited this action.*

  "Technical specifications or license conditions can be amended by NRC, **and the rule is not intended to apply in circumstances where time allows this process to be followed.** The rule would apply only to those emergency situations where action by the licensee is required immediately to protect the public health and safety – action which may be contrary to a technical specification or a license condition

  "It is the intent of the rule to allow deviations from license requirements only in the special circumstances described. **It is not intended that licensees be allowed to deviate from procedures and other license requirements where these are applicable."**

  *"The rule also requires a licensee, under 50.72, to notify the NRC Operations Center by telephone of emergency circumstances requiring it to take an action that departs from a license condition or a technical specification." The rule does not require the concurrence of NRC personnel. Receiving the 'concurrence" or "approval" of NRC personnel would amount to a licensee amendment using procedures contrary to those existing for amendments. The rule specifically applies to emergency situations where immediate action is needed**, and time is not available for a license amendment**" Requiring the concurrence of NRC personnel available at the time tends to shift the burden of safety from the licensee to NRC – contrary to the rule's intent. It could also shift the burden to NRC personnel on site who may be unqualified to concur in a proposed licensee action."*

  "The whole purpose of the proposed amendments is to provide flexibility in situations that cannot be anticipated".

  "Whereas the conditions under which a deviation is allowed are not describe at length, nevertheless, the deviation criteria are quite specific: the licensee must be faced with an emergency situation in which compliance with the licensee is posing a barrier to effective protective action and rapid protective action is needed."

  "The NRC would review a licensee's use of the rule to determine answers to the following types of questions"

a. ***Did the licensee have to act immediately to avert possible adverse consequences to public health and safety?***

b. ***Was adequate or equivalent protective action that is consistent with the license immediately apparent?***

c. ***Was the action reasonable? Based on information available at the time did it serve to protect the public health and safety? Did the licensee deviate from its licensee only to the extent necessary to meet the emergency?***

d. ***Was there time for an amendment of the licensee to be approved by NRC?***

Answers to these questions should be adequate to determine if the rule had been violated.

XIII. Primary Bleed and Feed has been approved as an adequate method to protect public health and safety at Byron.

- *Safety Evaluation Report NUREG-0876, Supplement 2, Safety Evaluation Report related to the operation of Bryon Station Units 1 and 2, January 1983*

  Page 10-2, "As previously noted in the SER, the ***favorable*** *design features provide added assurance that the probability of core melt as a result of feedwater transients initiated by loss of offsite is within an acceptable range because*

  (1) The ***steam generator dry out time is at least 30 minutes****, which provides time for operators or plant personnel to restore AFW and/or offsite power and main feedwater;*
  (2) ***The Bryon units have two PORVs and high-pressure safety injection pumps, both of which may provide a viable feed and bleed mode of decay heat removal****;*
  (3) The Bryon station is located in a reliable grid system that has a low loss of offsite power frequency. . . "

- HP, Rev. 3, FR-H.1, "Background Information for Westinghouse Owners Group Emergency Response Guidelines, FR-H.1, Response to Loss of Secondary Heat Sink"

  "The objective of guideline FR-H.1 is to maintain reactor coolant system (RCS) heat removal capability by establishing feed flow to a steam generator **or by establishing RCS bleed and feed heat removal**. . . "

  "Guideline FR-H.1 may be existed at several locations depending on the status of secondary heat sink and whether RCS bleed and feed heat removal has been initiated,"

  2.2.1 Bleed and Feed Transient Analysis

  The acceptance criterion used in the analyses to indicate successful bleed and feed cooling was that the core-exit vapor temperatures shall not exceed 1200 F on the average fuel rod channel. *That is, when the average temperature is at 1200 F or less,* ***the 10 CFR 50.46 criteria for clad temperatures less than 2200 F can be satisfied. This temperature is the acceptance criterion used in PRA studies as well as a symptom of an inadequate cooled reactor core.*** *This acceptance criterion was considered appropriate for a beyond-design-basis event.*

- NuREG/CR-3096, BNL-NuReg-51633, Review of the Byron/Braidwood Units 1 and 2 Auxiliary Feedwater System Reliability Analysis,

  - 2.1 the mission of the AFWS is to provide feedwater to the steam generators in the event of LMFW. Core damage will result if decay heat is not removed in sufficient quantity, either by producing steam in the steam generators or by allowing hot primary coolant to escape via the

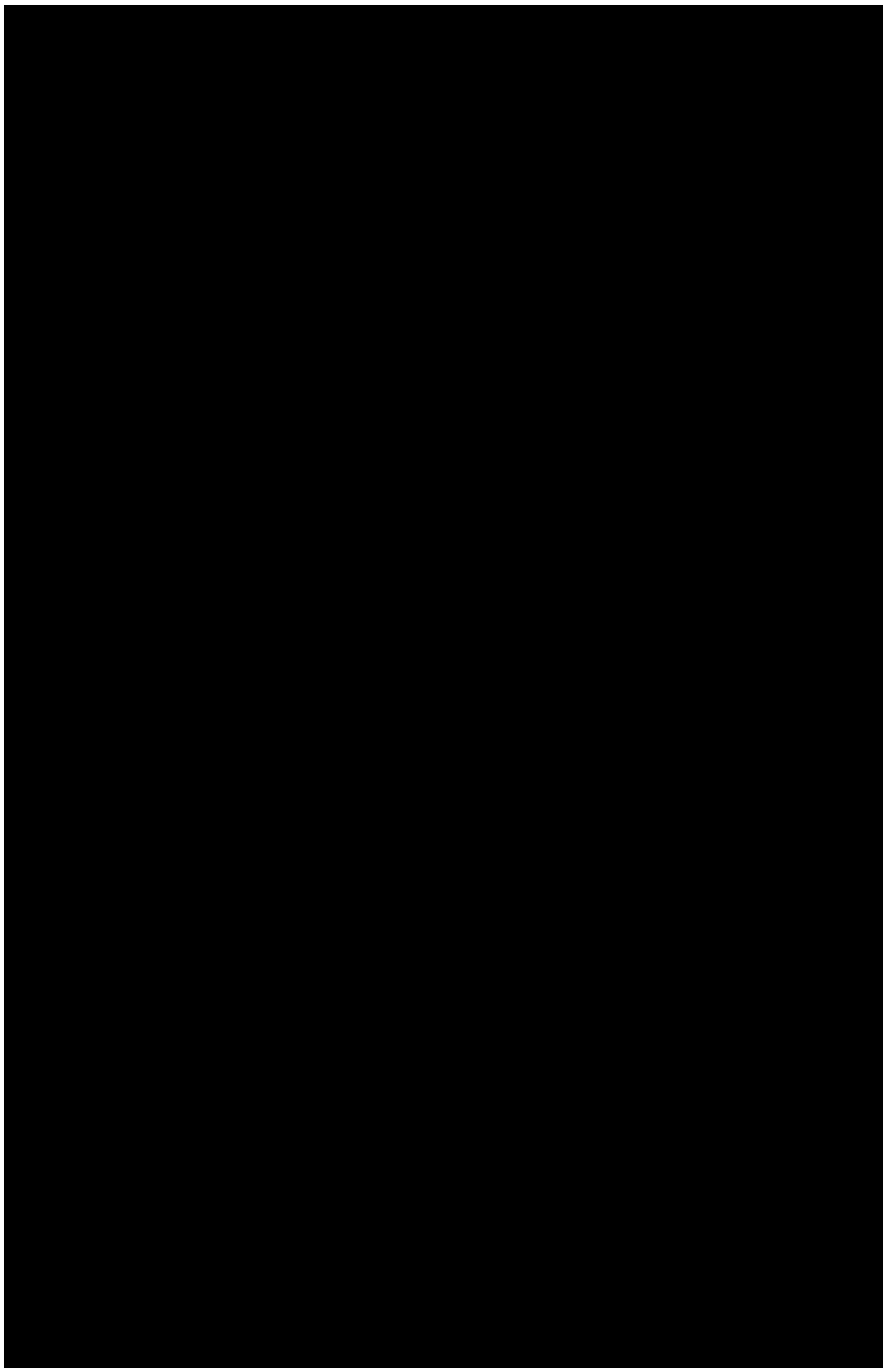
pressurizer while replenishing it with high-pressure injection “feed-and-bleed”

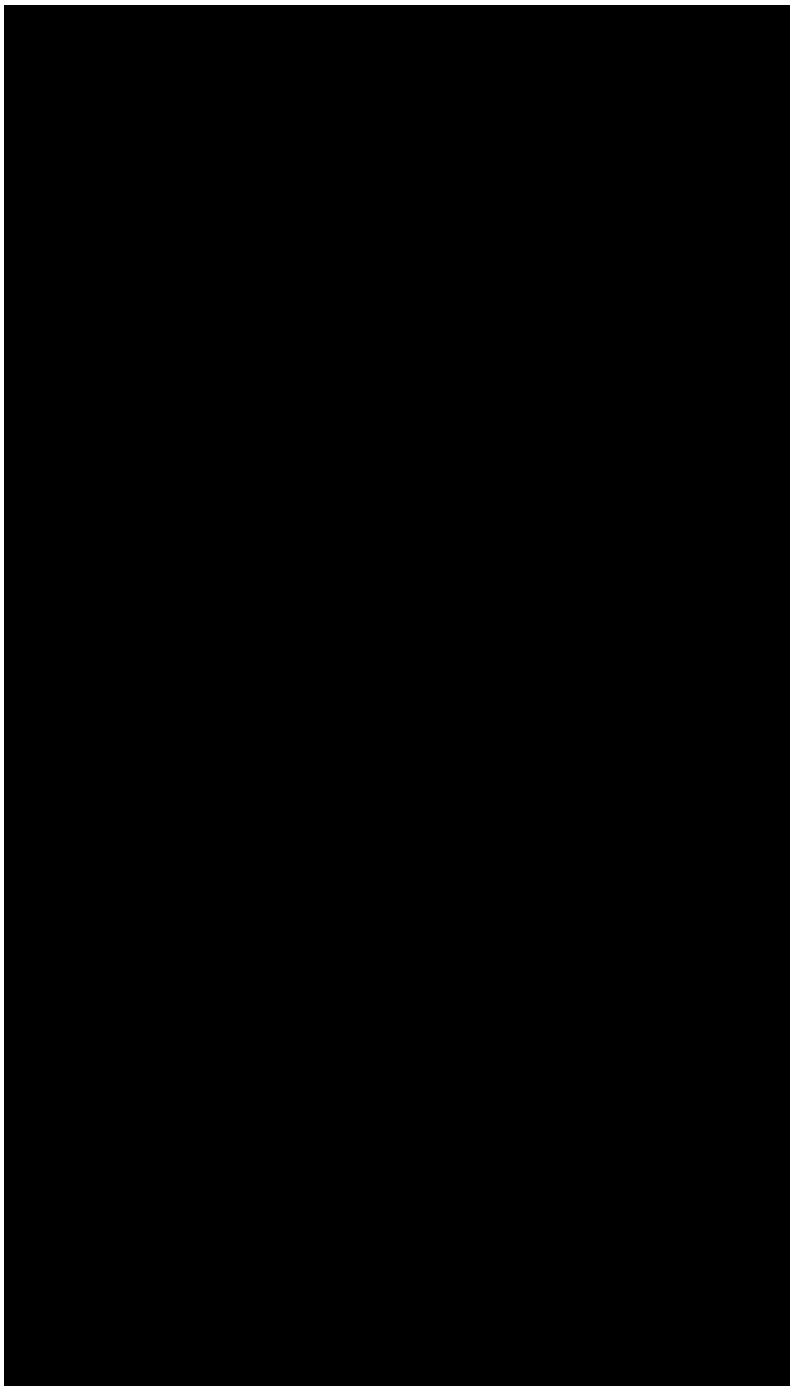
- Letter from Byron Site Vice President to Office of Nuclear Reactor Regulation, DY- 96-0323, Transmittal of Byron Station Individual Plant Examination of External Events Submittal Report
    - *4.9 USI A-45 and other Safety Issues*
        - *A third, less preferred method is “Bleed and Feed” “Bleed and Feed” is established by running at least one of two CV Centrifugal Charging Pumps or one of two SI pumps, opening two Pressurizer (PORVs), and use of the Refueling Water Storage Tank (RWST). The impact of a fire on the Hot Standby DHR function is not significant since a number of safe shutdown pathways exists”. .*

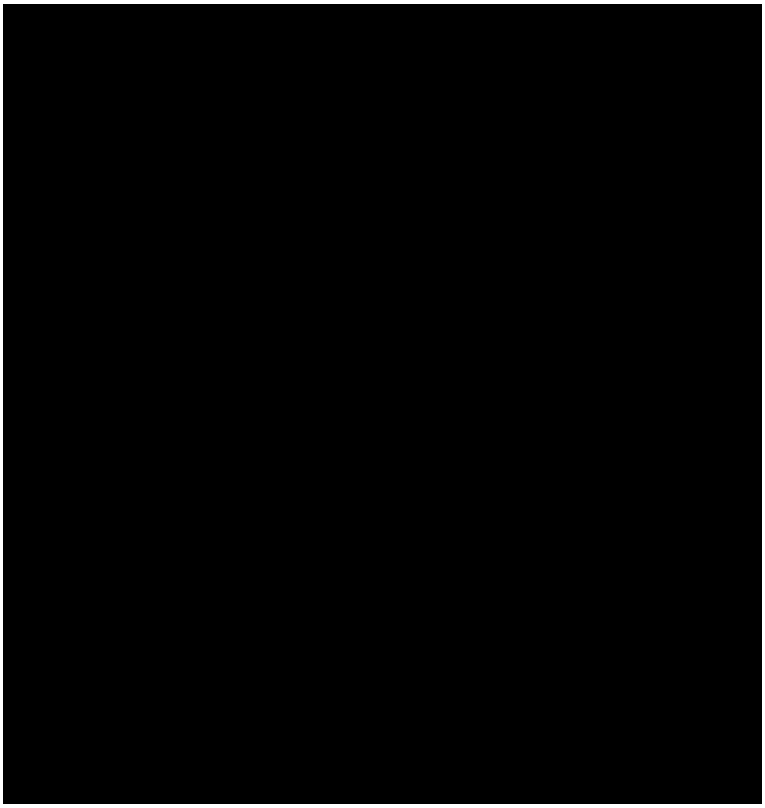
XIV. Docket issues with AFW cross-tie LAR.

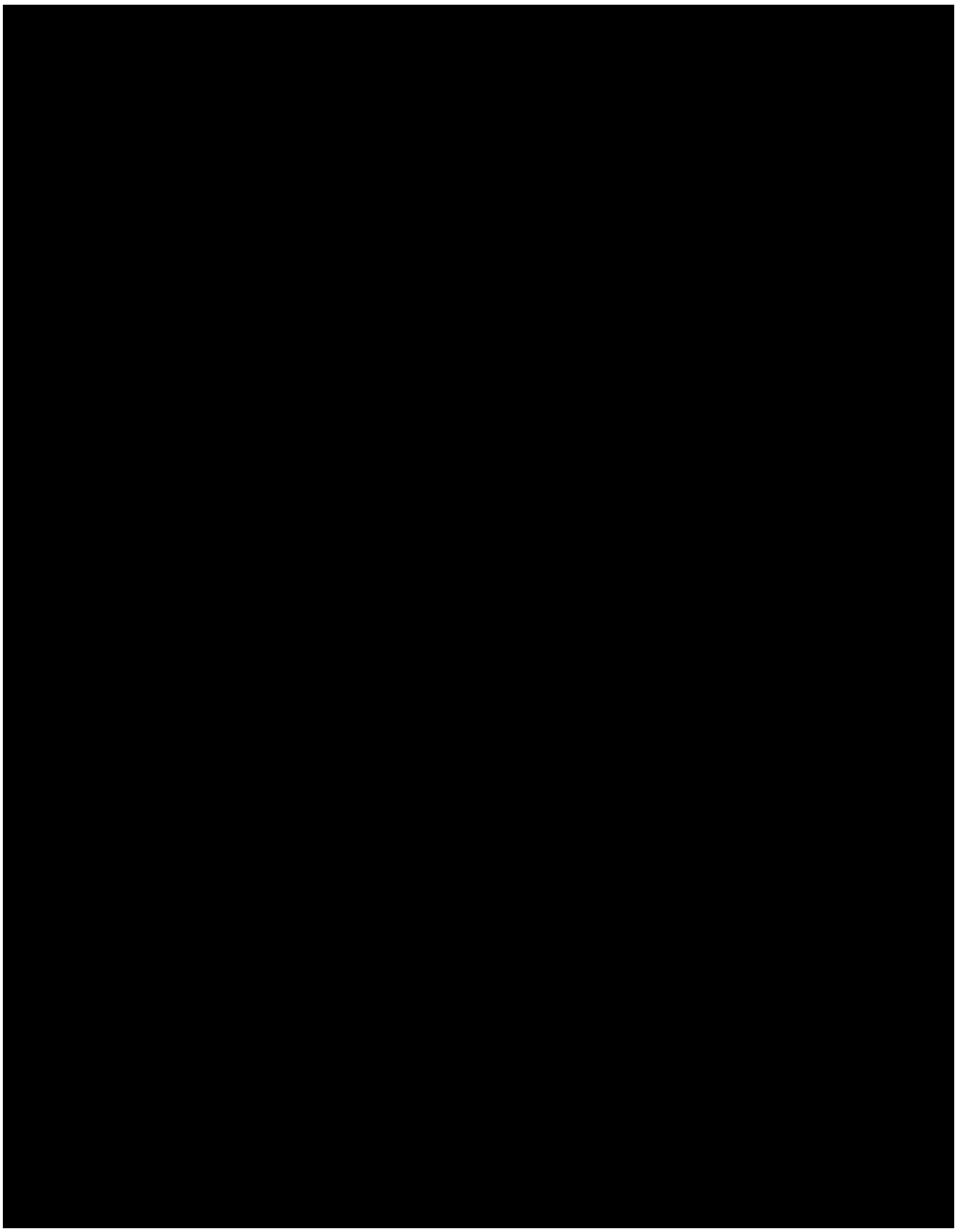
- **Reference: (RS-13-007, February 1, 2013, "Response to Request for Additional Information Regarding the Use of an Auxiliary Feedwater Cross-tie Between Units"**

    - RAI-1, "The staff finds by implementing the AFW cross-tie between the units, the licensee adversely affects the non-accident unit's AFW system ability to mitigate an accident, because it can no longer sustain a single failure and perform its safety function. The staff finds the licensee proposed change to the UFSAR unacceptable. Provide justification why the staff should not deny the application."

xv. 







XVII. (ML 043440415) Janice E. Moore, Deputy Assistant General Counsel for Advance Reactors, License Renewal and Special Proceedings memo to Mr. A. Edward Scherer, Manager of Nuclear Regulatory Affairs, Southern California Edison, P.O. Box 128, San Clemente CA 20555-0001

Letter from Janice E. Moore, Deputy Assistant General Counsel, Office of the General Counsel, to Mr. A. Edward Scherer dated February 5, 1999.

This is in response to your letter, dated October 6, 1998, requesting an opinion on the scope of 10 C.F.R. § 50.54(x). In the enclosure 1o your letter, you posit the following:

> *When an emergency exists at one unit of a multi-unit site, a licensee may use 10 C.F.R. § 50.54(x) to take reasonable action (either ad hoc or pre-planned) that departs from the license conditions, technical specifications, or regulations applicable to any unit at the site, when such action is Immediately needed to protect the public health and safety and no action consistent with the license conditions. technical specifications, and regulations that can provide adequate or equivalent protection is immediately apparent. This action specifically includes taking a unit that is currently operating within its design and licensing basis to a condition that is beyond its design and licensing basis when such action is immediately needed to protect the public health* ***and safety and no action consistent with the license conditions, technical specifications, and regulations that can provide adequate or equivalent protection is immediately apparent.***

Enclosure at 8. Although the enclosure to your letter describes a specific factual situation regarding which we express no view,' for the reasons discussed below, we believe that as a general matter, the type of situation you appear to envision is not prohibited by 10 C.F.R. § 50.54(x).

Neither the regulation nor the accompanying Statement of Considerations referred to above, however, address the circumstance raised in your letter and its enclosure, namely, the possibility of taking a unit at a multi-unit site that is currently operating within its design and licensing basis to a condition that is beyond its design and licensing basis in order to protect another unit when such action is immediately needed to protect the public health and safety ***and no action consistent with the license conditions, technical specifications, and regulations that can provide adequate or equivalent protection is immediately apparent.*** *On the other hand, the Commission was emphatic that the "whole purpose of the proposed amendments [to add section 50.54(x) was] to provide flexibility in situations that [could not] be anticipated." 48 Fed. Reg. at 13968.* ***The Commission went on to specifically observe that "any attempt to define in more detail the precise circumstances under which a deviation would be permissible is bound to exclude a circumstance where deviation might be entirely appropriate."*** *Thus, as a broad proposition,* ***we believe that although 10 C.F.R. § 50.54(x} does not expressly provide for the type of action you suggest****, such action is not prohibited in appropriate circumstances.*

This regulation was promulgated in its broadly worded form to acknowledge both the inability to define in advance all emergency circumstances under which departure from requirements imposed by Commission regulations or by the terms of a specific license or its associated technical specifications might be in the best interest of assuring public health and safety, and to prescribe the types of specific actions that should be taken. Notwithstanding that this regulation· thus anticipated that these matters would likely be decided at the time of need, prudent regulatory action by both the NRC and licensees has encouraged the development of pre•planned measures to the extent that situations can be predicted in accident procedures and guidelines. The staff has, nonetheless, noted its expectation that, as a general matter, while actions may have been pre-planned, their implementation in the immediate aftermath of a specific accident would likely involve the invocation of 1 0 C.F.R: § 50.54(x). See Letter from Gary M. Holahan, Director, Division of Systems Safety and Analysis, Office of Nuclear Reactor Regulation, NRC, to David Modeen, Nuclear Energy Institute, January 28, 1998. ***We also note that to the extent that such pre-planned measures may involve current changes to a facility or procedures described in the Final Safety Analysis Report for a given facility, as updated, it is incumbent on a licensee to follow the provisions of 10 C.F.R. § 50.59.***

Based on the foregoing. we are of the view that the type of actions suggested by your letter and its enclosure, as described above, are not, as a general matter, prohibited, in appropriate circumstances, by 10 C.F.R. § 50.54(x). We trust that this letter resolves your question

XVIII **ML 14231A536, ML14231A535, Example of Industry Perspective to NRC. Letter dated August 19, 2014, to Mr. Jack David, Director, Mitigating Strategies Directorate, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001 to from Nicholas Pappas, Beyond Design Basis Change Process**

Mr. Jack R. Davis

Director, Mitigating Strategies Directorate

Office of Nuclear Reactor Regulation

U.S. Nuclear Regulatory Commission

Washington, DC 20555-0001

Subject: Beyond Design Basis Change Process

Project Number: 689

Dear Mr. Davis:

The Nuclear Energy Institute (NEI)1 and an industry task force have developed and are seeking NRC endorsement of the attached technical position which illustrates the protocol for addressing changes to the physical plant, procedures and processes during implementation of actions in a Beyond Design Basis (BDB) event. **The attached industry technical position provides the basis that supports the application of change control requirements during BDB events, as well as describing the required evaluations during design-basis conditions.**

Position

. . . When implementing Order EA-12-049, changes will be made to the physical plant, procedures, and processes. These changes have potential impacts both within and outside the design-basis of the plant (e.g., Extended Loss of All AC Power [ELAP]). ***To the extent a change impacts the plant/actions during design-basis conditions, those impacts must be evaluated in accordance with the applicable change control requirements (e.g., 10 CFR 50.59, 10 CFR 50.54(p), or 10 CFR 50.54(q)) and the applicable program documents updated (e.g., Technical Specifications, Security Plan, Fire Protection Program).***

To the extent the change only impacts the plant/actions during beyond design-basis conditions/emergencies, these change control requirements do not apply and the change would screen out. This is consistent with the guidance in NEI 96-07, Rev. 1 for changes that are outside the design-basis. In addition, the applicable program documents (e.g., fire protection, security, and emergency) would not be changed. Any necessary deviations from design-basis requirements would be implemented in accordance with the authority provided in 10 CFR 50.54(x), 10 CFR 73.55(p), and 10 CFR 72.32(d).

Basis

NRC Order EA 12-049 contains the following:

Guidance and strategies required by this Order would be available if the loss of power, motive force, and normal access to the ultimate heat sink to prevent fuel damage in the reactor and SFP affected all units at a site simultaneously.

These conditions are outside the licensing and design-basis set of conditions for currently licensed plants. ***As discussed in the Order, the evaluated beyond-design-basis external event impacts all units at a multi-unit site simultaneously, and therefore a staggered ELAP is not required to be considered with respect to the mitigating strategies.*** *Although, the FLEX strategies are designed for this specific set of beyond design-basis conditions, the FLEX strategies are "diverse and flexible" such that they can be implemented for many different conditions. This is due to it not being possible to predict the exact site conditions following a beyond design-basis external event or the duration of the associated coping and recovery.*

During the development of the guidance to implement Order EA-12-049, it was realized that many of the actions taken in response to a beyond design-basis external event would not be compatible with the design and licensing basis or actions typically taken during normal operations and design-basis events. To address this, NEI 12-06, Revision 0 provides the following guidance concerning the regulatory treatment of changes associated with implementation of Order EA-12-049.

11.4.4 Regulatory Screening/Evaluation

NEI 96-07, revision 1, and NEI 97-04, revision 1 should be used to evaluate the changes to existing procedures as well as to the FSG to determine the need for prior NRC approval. Changes to procedures (EOPs or FSGs) that perform actions in response events that exceed a site's design basis should, per the guidance and examples provided in NEI 96-07, Rev. 1, screen out. Therefore, procedure steps which recognize the beyond-design-basis ELAP/LUHS has occurred and which direct actions to ensure core cooling, SFP cooling, or containment integrity should not require prior NRC approval.

To the extent the change only impacts the plant/actions during beyond design-basis conditions, the change is not affecting a design function, method of performing or controlling a function, or an evaluation that demonstrates that intended functions will be accomplished. *The NEI 12-06 view that changes to procedures for beyond design-basis events screen out in a 50.59 review, is consistent with the Statements of Consideration for the 10 CFR 50.59 Rulemaking provided in Federal Register/Vol. 64, No. 191/Monday, October 4, 1999 which stated:*

The Commission has modified the proposed rule language for "change" to be responsive to the issues raised by these comments. In particular, for comment (a), the Commission has incorporated into the definition of "change" the phrase "that affects design function, method of performing or controlling a function, or an evaluation that demonstrates that intended functions will be accomplished."

The definition of change language will allow licensees to eliminate the need to further assess specific changes against the criteria in the rule because the nature of the change would never meet the criteria of the rule and require prior NRC review before implementation (known in the industry as a screening review).

This is also consistent with NRC TIA 2009-011 which states in part:

Where procedures are changed to address actions for severe accidents and only affect the beyond design basis unit, the guidance in NEI 96-07 applies in that a 10 CFR 50.59 evaluation is not required. When the procedure change addresses actions for severe accidents involving a unit that is not part of the event, then 10 CFR 50.59 applies regardless of whether the action is attempting to provide mitigation actions to help the unit in the severe accident. This ensures that the 10 CFR 50.59 requirements for considering the risk and consequences of the action are evaluated in determining whether prior NRC approval is needed.

Therefore, for a single Unit site any procedures/guidance developed for the Orders that is intended to be used when the facility is within design-basis, requires the appropriate change process (e.g. 50.59) to be used. Additionally, the impacts of any facility modifications on design-basis conditions must be evaluated. To the extent the change only impacts the

plant/actions during beyond design-basis conditions these normal change control requirements do not apply.

For a Multi-unit site TIA 2009-011 stated "When the procedure change addresses actions for severe accidents involving a unit that is not part of the event, then 10 CFR 50.59 applies regardless of whether the action is attempting to provide mitigation actions to help the unit in the severe accident." This is true for a situation in which the authority provided in 10 CFR 50.54(x), 10 CFR 73.55(p) and 10 CFR 72.32 (d) is not utilized. . .

XIX. Submitted but not approved 50.59

Introduction and Description: As discussed in this non-concurrence.

Analysis: Recommend detailed risk eval and ARB due to performance deficiency resulting in a potential loss of AFW safety function. Consider effect upon ability of NRC to regulate.

Enforcement: 10 CFR Part 50.59, "Changes, Tests, and Experiments," Section (c)(2)(ii), requires, in part, that the licensee obtain a license amendment prior to implementing a proposed change to the plant that would result in more than a minimal increase in the likelihood of occurrence of a malfunction of a structure, system or component important to safety previously evaluated in the UFSAR.

- *NRC Regulatory Guide 1.187, November 2000, "Guidance for Implementation of 10 CFR 50.59, Changes, Tests, and Experiments".*

  C. REGULATORY POSITION

  Revision 1 of NEI 96-07, "Guidelines for 10 CFR 50.59 Evaluations", dated, November 2000, provides methods that are acceptable to the NRC staff for complying with the provisions of 10 CFR 50.59.

  D. IMPLEMENTATION

  The purpose of this section is to provide information to licensees and applicants regarding the NRC staff's plans for using this regulatory guide.

  Except in those cases in which a licensee proposes an acceptable alternative method for complying with the specified portions of the NRC's regulations, the methods described in the guide will be used in the evaluation of licensee compliances with the regulation of 10 CFR 50.59.

- *NEI 96-07*

  Section 3.3 Change

  Definition: Change means a modification or addition to, or removal from, the facility or procedure that affects: (1) a design function, (2) method of performing or controlling the function, or (3) an evaluation that demonstrates that intended function, (3) an evaluation that demonstrates that intended function will be accomplished.

  Section 3.2

  The term "accidents" refers to the anticipated (or abnormal) operational transients and postulated design basis accidents that

are analyzed to demonstrate that the facility can be operated without undue risk to the health and safety of the public. ***The term "accidents" encompasses other events for which the plant is required to cope and which are described in the UFSAR (e.g., turbine missiles, fire, earthquakes and flooding).*** *Note that, although fire is an event for which a plant is required to cope and is described in the UFSAR (by reference to the Fire Hazards Analysis for some licensees), changes to the fire protection program are governed by licensee requirements other than 10 CFR 50.59, as discussed in Section 4.1.5.*

Accidents also include new transients or postulated events added to the licensing basis based on new NRC requirements and reflected in the UFSAR pursuant to 10 CFR 50.71(e), e.g., ATWS and SBO.

Additions and removals to the facility or procedures can adversely impact the performance of SSCs and the bases for the acceptability of their design and operations. The definition of change includes modification of an existing provisions (e.g. SSC design requirement, analysis method or parameter) additions or removals (physical removals, abandonment, or non-reliance on a system to meet a requirement) to the facility or procedures.

The definitions of 'change…," "facility…" (see Section 3.6), and "procedures…" (see Section 3.11) make clear that 10 CFR 50.59 applies to changes to underlying analytical bases for the facility design and operations as well as for changes to SSCs and procedures.

Design function means an SSC function that is credited in safety analyses or that support or impacts an SSC function credited in safety analyses. This may include (1) functions performed by safety-related SSCs or non-safety-related SSCs, and (2) function of non-safety-related SSCs that, if not permitted, would initiate a plant transient or accident. Design functions include the conditions under which intended functions are required to be performed, such as equipment response times, environmental and process conditions, equipment qualification, and single failure.

3.9 Malfunction of an SSC Important o Safety

Malfunction of SSCs important to safety means the failure of SSCs to perform their intended design functions described in the UFSAR (whether or not classified as safety-related in accordance with 10 CFR 50, Appendix B).

Guidance and examples for applying this definition is provided in Section 4.3

4.3.2 Does the Activity Result in More than a Minimal Increase in the Likelihood of Occurrence of a Malfunction of an SSC Important to Safety?

> *The term "malfunction of an SSC important to safety" refers to the failure of structures, systems and components (SSCs) to perform their intended design functions – including both non-safety-related and safety-related SSCs. The cause and mode of a malfunction should be considered in determining whether there is a change in the likelihood of a malfunction. The effect or result of a malfunction should be considered in determining whether a malfunction with a different result is involved per Section 4.3.6*
>
> ***The following changes would require prior NRC approval*** *because they would result in more than a minimal increase in the likelihood of occurrence of a malfunction of an SSC important to safety:*
>
> *2. The change would* ***reduce system/equipment redundancy****, diversity, separation, or independence.*
>
> ***"Further, departures from the design, fabrication, construction, testing, and performance standards as outlines in the General Design Criteria (Appendix A to Part 50) are not compatible with a "no more than minimal increase" standard.***

[redacted]

Specifically, EOP 1/2 BFR H.1, Revision 300 added a caution and note statement that expressed management's expectation to use the unapproved unit to unit AFW cross-tie before the approved primary bleed and feed method. A similar change had previously been identified as a SL IV 10 CFR 50.59 Green NCV (Ref: Severity Level IV NCV of 10 CFR 50.59 in Inspection Report 05000454/2011004; 05000455/2011004 as NCV 05000454/2011004-02; 05000455/2011004-02, "Modification of the Auxiliary Feedwater System Without Prior NRC Approval".) A similar change that had been previously submitted to NRC via a 10 CFR 50.90 amendment as a corrective action to NCV 05000454/2011004; 05000455/2011004 as NCV 05000454/2011004-02; 05000455/2011004-02 request but subsequently withdrawn. The impact of this change results in auxiliary feedwater system redundancy reduction in the donating unit while mitigating a beyond design basis event in the other unit. In the case where the donating unit diesel driven "B" train AFW is already unavailable, a complete loss of AFW safety function can occur to the donating unit as observed by the inspectors during a licensee simulated event. A loss of AFW safety-related system redundancy or loss of AFW safety-related system function is a more than minimum impact in accordance with endorsed NRC guidance documents.

XX. Submitted but not approved 50.71(e) violation

Introduction and Description: As discussed in this non-concurrence.

Analysis: Recommend detailed risk eval and ARB due to performance deficiency resulting in a potential loss of AFW safety function. Consider effect upon ability of NRC to regulate.

Enforcement : 10 CFR 50.71(e): Each person licensed to operate a nuclear power reactor under the provisions of 50.21 and 50.22, and each applicant for a combined license under part 52 of this chapter, shall update periodically, as provided in paragraphs (e)(3) and (4) of this section, the final safety analysis report (FSAR) originally submitted as part of the application for the licensee, to assure that the information included in the report contains the latest information developed. This submittal shall contain all the changes necessary to reflect information and analyses submitted to the Commission by the applicant or licensee or prepared by the applicant or licensee pursuant to Commission requirement since the submittal of the original FSAR, or as appropriate, the last update to the FSAR under this section. The submittal shall include the effects of all changes made in the facility or procedures described in the FSAR; all safety analyses and evaluations performed by the applicant or licensee either in support of approved licensee amendments or in support of conclusions that changes did not require a license amendment in accordance with 50.59 or, in the case of a licensee that references a certified design, in accordance with 52.98(c) of this chapter, and all analyses of new safety issues performed by or on behalf of the applicant or licensee at Commission required. The updated information shall be appropriately located within the update to the UFSAR.

(4) Subsequent revisions must be filed annually or 6 months after each refueling outage procedure the interval between successive updates does not exceed 24 months. The revisions must reflect all changes up to a maximum of 6 months prior to the date of filing. For nuclear power reactor facilities that have submitted the certifications required by 50.82, subsequence revisions must be filed every 24 months.

[redacted]

XXI. Submitted but not approved TS violation for following

Introduction and Description: As discussed in this non-concurrence

Analysis: Recommend detailed risk eval and ARB due to performance deficiency resulting in a potential loss of AFW safety function. Consider effect upon ability of NRC to regulate.

Enforcement:

- *Technical Specification 5.0 ADMINISTRATIVE CONTROLS, 5.4 Procedures*, require,

5.4.1 Written procedures shall be established, implemented, and maintained covering the following activities:

a. The applicable procedures recommended in Regulatory Guide 1.33, Revision 3, Appendix A, February 1978

- *Regulatory Guide 1.33, Revision 2, February 1978*

2. Administrative Procedures, d. Procedure Adherence and Temporary Change Method

6. *Procedures for Combating Emergencies and Other Significant Events, j. Loss of Feedwater or Feedwater System Failure*

- *Licensee Procedure AD-AA-101-1002, "Writer's Guide for Procedures and T&RM), Revision 17*

Main Body 4.2.8, Directive Term Usage

***Should:** Denotes a management expectation.*

Step 25. WRITE Notes consistent with the following:

USE notes to provide descriptive or explanatory information to aid the user in performing a step or subsection

Step 26. WRITE Cautions consistent with following:

USE Cautions to alert personnel to possible equipment/component damage; or violation of rules, regulations, or work practices.

- EOP Byron Emergency Operating Procedure 1/2 BFR-H.1, Revision 300, Response to Loss of Secondary Heat Sink Unit ½

Between Step 2 and Step 3.

"NOTE:

If at any time it has been determined that restoration of feed flow to any SG is untimely or may be ineffective in heat sink restoration, then the AF cross-tie should be implemented per Step 5 (Page 8)."

After Step 4 and before step 5.

"CAUTION

The AF cross-tie should be implemented per Step 5 if other attempts to restore feed flow to the SG(s) will not prevent the initiation of feed and bleed. Use of the AF crosstie requires invoking 50.54(x)."

5. CROSSTIE TRAIN A AF FROM UNIT 2/1:

ACTION/EXPECTED RESPONSE COLUMNM

a. Shift Manage has:

- Determined other heat sink restoration efforts are not available or are untimely
- Has implemented 10 CFR 50.54(x)
- Approved implementation of 1BFSG-3, ALTERNATE LOW PRESSURE FEEDWATER for AF crosstie

RESPONSE NOT OBTAINED :

a. When the Shift Manager has determined AF cross-tie is required, THEN RETURN TO Step 5. GO TO Step 6

[redacted]

[redacted]

The "note" statement provided management's expectation for Operations to use the unapproved AFW cross-tie before the approved bleed and feed method which extends beyond the "notes" purpose of "*USE Notes to provide descriptive or explanatory information to aid the user in performing a step or subsection."*

Additionally, the "caution" statement provided management's expectation to use the unapproved AFW cross-tie before the approved bleed and feed method which extends beyond the "caution" purpose of "*USE Cautions to alert personnel to possible equipment/component damage; or violation of rules, regulations, or work practices."*

*Additionally, management's expectation for implementing 10 CFR 50.54(x) for a predetermined set of condition involving a unit operating within its design and licensing basis donating a train of safe shutdown equipment before exhausting all approved methods in the beyond design basis unit is not in accordance with **any** allowances in the Procedure Writer's guide. 10 CFR 50.54(y) authority relies upon the approval, as a minimum, by a licensed senior operators, or, at nuclear reactor facility for which the certification required under 50.82(a)(1) have been submitted, by either, a licensed senior operator or a certified fuel handler, prior to taking the action.*

XXII. References:

1. ML12033A023, RS-12-06, January 31, 2012, “Licensee Amendment Request for the use of an Auxiliary Feedwater Cross-tie Between Units”
2. ML13035A017, RS-13-007, February 1, 2013, “Response to Request for Additional Information Regarding the Use of an Auxiliary Feedwater Cross-tie Between Units”
3. ML15154B363, RS-15-166, June 3, 2015, “Withdrawal of License Amendment Request for the Use of an Auxiliary Feedwater Cross-tie Between Units”
4. Federal Register 13967, Vol. 48, No. 64/ Friday, April 1, 1983/ Rules and Regulations, 10 CFR Part 50 Applicability of License; Conditions and Technical Specifications in an Emergency, Agency: Nuclear Regulatory Commission, Action: Final Rule
5. ML 15232A683, “Byron and Braidwood Stations Auxiliary Feedwater System – Unit Cross-Tie License Amendment Request”, August 27, 2015
6. ML 14251A485, “Byron / Braidwood Auxiliary Feedwater Cross-tie License Amendment Request”, September 10, 2014
7. ML14203A313, 2014/07/22 NRR E-mail Capture – Request for Additional Information Regarding Braidwood/Byron LAR Regarding Auxiliary Feedwater
8. ML14226A499, 2014/08/14 NRR E-mail Capture – Clarification of July 22, 2014, Request for Additional Information Regarding Braidwood/Byron LAR Regarding Auxiliary Feedwater Cross-tie
9. ML15272A210, Summary of August 27, 2015 Meeting with Exelon Generation Company LLC to Discuss Proposed Submittal Related to Auxiliary Feedwater Cross-Tie (TAC Nos. MG6378, MF6370, MF6380, MF6381)
10. ML 15203A50, “Turbine Driven Auxiliary Feedwater Cross-tie License Amendment Request Point Beach Nuclear Plan Units 1 & 2”, July 28, 2015
11. ML 14191B148, “Updated Talking Points for July 17, 2014, Public Teleconference with Exelon Regarding Braidwood and Bryon AFW Cross-tie Amendment”
12. ML 110490060, “Final Response to Task Interface Agreement – McGuire Nuclear Station Service Water System Unit Crossties Relative to Sharing/Donating in Abnormal Procedures (TIA 2009-011)
13. ML 043440415 Letter to Mr. A Edward Scherer from Janice Moore, dated February 9, 1999, “Opinion on the Scope of 10 CFR 50.54(x)”
14. Federal Register 13966, Volume 48, No. 64, Friday April 1, 1983 / Rules and Regulations)
15. Byron Station Licensed Operator Requalification Simulator Scenario Guide, 2018 CDBI-2, Loss of Heat Sink, Revision 0, 12/11/2017
16. Byron Procedure AD-AA-101-1002, Revision 17, Writer’s Guide for Procedures and T&RM
17. ML14231A535, Attachment from ML14231A536
18. ML14231A536, Letter dated August 19, 2014, to Mr. Jack David, Director, Mitigating Strategies Directorate, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001 to from Nicholas Pappas, Beyond Design Basis Change Process
19. Byron Operations Standing Order 11-05-, effective 9/29/2011 to 1/31/2012
20. Background Information for Westinghouse Owners Group Emergency Response Guideline, FR-H.1, Response to Loss of Secondary Heat Sink, Rev. 3, March 31, 2014

21. NuREG-0876, Safety Evaluation Report related to the operation of Byron Station, Units 1 and 2, November 1986
22. DBA Inspection 2018 – Issue Response, Issue: 073-00
23. NuReg/CR-3096, BNL-NuREG-51633, Review of the Byron/Braidwood Units 1 and 2 Auxiliary Feedwater System Reliability Analysis, December 1982
24. Byron 10 CFR 50.59 Screen 6D-17-017, Revision 0, Response to Loss of Secondary Heat Sink Unit / Alternate Low Pressure Feedwater Unit
25. Letter from Byron Site Vice President to Office of Nuclear Reactor Regulation, DY- 96-0323, Transmittal of Byron Station Individual Plant Examination of External Events Submittal Report
26. Byron EOP 1/2 BFR H.1, Loss of Secondary Heat Sink
27. Byron UFSAR
28. Byron IPEEE
29. Byron approved SERs
30. NEI 96-07, Revision 1, 02/22/2000, Guidelines for 10 CFR 50.59 Evaluations
31. NRC Regulatory Guide 1.187, November 2000, "Guidance for Implementation of 10 CFR 50.59, Changes, Tests, and Experiments".
32. 10 CFR Part 50
33. Byron Station Technical Specifications and Technical Specification Basis Document
34. [redacted]
35. [redacted]

End Non-Concurrence

05000454/2018004 and 05000455/2018004

"Use of 10 CFR 50.54(x) for Unit AFW Cross-Tie" Closure

Non-Concurrence

Evaluation of Non-Concurrence and Rationale for Decision

Following the 2018 DBA Inspection at Byron, the inspector had several conversations with their supervisor and division management about the concerns that resulted in the URI and ultimately this non-concurrence. Over the last few years, staff from the RIII office with NRR licensing and technical experts have assessed and evaluated the issues and failed to agree on a violation of NRC requirements. Over the past year, and especially in the months leading up to the URI Closure that is the subject of this non-concurrence, the non-concurring staff have continued to engage in multiple conversations with their peers, supervisors, and division management in an attempt to resolve differences of opinion about the proposed performance deficiencies and associated proposed violations. In evaluating this non-concurrence, the NCP Approver (Deputy Division Director, Division of Reactor Safety, RIII [DRSDD]) reviewed the information and positions within this non-concurrence package, reviewed the Statements of Consideration (SOC) for both 10 CFR 50.59 (1999) and 10 CFR 50.54(x), and has conferred with agency staff who have studied this issue.

In reaching a conclusion, the DRSDD was influenced by an overriding intent established in the SOC for the issuance of 10 CFR 50.54(x). In that document, the Commission stated that “it is clear that Congress believes that licensees have authority to take whatever action is necessary to respond to emergencies involving an imminent threat to public health and safety… The rule codifies and clarifies this authority.” The DRSDD held that consideration in balance with a separate overriding intent established in the SOC for the 1999 (most current) issuance of 10 CFR 50.59. In this latter document the Commission stated that the 10 CFR 50.59 process was “structured around the licensing approach of design basis events (anticipated operational occurrences and accidents), safety related mitigation systems, and consequence calculations for the design basis accidents.”

Considering these overriding intents and inputs received by the many staff mentioned above, the DRSDD concluded that the Byron EOP modifications that are the subject of the URI, its closure, and this non-concurrence are outside the scope of 10 CFR 50.59. The DRSDD agreed with the URI closure that the subject modifications do not constitute a change as defined in the 10 CFR 50.59 regulation. The DRSDD disagreed with the PD identified in the non-concurrence and concluded that the licensee is not in violation of 10 CFR 50.59. The basis for the 10 CFR 50.71(e) violation is dependent on the PD identified in the proposed 10 CFR 50.59 violation so the DRSDD also concluded that the licensee was not in violation of 10 CFR 50.71(e). The DRSDD further disagreed with the PD identified in the non-concurrence and concluded that the licensee did not violate Technical Specification 5.4 for the EOP modifications made by the licensee. Specifically, the DRSDD concluded that the licensee appropriately used “caution” and “note” statements in accordance with licensee procedures.

The non-concurrence package contains references to and quotes from both industry guidance and NRC staff positions in a TIA for NRR Technical Assistance regarding an issue at a different facility. The DRSDD decision was based in the regulation (and intent in the related SOCs) which must be the basis all agency violations. Guidance can assist staff but cannot provide a basis for decision making.

The DRSDD acknowledged the concern raised in the NCP regarding confusion that can be caused by inconsistent guidance. Since the receipt of this non-concurrence, the agency issued new guidance to inspectors in the assessment of 10 CFR 50.59 changes in the form of

Inspection Manual Chapter 0335 “Changes, Tests, and Experiments” with an effective date of February 1, 2021. This is first-of-a-kind guidance specifically intended for inspectors in assessing licensee implementation of 10 CFR 50.59. Although this guidance does not focus on the relationship between 10 CFR 50.59 and 10 CFR 50.54(x), it does discuss broader issues that are relevant to the subject of the URI, closure, and non-concurrence. For example, the guidance explicitly talks about the relationship between 10 CFR 50.59 and 10 CFR 50.2, “Design Basis,” which could assist inspectors in the future when evaluating issues like those raised in the URI. The DRSDD recognized that this additional guidance is not a panacea, nor does it fully respond to the concern about guidance in the non-concurrence. The DRSDD further concluded that the agency will continue to develop and enhance guidance in the future to aid inspectors. However, the DRSDD also concluded that there will never be guidance for every potential situation that an inspector may encounter, and that existing guidance was sufficient in 2018 to adjudicate the issue identified in the URI as outside the scope of 10 CFR 50.59.