March 4, 2011

MEMORANDUM TO: Rick Croteau, Director
Division of Reactor Projects
Region II

FROM: Tom Blount, Deputy Director **/RA/**
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

SUBJECT: FINAL RESPONSE TO TASK INTERFACE AGREEMENT– MCGUIRE NUCLEAR STATION SERVICE WATER SYSTEM UNIT CROSSTIES RELATIVE TO SHARING/DONATING IN ABNORMAL PROCEDURES (TIA 2009-011)

By letter dated November 24, 2009, Agencywide Documents Access and Management System Accession No. ML093280025, U.S. Nuclear Regulatory Commission (NRC), Region II, requested assistance from the Office of Nuclear Reactor Regulation (NRR) in answering the following questions regarding the sharing/donating of nuclear service water (NSW) between units in Technical Specification (TS) required abnormal procedures for loss of nuclear service water (LOSW) at McGuire Nuclear Station.

1. Was the licensee['s] 10 CFR [Title 10 of the *Code of Federal Regulations*] 50.59 Evaluation 266451 correct in concluding that neither a TS change nor a license amendment is needed to implement sharing/donating a train of service water from one unit to the other during a LOSW event on one unit? Specifically, the licensee's 10 CFR 50.59 evaluation answered "No" to 10 CFR 50.59(c)(1)(i) that a TS change was not needed. By allowing this sharing, the licensee appears to have gone beyond the 1988 license amendment/TS change and safety analysis reviewed by the NRC staff that bounded the 1988 TS change discussed [in the enclosed assessment]. As such, is the licensee's determination correct that a TS change under 10 CFR 50.59(c)(1)(i) is not required?

2. Is the entry into a TS LCO [Limiting Condition for Operation] [ACTION] to allow sharing SSCs [structures, systems, and components] 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?

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3. 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? 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 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. 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."

4. Is the licensee's contention in the [10 CFR] 50.59 evaluation valid in concluding that the Loss of Nuclear Service Water (LOSW) event is a "beyond design basis event?" Would the above classification also apply to the unaffected unit operating normally at 100 [percent] power whose train of nuclear service water would be donated (resulting in a 72-hr LCO [ACTION] 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 NRR staff assessment is documented in the enclosed staff evaluation.

Docket Nos: 50-369 and 50-370

Enclosure: As stated

3. 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? 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 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. 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."

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TASK INTERFACE AGREEMENT 2009-11
MCGUIRE NUCLEAR STATION-SERVICE WATER SYSTEM UNIT CROSSTIES RELATIVE TO SHARING/DONATING IN ABNORMAL PROCEDURES

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.

By letter dated November 24, 2009, Agencywide Documents Access and Management System Accession (ADAMS) No. ML093280025, Region II requested assistance from the Office of Nuclear Reactor Regulation (NRR) in answering the following questions regarding the sharing/donating of NSW between units in Technical Specification (TS) required abnormal procedures for loss of nuclear service water (LOSW) at McGuire.

1. Was the licensee's 10 CFR [Title 10 of the *Code of Federal Regulations*] 50.59 Evaluation 266451 correct in concluding that neither a TS change nor a license amendment [request] is needed to implement sharing/donating a train of service water from one unit to the other during a LOSW event on one unit? Specifically, the licensee's 10 CFR 50.59 evaluation answered "No" to 10 CFR 50.59(c)(1)(i) that a TS change was not needed. By allowing this sharing, the licensee appears to have gone beyond the 1988 license amendment/TS change and safety analysis reviewed by the NRC staff that bounded the 1988 TS change discussed [in this enclosure]. As such, is the licensee's determination correct that a TS change under 10 CFR 50.59(c)(1)(i) is not required?

2. Is the entry into a TS LCO [Limiting Condition for Operation] [ACTION] to allow sharing SSCs [structures, systems, and components] 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?

3. 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? 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 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. 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."

4. Is the licensee's contention in the 10 CFR 50.59 evaluation valid in concluding that the Loss of Nuclear Service (LOSW) event is a "beyond design basis event"? 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 [ACTION] 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) do not 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.

Background

In 1986, McGuire had an issue with a degraded Unit 2A train NSW pump. McGuire changed the NSW operating procedure (OP/1/A/6400/06) under 10 CFR 50.59 to allow for the A trains of NSW to be shared between units in order to maintain both A trains operable during unit operation. The NRC issued a TS violation and a 10 CFR 50.59 violation stating:

> The two crucial elements in a 10 CFR 50.59 evaluation are whether the change involves (1) a change in the technical specifications or (2) an unreviewed safety question. While Duke Power Company asserts that an unreviewed safety question did not exist, this violation focused on the fact that the 10 CFR 50.59 evaluation was in error in that the cross-connection would have placed the [NSW] in a configuration that which would involve a change to Technical Specification 3.7.4. The attempted cross-connection of 1A and 2A [NSW] trains should have received prior NRC review and approval. Technical Specifications 3.0.5 and 3.0.5.a support the NRC position that the NSW system was not a designated shared system in that the ACTION requirements are not indicated to apply to Units 1 and 2 as is the case for shared systems. Therefore, Technical Specification 3.7.4 applied to each unit individually.

McGuire subsequently submitted license amendment requests to clarify what portions of the NSW were shared between units (the NSW discharge crossties under review were not designated as shared) and to propose to enter the current NSW LCO action times for both units anytime a shared component was inoperable. The NRC reviewed and approved this license amendment request in 1988 (License Amendment Nos. 78 and 59 [ADAMS Accession No. ML013180513]). During subsequent conversion to Improved TS, the pages that dealt with sharing were incorporated into the TS Bases for how to address the inoperability of shared components (enter both units' action statements).

While observing licensed operator simulator training in November 2007, the inspectors identified steps in the abnormal procedure (AP) for LOSW (AP/1/A/5500/20, AP/2/A/5500/20) that allowed crossovering the NSW of one unit's safety train discharge headers to the other unit's safety train

discharge headers. This AP is required by TS 5.4.1.a (Regulatory Guide (RG) 1.33 procedures). Upon a complete LOSW, APs first direct the operators to align the same unit's containment ventilation cooling water (RV) pumps to the NSW to maintain safety function. If no RV pumps are available to provide this defense-in-depth, the procedure response not obtained column then directs the operators to Enclosure 1, which aligns an operating train of NSW from the other unit (donor unit) through manual locked-closed crossover valves that connect the NSW of both units. When these crossover valves are opened, water from the donor unit's operating NSW system will be diverted to the other unit. The amount of water diverted from the donor unit is dependent on the throttling of the valves in the system. The procedure has some minimal guidance on overall pump flow rates, based on the suction source (Lake Norman or standby NSW pond), and guidance to monitor for alarms on equipment. Both units were in Mode 1 at power for this scenario, with one train of the donor unit's NSW being out of service for maintenance. The remaining train of the donor unit was shared between the two units as was allowed by the procedure, at that time. In April 2008, the licensee received a violation for inadequate APs relating to sharing of NSW because there was not an adequate safety analysis for the sharing of NSW between units.

The licensee's UFSAR was submitted in accordance with RG 1.70, "Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants," which states that the UFSAR shall include a failure analysis to demonstrate any safety implications related to sharing of the NSW system (Section 9.2.1). The licensee's UFSAR Section 3.1 commits to 10 CFR Part 50, Appendix A, GDC-5, which states that systems 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 function. When requested by the inspectors, the licensee could not provide a GDC-5 safety analysis that showed that the procedural guidance to share the NSW discharge safety trains between units would not significantly impair their ability to perform their safety functions, including, in the event of an accident in one unit, an orderly shutdown and cool down of the remaining units. License Amendments 78 for Unit 1 and 59 for Unit 2 were approved in 1988 to clarify that portions of the NSW system are shared between the two McGuire units, but that the system is not shared in its entirety. The NSW discharge headers were specifically designated as not shared in these amendments. The licensee could not provide an additional license amendment that changed the designation of the shared portions of the NSW system. The licensee has informed the inspectors that a safety analysis does not exist to share the last remaining train on the donor unit but would like to change the LOSW AP to allow for "donating" the second train (if available) of the donor unit to the unit experiencing a complete LOSW. In April 2009, the licensee received a second violation for untimely corrective action on this issue, partially due to uncertainty of the applicability of GDC-5 to McGuire's situation for "sharing/donating" the second available train of NSW on the donor unit.

Licensee Position

GDC-5 clearly applies to SSCs relied on during UFSAR analyzed events and expected operational occurrences, such that sharing of a single train of equipment under normal operation will not significantly impair that train's ability to mitigate an accident on one unit and to conduct an orderly shutdown and cool down of the other unit.

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.

On June 16, 2009, the licensee issued 10 CFR 50.59 Evaluation 266451. This 10 CFR 50.59 evaluation addressed changes that updated Section 9.2.2 and the related table of the UFSAR; updated the TS basis for TS 3.7.7; and revised the AP for LOSW (AP/1/A/5500/20 and AP/2/A/5500/20). This 10 CFR 50.59 evaluation concluded that neither a TS change nor a license amendment is needed to implement sharing/donating a train of service water from one unit to the other during an LOSW event on one unit.

Regulatory Analysis

The requirements in 10 CFR 50.36 (b), "Technical Specifications," state that each license authorizing operation of a production or utilization facility will include TSs. Stated in 10 CFR 50.36(b), TSs will be derived from the analyses and evaluation included in the safety analysis report, and amendments thereto, submitted pursuant to 10 CFR 50.34. The Commission may include such additional TSs as the Commission finds appropriate. The regulation at 10 CFR 50.36(c)(2)(i) defines TS LCOs as the lowest functional capability or performance levels of equipment required for safe operation of a facility.

Generic Letter 91-13, Request for Information related to the Resolution of Generic Issue 130, "Essential Service Water System Failures at Multi-Unit Site," indicated that 7 sites have piping arrangements capable of allowing sharing between units which could be used to mitigate total LOSW (McGuire was one of these plants). The NRC encourages sharing to mitigate LOSW events because it can reduce the risk on the LOSW unit. The NRC encouraged licensee's to submit TS changes on sharing and provided a sample TS. McGuire's response indicated that it had procedures to allow sharing during LOSW events. McGuire has a standby makeup pump as part of the standby shutdown facility which can provide an alternate method of reactor coolant pump (RCP) seal cooling and reduces the risk from LOSW (mid E-6 versus over a decade higher for other plants). The license's ORAM risk assessment tool indicates that taking one train of service water out of service on the donor unit is an orange risk condition that requires a risk management plan.

Stated in 10 CFR 50.71(e), each licensee shall update the final safety analysis report (FSAR) originally submitted as part of the application 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 pursuant to Commission requirement. The submittal shall include the effects of all changes made in the facility or procedures as described in the FSAR. Also, the submittal shall include all safety analyses and evaluations performed by the licensee in support of conclusions that changes did not require a license amendment in accordance with 10 CFR 50.59(c)(2) along with all analyses of new safety issues performed by or on behalf of the licensee at Commission request. The updated information shall be appropriately located within the UFSAR.

Stated in 10 CFR 50.59, a licensee may make changes in the facility and procedures as described in the UFSAR. Without obtaining a license amendment, a licensee may make changes in the procedures pursuant to 10 CFR 50.90. This is only if (1) a change to TSs incorporated in the license is not required and (2) a change does not result in more than a minimal increase in the consequences of a malfunction of a SSC important to safety previously evaluated in the UFSAR.

TS 5.4.1.a requires that written procedures shall be established, implemented, and maintained for the applicable procedures recommended in RG 1.33, Revision 2, Appendix A, February 1978. RG 1.33, Revision 2, Appendix A, Typical Procedures for Pressurized Water Reactors and Boiling Water Reactors states, "the following procedures are typical safety-related activities that should be covered by written procedures. This appendix is not intended as an inclusive listing of all needed procedures since many other activities carried out during the operation phase of nuclear power plants should be covered by procedures not included in this list." Item 6, Procedures for Combating Emergencies and Other Significant Events, includes LOSW (6.g). The other procedures listed in this section are typical events that are included in the design bases. Licensee procedure, AP-20, Loss of NSW, is a LOSW procedure that addresses sharing/donating service water between units.

Prior License Amendment 78/59 issued January 4, 1988, for Units 1 and 2 respectively, showed that the NSW pumps and discharge headers were not shared system components. These license amendments identified the shared and unshared portions of the NSW by adding TS Figure 3.4 7-1 which listed the Unit 1 and Unit 2 shared valves in a TS Bases table and clarified the related surveillance requirement which is intended to be applied on a "per unit" basis. During conversion of the McGuire TS to the content and format of improved standard TSs (NUREG-1431), the figure was moved to the Bases and LCO 3.0.9 was added to address the individual unit license basis for shared SSCs required to be operable by McGuire TS.

Evaluation

The NRC staff response to the Region II questions regarding sharing/donating of NSW between units in APs for LOSW at McGuire are presented below.

Question 1: Was the licensee's 10 CFR 50.59 Evaluation 266451 correct in concluding that neither a TS change nor a license amendment is needed to implement sharing/donating a train of service water from one unit to the other during an LOSW event on one unit? Specifically, the licensee's 10 CFR 50.59 evaluation answered "No" to 10 CFR 50.59(c)(1)(i) that a TS change was not needed. By allowing this sharing, the licensee appears to have gone beyond the 1988 license amendment/TS change and safety analysis reviewed by the NRC that bounded the 1988 TS change discussed above. As such, is the licensee's determination correct that a TS change under 10 CFR 50.59(c)(1)(i) is not required?

In response to question one, the NRC staff reviewed the current licensing basis for LCO 3.7.7 and the TSs Bases change dated October 29, 2009 (which clarified the TSs Bases changes dated September 3, 2009). The pertinent part of the Bases revision states:

> "Figure B 3.7.7-1, "Nuclear Service Water System" shows the portions of system piping and valves that are shared and within the scope of GDC-5 (Ref. 5). The nuclear service water system (NSWS) pump discharge crossover valves are normally locked closed and, as reflected on figure B 3.7.7-1, do not fall within the scope of GDC-5. Consequently, when the NSWS pump discharge crossover valves are opened the NSWS trains affected by the cross-connected alignment shall be declared inoperable."

The NRC staff concludes that the Bases change was factual and did not result in a change to the operational limits in LCO 3.7.7. In accordance with LCO 3.0.2, upon discovery of failure to meet an LCO, the required actions of the associated conditions shall be met, except as provided in LCO 3.0.5 and LCO 3.0.6.

The NRC staff also reviewed the NSWS TSs and Bases in consideration of 10 CFR 50.59 Evaluation 266451 which concluded that neither a TS change nor a license amendment is needed to implement sharing/donating a train of service water from one unit to the other during a LOSW event on one unit.

The NRR staff safety assessment concluded that a license amendment and TS change are needed, contrary to the conclusions of the licensee's 10 CFR 50.59 evaluation. The applicable regulatory position with regard to the licensee evaluation is discussed in Questions 2 and 3[A.] below.

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:

> 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.

<u>Question 3</u>: [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, [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 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."

A. 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.

<u>Question 4:</u> [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.

A. 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.

B. 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.

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