

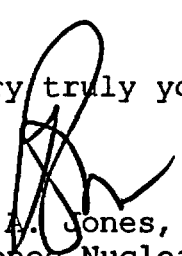
June 30, 2004
U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555

Subject: Oconee Nuclear Site
Docket Nos. 50-269, 50-270, 50-287
10 CFR 50.59 Annual Report

Attached are descriptions of Oconee facility changes, tests, and experiments which were completed subject to the provisions of 10 CFR 50.59 between January 1, 2003, and December 31, 2003. This report is submitted pursuant to the requirement of 10 CFR 50.59 (d)(2).

If there are any questions, please contact Graham Davenport at (864) 885-3044.

Very truly yours,



R. A. Jones, Site Vice President
Oconee Nuclear Site

Attachment

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Attachment 1

Oconee Facility Changes - 2003

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I. NUCLEAR STATION MODIFICATIONS

DESCRIPTION

SYSTEM: Steam Generators (OTSG)

The modification NSM ON-13086 Part 000 Phase 1 provides the replacement Once Through Steam Generators (ROTSGs.) The original steam generators installed in Oconee Unit 1 were Once Through Steam Generators (OTSGs) manufactured by Babcock & Wilcox. The replacement steam generators (ROTSGs) are manufactured by Babcock & Wilcox Canada. The ROTSG occupies the same physical envelope as the OTSG. Differences between the OTSG and ROTSG are intended to improve the operation, maintainability, and accident performance.

EVALUATION SUMMARY

BWC Report No.: 006K-LR-01, Input Document for Replacement Once Through Steam Generator Safety Evaluation and updated UFSAR Chapter 6, 10, and 15 analyses describe ROTSG design and fabrication and operation under normal, transient, and accident conditions. The contents of these reports support the conclusion that the ROTSGs will support normal and transient plant operation with no adverse impact and that the existing licensing basis is maintained with the ROTSGs. Utilizing these reports and other supporting information, the 10 CFR 50.59 Evaluation performed for Modification ON-13086 Part 000, Phase 1 concluded that no 10 CFR 50.59(c)(2) criteria exist that would require a License Amendment Request. This modification did not involve any Unreviewed Safety Questions or safety concerns.

NUCLEAR STATION MODIFICATIONS

DESCRIPTION

SYSTEM: Steam Generators (OTSG)

The modification NSM ON-13086 Part 000, Phase 2 replaced Once Through Steam Generators (ROTSGs). The original steam generators installed in Oconee Unit 1 were Once Through Steam Generators (OTSGs) manufactured by Babcock & Wilcox. The replacement steam generators (ROTSGs) are manufactured by Babcock & Wilcox Canada. The ROTSG occupies the same physical envelope as the OTSG. Differences between the OTSG and ROTSG are intended to improve the operation, maintainability, and accident performance. There are no changes to the physical interfaces with the reactor coolant, main steam, feedwater or other connected systems. Normal operating conditions and plant transients have been reviewed or reanalyzed to include the ROTSG design and are documented in BWC Report 006K-LR-01 and ROTSG Accident Analysis Summary report.

EVALUATION SUMMARY

BWC Report No.: 006K-LR-01, Input Document for Replacement Once Through Steam Generator Safety Evaluation and updated UFSAR Chapter 6, 10, and 15 analyses describe ROTSG design and fabrication and operation under normal, transient, and accident conditions. There are no changes to the physical interfaces with the reactor coolant, main steam, feedwater or other connected systems. Normal operating conditions and plant transients have been reviewed or reanalyzed to include the ROTSG design and are documented in References 4 and 8, respectively. The contents of these reports support the conclusion that the ROTSGs will support normal and transient plant operation with no adverse impact and that the existing licensing basis is maintained with the ROTSGs. Utilizing these reports and other supporting information, the 10 CFR 50.59 Evaluation performed for Modification ON-13086 Part 000, Phase 2 concluded that no 10 CFR 50.59(c)(2) criteria exist that would require a License Amendment Request. This modification did not involve any unreviewed safety questions or safety concerns. (UFSAR 03-24)

NUCLEAR STATION MODIFICATIONS

DESCRIPTION

SYSTEM: Reactor Building Electrical Penetrations

The modification NSM ON-13071 replaced four Reactor Building electrical penetration assemblies (EPAs) in ONS Unit 1. The four EPAs replaced by NSM ON-13071AL1 were manufactured by Viking Industries, Inc. and by the D. G. O'Brien Company. Viking is no longer in business and D. G. O'Brien no longer supplies EPAs under an Appendix B program. These manufacturers have ceased production of EPAs and all related replacement components

EVALUATION SUMMARY

A paragraph in UFSAR Section 3.8.1.5.4 was revised to account for differences in the construction of the Conax penetrations and existing D. G. O'Brien/Viking penetrations. The UFSAR revision does not change or affect the design basis for electrical penetrations. The revision only documents the differences in penetrations due to the use of penetrations supplied by different manufacturers. There are no changes to the Technical Specifications or Selected Licensee Commitments due to this modification. This modification did not involve any Unresolved Safety Questions or safety concerns. (UFSAR changes 03-32 and 03-42)

NUCLEAR STATION MODIFICATIONS

DESCRIPTION

SYSTEM: Condensate and Feedwater System

The modification NSM ON-23100 improved overall Condensate and Feedwater System reliability by adding a "Manual/Fail Open" switch on the Hotwell Pump (HWP) Discharge Header Valve, 2C-10; revising the Condensate Booster Pump/Main Feedwater Pump protection trip circuits (low suction pressure circuits) and adding an automatic Integrated Control System (ICS) runback upon low suction pressure of the Condensate Booster Pumps or Main Feedwater Pumps.

EVALUATION SUMMARY

As a result of this modification, UFSAR Section 7.6.1.2.2.1 was revised to add the Condensate/Feedwater low suction pressure as a runback to the CTPD subsystem. The CTPD subsystem initiates load limiting and runback functions to restrict operation within prescribed limits. The CTPD is restrained by a maximum load limiter, a minimum load limiter, a rate limiter and a runback limiter (UFSAR Section 7.6.1.2.2.1). This UFSAR Section currently contains a listing of those conditions under which the limiter acts to runback and/or limit the CTPD. The new Condensate/Feedwater low suction pressure runback is appropriately added to that list. There are no changes to the Technical Specifications or Selected Licensee Commitments due to this modification. This modification did not involve any Unresolved Safety Questions or safety concerns. (UFSAR change 03-32 and 03-42)

NUCLEAR STATION MODIFICATIONS

DESCRIPTION

SYSTEM: Reactor Building Electrical Penetrations

The modification NSM ON-23071 replaced four Reactor Building electrical penetration assemblies (EPAs) in ONS Unit 1. The four EPAs replaced by NSM ON-23071 Part A were manufactured by Viking Industries, Inc. and by the D. G. O'Brien Company. These manufacturers have ceased production of EPAs and all related replacement components. Part B of the NSM will isolate the LPSW piping associated with the RBACs from the LPSW supply to the "B" Reactor Building Cooling Unit (RBCU).

EVALUATION SUMMARY

This 10 CFR 50.59 evaluation determined that none of the 10 CFR 50.59 criteria were met for Part A or Part B of this NSM. UFSAR Section 3.8.1.5.4 was revised to include specific codes and code sections for which the converted mechanical penetrations conform. UFSAR Figure 3-20 was revised to include information on the new spare penetrations. UFSAR Sections 3.7.3.9, 6.2.2.2.7, 6.2.3.2, 9.2.2.2.3, and 9.4.6.2 were revised to reflect changes due to Part B of this NSM. UFSAR Figures 6-3, 6-4, 6-9, 8-4, and 9-12 were revised. For UFSAR Figures 6-3, 6-4, and 9-12, the original figure were revised to indicate it is for Units 1 and 3 and a second page for this figure was added to reflect the Unit 2 design. UFSAR Table 6-7 and 7-3 were revised. SLC Section 16.9.12 was revised. No technical specification changes are required. This modification did not involve any Unresolved Safety Questions or safety concerns. (UFSAR change 03-32 and 03-42)

NUCLEAR STATION MODIFICATIONS

DESCRIPTION

SYSTEM: SSF Pressurizer Heaters

The modification NSM ON-53110 installed additional pressurizer heater control from the Standby Shutdown Facility (SSF) to assist in making up heat lost by the pressurizer. This NSM also allowed these additional heaters to be powered from the SSF.

EVALUATION SUMMARY

The 10 CFR 50.59 evaluation determined that a Licensee Amendment Request (LAR) is not required. UFSAR sections 5.4.6.2, 9.6.2, and 9.6.3.2. and UFSAR Figure 9-40 was changed accordingly. Changes to the bases to Technical Specification 3.4.9 and 3.10.1 are required. No SLC changes or other SLC bases changes are required. This modification did not involve any Unresolved Safety Questions or safety concerns. (UFSAR change 03-26, 03-27, 03-28)

II. MINOR MODIFICATIONS (ONOE_s)

DESCRIPTION

SYSTEM: Reactor Building Spray (BS)

Minor modification OE-12466 modified the actuators on 1BS-1 and 1BS-2 (BS header isolation valves) by installing new gears. The overall gear ratio was changed from 42.5:1 to 56.64:1. The stroke time of the valves was changed from 12 seconds to a new stroke time of 16 seconds

EVALUATION SUMMARY

The net effect of the change will be to slow down the actuators so that the valve stroke time will increase to approximately 16 seconds from its current value of approximately 12 seconds. No fission product barriers are affected. Neither plant operating procedures nor test procedures are affected. There is no impact upon safety analyses or dose calculations. These changes enhance the expected performance of the Reactor Building Spray system by increasing stem thrust on these valves, thus increasing their margin with respect to meeting the requirements of GL 89-10. This modification did not involve any Unresolved Safety Questions or safety concerns. No changes to UFSAR or Technical Specifications are required.

MINOR MODIFICATION (ONOE's)

DESCRIPTION

SYSTEM: Emergency Feedwater (EFW)

Minor Modification OE-17428 isolates Low Pressure Service Water (LPSW) and High Pressure Service Water (HPSW) to the Turbine Driven Emergency Feedwater Pump (TDEFWP) Jacket Cooler. OE-17428 also downgrades the applicable service water piping to the jacket cooler from Duke Class F (i.e. QA-1 and seismic) to Duke Class G (non-QA and non-seismic).

EVALUATION SUMMARY

The activity will not create any condition which will cause a LOCA, LOOP, or any other accident analyzed in the FSAR. The accident mitigation functions of the LPSW and EFW Systems are not adversely affected. The TDEFWP is not adversely affected if cooling water is isolated to the pump bearings. No new failure modes are postulated. No malfunctions of SSCs important to safety will occur. Fission product barriers are unaffected. This modification does not involve any Unresolved Safety Questions or safety concerns. UFSAR Sections 9.2.2.1, 9.2.2.2.2, 10.4.7.2.2, SLC 16.9.8a and Technical Specification Basis B3.7.7 will need to be changed.

MINOR MODIFICATION (ONOE's)

DESCRIPTION

SYSTEM: Keowee Fire Suppression

Minor Modification ONOE-17547 removed the ceramic frangible discs in the Keowee Carbon Dioxide system delayed nozzles. These discs fracture when the delayed discharge piping becomes charged to allow CO2 to discharge. The primary discharge nozzles do not have these discs. Normally exposed to the outside environment these discs are installed to prevent moisture, dirt, and insects from internally contaminating the discharge piping. In the Keowee application the discharge nozzles are located inside the sealed generator housing; therefore there is no requirement for their installation. The generators' casing sealing is maintained to ensure that the carbon dioxide which is discharged remains within the generator casing for a length of time sufficient to suppress fires.

EVALUATION SUMMARY

The removal of the frangible discs has no consequential effects on the ability of the Keowee CO2 system from performing its fire mitigation function because the nozzles will not have to rely on CO2 system pressure buildup to fracture before discharging CO2 to a Keowee generator fire. The removal of these ceramic discs from the delayed discharge nozzles will have no effect to the operational characteristics. The Keowee generator housings are sealed to ensure proper air cooling and to minimize gas leakage during a CO2 actuation. Sealing of the generator housing also minimizes insect and other environmental conditions from potentially clogging the nozzles. No changes to UFSAR or Technical Specifications are required. This modification does not involve any Unresolved Safety Questions or safety concerns.

MINOR MODIFICATION (ONOE's)

DESCRIPTION

SYSTEM: High Pressure Service Water (HPSW)

Minor modification ONOE-17770 changed the setpoint for automatic stop of the A and B High Pressure Service Water (HPSW) pumps and the Elevated Water Storage Tank (EWST) "full" indication. ONOE-17770 also changed the setpoints such that the pumps will start at 60,000 gallons and 50,000 gallons for the Base and Standby pumps, respectively.

EVALUATION SUMMARY

The HPSW System is fully capable of performing its functions. The proposed changes do not degrade the effectiveness of actions required to mitigate any design basis events. The proposed changes do not introduce the possibility for a malfunction of an SSC with a different result, because the proposed changes do not introduce a new malfunction. There are no new malfunctions that need to be considered based on the proposed changes. The proposed changes do not involve any changes to a method of evaluation described in the UFSAR. No changes are required to Technical Specifications. This modification does not involve any Unresolved Safety Questions or safety concerns. A change was made to UFSAR Section 9.5.1.2 and SLC 16.9.7. (UFSAR change 03-31)

MINOR MODIFICATIONS (ONOE's)

DESCRIPTION

SYSTEM: Reactor Coolant System (RCS)

Minor Modification ONOE-17823 issues ONEI-310-001 (Ref. 2) which contains the operating constraints in support of the "RCS Tave reduction coast down operation" of Unit 1 at EOC-21.

EVALUATION SUMMARY

The operating limits provided by this activity do not impact the safety analyses or dose consequences and present no safety issues relative to the UFSAR transient and accident analyses (Reference 8). The failure modes for the Reactor Coolant and Main Steam Systems and other related SSC's remain the same. This activity provides conservative limits for operation for the Main Steam, Reactor Coolant and Main Feedwater Systems that are within those system's design limits and that will not result in an accident initiator. No Technical Specification or other SAR document changes are required by this activity. This modification does not involve any Unresolved Safety Questions or safety concerns.

MINOR MODIFICATIONS (ONOE's)

DESCRIPTION

SYSTEM: High Pressure Service Water (HPSW)

Minor Modification ONOE-18169 revised design documents to require that HPSW-20 (A HP Line Supply to Aux Bldg) and HPSW-21 (B Hdr Isol Post Indicator Valve) be normally closed to reduce the consequences of a postulated Auxiliary Building flood.

EVALUATION SUMMARY

This modification will not adversely affect how UFSAR described functions are performed. With HPSW-20 and HPSW-21 normally closed, the Auxiliary Building headers will be supplied water via the 4 inch diameter line containing 3HPSW-453. There is no adverse effect on containment integrity and no new release paths are created. This modification does not require any design basis limits for a fission product barrier. The proposed changes do not involve any changes to a method of evaluation described in the UFSAR. This modification does not involve any Unresolved Safety Questions or safety concerns. The changes do not require a change to Technical Specifications. UFSAR Section 9.5.1.5.2 was changed. (UFSAR change 03-33)

MINOR MODIFICATION (ONOE's)

DESCRIPTION

SYSTEM: Equipment Database (EDB)

Minor modification ONOE-10732 made administrative and editorial changes to several Oconee flow diagrams (OFDs) and the Equipment Database (EDB). The changes corrected minor drawing errors, clarified design parameter flags, and changed unit designators for several valves, to be consistent with guidance in other design documents.

EVALUATION SUMMARY

The changes are administrative or editorial in nature. The changes have no effect on the radiological consequences of an accident. The changes will not prevent or degrade the effectiveness of actions required to mitigate any accident. The changes do not require a change to Technical Specifications. This modification does not involve any Unresolved Safety Questions or safety concerns. UFSAR Figure 9-10 was revised due to unit designator changes for certain valves. (UFSAR change 03-09)

III. PROCEDURES

DESCRIPTION

SYSTEM: Standby Shutdown Facility (SSF)

The procedure AP/0/A/1700/25 change provides specific guidance for a confirmed fire in the Control Room, Cable Room, Equipment Room or Turbine Building. For a fire in these areas, a series of decision steps will direct the operator to electrically transfer the SSF 600VAC MCC to be powered and controlled from the SSF. This action will result in the removal of the Engineered Safeguards (ES) signal to the containment isolation valves HP-3, HP-4, HP-20, RC-5 and RC-6.

EVALUATION SUMMARY

The actions taken involve a procedure to safely shut the unit down in the case of a fire in the plant. It does not involve a method of evaluation. Therefore, this activity does not result in a departure from a method of evaluation described in the UFSAR. The changes do not constitute a change to the SAR. Furthermore these changes do not affect Tech Specs. Based on this information, the procedural changes will not change the design function of the system described in the UFSAR. No changes to UFSAR or Technical Specifications are required. This 50.59 does not involve any Unresolved Safety Questions or safety concerns.

PROCEDURES

DESCRIPTION

SYSTEM: Low Pressure Service Water (LPSW)

AP/1,2,3/A/1700/011 was revised to provide guidance to align LPSW to the CCSWPs once lake level reaches 791 feet to ensure LPSW is aligned prior to de-entrainment concerns.

EVALUATION SUMMARY

Providing LPSW to the CCSWPs during periods of low lake level increases the reliability of the Chillers. With LPSW aligned to the CCSWPs, LPSW flow to safety related loads are not adversely affected during ES events. The CCW Pumps are operated consistent with normal operating procedures. No new failure modes are postulated. No adverse interactions were determined to exist. No malfunctions of SSCs important to safety will occur. The accident mitigation functions of the LPSW and WC Systems are not adversely affected. The CCW Pumps are operated consistent with normal operating procedures. Fission product barriers are unaffected. Evaluation methodologies, as described in the UFSAR, are unaffected. No changes to UFSAR or Technical Specifications are required. This 50.59 does not involve any Unresolved Safety Questions or safety concerns.

PROCEDURES

DESCRIPTION

SYSTEM: High Pressure Injection (HPI), Low Pressure Injection (LPI) and Reactor Building Spray (RBS)

TT/1&2/A/0170/017 (HPI and LPI / RBS Pump Room Heatup) will be performed to obtain room heatup rates and steady state temperatures for the HPI Pump Room and LPI / RBS Pump Rooms. No Technical Specifications (TS) or Selected Licensee Commitments (SLC) action statements are entered during the test.

EVALUATION SUMMARY

The temperature limits for the HPI, LPI and RBS pump rooms will not be exceeded. Thus the HPI, LPI and RBS pumps will not be adversely affected. The HPI, LPI and RBS systems will be capable of performing their accident mitigation functions during and following the test. The manipulation of AHUs and exhaust fans can not create an accident of a different type. No new failure modes are introduced. Since temperature limits of the HPI, LPI and RBS pump rooms are maintained within limits, the possibility of a malfunction of an SSC is not created. The test procedure does not alter plant safety limits, set points, or design basis limits for a fission product barrier. This activity does not involve a change in an evaluation methodology as described in the UFSAR. This activity does not require a Technical Specification or other licensing change. This 50.59 does not involve any Unresolved Safety Questions or safety concerns.

IV. SELECTED LICENSEE COMMITMENTS

DESCRIPTION

EVALUATION SUMMARY

SYSTEM: High Pressure Service Water (HPSW)

Selected Licensee Commitments (SLC) Manual, Section 16.9.8a was revised to establish a minimum level of 70,000 gallons for the Elevated Water Storage Tank. Also, add a surveillance requirement to verify the minimum level periodically. Changes to the Bases section are made to explain the basis for the minimum level.

The changes have no effect on the radiological consequences of a LOOP. By maintaining lake level within the limits plus measurement error, the ECCW siphon header will be fully capable of performing its function of mitigating a LOOP. The proposed changes will not prevent or degrade the effectiveness of actions required to mitigate a LOOP. The proposed changes do not involve any changes to a method of evaluation described in the UFSAR. These changes do not require a change to Technical Specifications. No changes to the UFSAR are required. This SLC did not involve any Unresolved Safety Questions or safety concerns.

SELECTED LICENSEE COMMITMENTS

DESCRIPTION

SYSTEM: High Pressure Service Water (HPSW)

This activity revised Selected Licensee Commitments (SLC) Manual, Section 16.9.8a to add a commitment for HPSW to be available to provide backup cooling water to the TDEFWP bearing oil cooler. Minor changes to the Bases section are also made.

EVALUATION SUMMARY

This change to SLC 16.9.8a does not change its original purpose nor its original requirements. It merely adds new scope to the commitment to include the HPSW supply for the TDEFWP bearing oil coolers. The proposed changes to SLC 16.9.8a are consistent with existing requirements in the UFSAR and the Technical Specifications.

The proposed change does not affect any margins of safety defined in the basis for any technical specification. The proposed change does not affect any safety limits or limiting safety system settings. No plant safety limits, setpoints, or design parameters are adversely affected. There is no impact to the nuclear fuel, cladding, Reactor Coolant System (RCS), or containment integrity. This change does not require a change to Technical Specifications or other licensing documents and did not involve any Unresolved Safety Questions or safety concerns.

SELECTED LICENSEE COMMITMENTS

DESCRIPTION

SYSTEM: Low Pressure Service Water (LPSW)

This activity clarifies that both 1LPSW-139 and 2LPSW-139 are required to be operable if either unit is in the mode of applicability. Minor changes to the Bases section are also made.

EVALUATION SUMMARY

No new components are being added to the facility. The safety-related functions of the LPSW Systems are maintained. The activity does not adversely affect LPSW flow used for normal or accident operation. Therefore, the activity will not create any condition which will cause a LOCA, LOOP, or any other accident analyzed in the FSAR. The LPSW System remains single failure proof. The accident mitigation functions of the LPSW Systems are not adversely affected. No new failure modes are postulated. No new equipment is being added and no new adverse interactions were determined to exist. No malfunctions of SSCs important to safety will occur. Fission product barriers are unaffected. Evaluation methodologies, as describe in the UFSAR, are unaffected. This change does not require a change to Technical Specifications or other licensing documents and did not involve any Unresolved Safety Questions or safety concerns.

V. TEMPORARY MODIFICATIONS

DESCRIPTION

SYSTEM: Reactor Building Cooling Units (RBCU)

Temporary Modification ONTM-2145 installed blind inserts in flanges for 1C3 RB auxiliary cooler coil to isolate a non-repairable leak in the coil. This is the fourth of the 16 auxiliary cooler coils to be isolated in this manner. Auxiliary cooler coils are not required for RB cooling to meet design basis, however they are used to maintain building temperatures below limits for normal operation per SLC 16.6.13. NSM-13031 is planned for IEOC 22 to replace all sixteen of these coils.

EVALUATION SUMMARY

Auxiliary Coolers are used only for normal RB cooling and are isolated on ES actuation. All required emergency RB cooling is accomplished by the RBCUs and RB Spray systems. This Aux cooler coil is NOT required by licensing documents. Isolation of this coil is required for containment integrity to the active LPSW penetrations. Reactor building temperatures during normal operation will be affected to some extent. (This is the fourth of the sixteen aux cooler coils to be isolated due to leaks.) Removal of this coil from service is not expected to cause the upper limits for RB average temperature (to maintain LPI system operability) to be reached during the peak temperature conditions for the upcoming operating cycle. However, if that operating limit is reached, actions to address the resulting conditions are bounded by requirements of SLC 16.6.3. This impact of this activity is bounded by conditions previously evaluated in the Oconee operating license. This temporary modification does not involve any Unresolved Safety Questions or safety concerns. No changes to UFSAR or Technical Specifications are required.

TEMPORARY MODIFICATIONS

DESCRIPTION

SYSTEM: Reactor Coolant (RCS)

Temporary Modification ONTM-2163 was implemented due to failure of Pressurizer Temperature RTD 3RC RD0043B. ONTM-2163 does two distinct things: 1) replaces Temperature Compensated Pressurizer Level #3 with Pressure Compensated Pressurizer Level #3 for control board indications and for ICS pressurizer level control; 2) revises OAC alarm functions to employ pressure compensated pressurizer level in lieu of temperature compensated pressurizer level.

EVALUATION SUMMARY

Use of pressurizer pressure compensated pressurizer level in lieu of temperature compensated level is conservative. No new failure modes are introduced. Technical Specification 3.4.12, LTOP System, Bases was revised because the bases specifically credits temperature compensated pressurizer level to meet the analytical results. A review of the bases shows that it is not necessary to depend solely on temperature compensated level, and that use of pressure compensated pressurizer level is conservative. SLC 16.7.11(1) requires surveillance of pressurizer temperature, but does not require any action if the indication fails. This temporary modification does not involve any Unresolved Safety Questions or safety concerns. No changes to UFSAR or Technical Specifications are required.

TEMPORARY MODIFICATIONS

DESCRIPTION

SYSTEM: Reactor Building Cooling Units (RBCU)

Temporary Modification ONTM-2146 installed blind inserts in flanges for 1B RB auxiliary cooler coil to isolate a non-repairable leak in the coil. This is the fifth of the 16 auxiliary cooler coils to be isolated in this manner. Auxiliary cooler coils are not required for RB cooling to meet design basis, however they are used to maintain building temperatures below limits for normal operation per SLC 16.6.13. NSM-13031 is planned for IEOC 22 to replace all sixteen of these coils.

EVALUATION SUMMARY

Auxiliary Coolers are used only for normal RB cooling and are isolated on ES actuation. All required emergency RB cooling is accomplished by the RBCUs and RB Spray systems. This Aux cooler coil is NOT required by licensing documents. Isolation of this coil is required for containment integrity to the active LPSW penetrations. Reactor building temperatures during normal operation will be affected to some extent. (This is the fourth of the sixteen aux cooler coils to be isolated due to leaks.) Removal of this coil from service is not expected to cause the upper limits for RB average temperature (to maintain LPI system operability) to be reached during the peak temperature conditions for the upcoming operating cycle. This impact of this activity is bounded by conditions previously evaluated in the Oconee operating license. This temporary modification does not involve any Unresolved Safety Questions or safety concerns. No changes to UFSAR or Technical Specifications are required.

VI. UFSAR CHANGES (Pkg. 03-08)

DESCRIPTION

SYSTEM: Component Cooling (CC)

This 50.59 Evaluation is being performed to assess using sodium molybdate in the Component Cooling System as a corrosion inhibitor instead of potassium chromate. Because the UFSAR specifically mentions "chromate-phosphate" water treatment in the Component Cooling System, this activity will require a change to UFSAR Section 18.3.2.

EVALUATION SUMMARY

There has been an industry trend of changing system corrosion inhibitors from chromate-based to molybdate-based. This evaluation consisted of comparing the two corrosion inhibitors to ensure their effects on components in the CC System were essentially equivalent. As part of this evaluation, a detailed materials evaluation was performed and a detailed industry practice survey was conducted by GO Chemistry (Reference #3). This materials evaluation encompassed all materials of construction of the CC System piping and wetted components. No Technical Specification changes are required and did not involve any Unresolved Safety Questions or safety concerns. The UFSAR Section 18.3.2 was updated accordingly.

UFSAR CHANGE (Pkg. 03-33)

DESCRIPTION

SYSTEM: High Pressure Service Water (HPSW)

Design documents are revised to require that HPSW-20 (A HP Line Supply to Aux Bldg) and HPSW-21 (B Hdr Isol Post Indicator Valve) be normally closed to reduce the consequences of a postulated Auxiliary Building flood.

EVALUATION SUMMARY

There has been an industry trend of changing system corrosion inhibitors from chromate-based to molybdate-based. This evaluation consisted of comparing the two corrosion inhibitors to ensure their effects on components in the CC System were essentially equivalent. The change did not require a change to Technical Specifications and did not involve an Unresolved Safety Questions or safety concerns. UFSAR Section 9.5.1.5.2 was revised accordingly.

UFSAR CHANGE (Pkg. 03- 12)

DESCRIPTION

SYSTEM: Steam Generator (OTSG)

The offsite doses reported in UFSAR Chapter 15 resulting from postulated Steam Generator Tube Rupture and Main Steam Line Break accidents were recalculated using the LOCADOSE computer code, which has been previously approved for use in this application by the NRC.

EVALUATION SUMMARY

The activity involves revising offsite dose analyses for the SGTR and MSLB accidents using an NRC accepted computer code, LOCADOSE. While LOCADOSE was already used in portions of the most recent calculations of SGTR and MSLB dose, the current analysis approach applies the LOCADOSE code modeling over the full course of the accident. The thermal hydraulic input used in the re-baselined dose analyses is identical to the input currently reported in the UFSAR, including the total amount of steam released to the environment. The fission product source term is also identical to that currently reported in the UFSAR. This 50.59 did not involve any Unresolved Safety Questions or safety concerns. The UFSAR Chapter 6 was revised accordingly with the new re-baseline dose results, and excessive detail from the Chapter 15 description.

VII. CALCULATIONS

DESCRIPTION

SYSTEM: Reactor Coolant (RCS)

A 10 CFR 50.59 evaluation has been performed for the Oconee Nuclear Station Unit 1, Cycle 22 (O1C22) core reload and is attached to calculation OSC-8471. The impact of any other plant changes made concurrent with the refueling outage is not addressed in the O1C22 10 CFR 50.59 evaluation.

EVALUATION SUMMARY

The O1C22 Reload Design Safety Analysis Review (REDSAR), performed in accordance with Nuclear Engineering Division workplace procedure NE-102, "Workplace Procedure for Nuclear Fuel Management", serves as the overall justification for operation of the Oconee Unit 1 Cycle 22 core reload. The SAPP and MA sections of the REDSAR checklist documented evaluations of the O1C22 physics parameters. The reload safety evaluation documented in OSC-8471 confirm the updated final safety analysis report (UFSAR) Chapter 15 accident analyses remain bounding with respect to the O1C22 safety analysis reactor physics parameters. The safety analysis reactor physics parameters method is described in topical report DPC-NE-3005-PA. This 50.59 did not involve any Unresolved Safety Questions or safety concerns. No changes to UFSAR or Technical Specifications are required.

CALCULATIONS

DESCRIPTION

SYSTEM: Reactor Coolant (RCS)

Computer code SIMULATE-3 version 4.02 (Duke designation sim3dk06) is being replaced with SIMULATE-3 version 6.04.03 (Duke designation sim3dk10) for all reload design and safety analysis calculations pertaining to the Oconee Nuclear Station. The new code version offers an improved steam table model, improved iteration convergence criteria, and much more input error checking than the older version. Computer code TABLES-3, whose sole function is to generate a nuclear cross-section library for SIMULATE-3, is also being upgraded from version 4 to version 5.

EVALUATION SUMMARY

The two new code versions were determined to generate essentially the same results as the older code versions currently in use. Therefore, prior NRC approval is not required to begin using the new code versions. The activity will not create any condition which will cause a LOCA, LOOP, or any other accident analyzed in the FSAR. No new failure modes are postulated. No new equipment is being added and no new adverse interactions were determined to exist. No malfunctions of SSCs important to safety will occur. Fission product barriers are unaffected. Evaluation methodologies, as describe in the UFSAR, are unaffected. No changes to UFSAR or Technical Specifications are required and did not involve any Unresolved Safety Questions or safety concerns.

VIII. MISCELLANEOUS

PROBLEM INVESTIGATION PROCESS (PIP)

DESCRIPTION

SYSTEM: Reactor Building Spray (RBS)
Low Pressure Injection (LPI)

Due to test results which indicate that the LPI/RBS pumps may not be operable when subjected to the anticipated post-accident environment in the LPI/RBS pump rooms, a temporary compensatory action will use Non-QA WC rather than the non-essential LPSW header as a cooling medium for the recirculating fan-coil AHUs in the LPI/RBS pump rooms.

EVALUATION SUMMARY

Use of WC in lieu of non-essential LPSW for maintaining the environment in the LPI/RBS pump rooms does not create a different type of accident or a malfunction of an SSC important to safety with a different result than any previously evaluated in the UFSAR. WC and LPSW are both cooling water systems and both are currently required by ONS Technical Specifications. No significantly different malfunction has been identified as a result of this compensatory action. This change of cooling medium does not impact the design basis limit for a fission product barrier or involve a method of evaluation described in the UFSAR. No changes to UFSAR or Technical Specifications are required and did not involve any Unresolved Safety Questions or safety concerns.