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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, 2002, and December 31, 2002. This report is submitted pursuant to the requirement of 10 CFR 50.59 (d)(2).

If there are any questions, please contact Larry Nicholson at (864) 885-3292.

Very truly yours,



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

Attachment

IE47

U. S. Nuclear Regulatory Commission  
June 26, 2003  
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## Attachment 1

### Oconee Facility Changes - 2002

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## **I. NUCLEAR STATION MODIFICATIONS**

### **DESCRIPTION**

#### **SYSTEM: Essential Siphon Vacuum**

The modification NSM ON-23000 Part C tied the Essential Siphon Vacuum (ESV) system into the CCW Intake Header and plant power and control systems. The remainder of the ESV system has been designed and constructed under other parts of NSM ON-53000. This NSM (ON-23000) performed all functional testing of the system as a whole. Installation tests (e.g., hydrostatic pressure test) were typically performed under the NSM part that installed the piping or components.

### **EVALUATION SUMMARY**

No technical specification changes are required. However, a technical specification change is required to allow the licensing basis requiring the restart of a CCW pump be deleted in favor of maintaining the siphon with the ESV system. UFSAR Section 9.2.2.1 was revised to add a paragraph discussing the new ESV system. Likewise, a new section 9.2.2.2.5 was added to discuss ESV. SLC 16.9.7 was revised to indicate that the Unit 2 ECCW siphons are under TS 3.7.8. UFSAR Figures 9-42 (Siphon Seal Water System) and 9-43 (Essential Siphon Vacuum System) was added. UFSAR Figure 9-9 was revised to show the ESV tie-in.

## NUCLEAR STATION MODIFICATIONS

### DESCRIPTION

SYSTEM: Main Steam

NSM ON-12980 added a flow path from the "1B" Moisture Separator Drain Tank (MSDT) to a new demineralizer. Only a portion of the Moisture Separator Reheater (MSR) drain flow was routed through the demineralizer. Then, this flow goes to the condenser. Note that MSR drain flow refers to the liquid flow leaving the moisture separator side of the MSRs. The majority of MSR drain flow will be pumped to the "C" Flash Tank or pressure fed to the "D" Flash Tank with existing components. The flow from the Moisture Separator drains will need to be cooled to some extent to prevent ion (i.e., contaminant) release from the demineralizer, as well as to prevent resin melting. The heat exchanger will use Low Pressure Service Water (LPSW) from the nonessential header as a cooling media. The cooling water will be returned to LPSW just prior to entering the Condenser Circulating Water (CCW) System.

### EVALUATION SUMMARY

No technical specification or SLC changes are required. UFSAR Sections 10.3.5.1 and 10.4.5.2 were revised to add description about having the ability to divert a portion of the moisture separator drain liquid through a new heat exchanger and demineralizer, and that the heat exchanger is cooled by LPSW. UFSAR Figure 10-4 was revised to show a line going to the Moisture Separator Drain Demineralizer for Unit 1. UFSAR Section 11.6.3.2.1 was revised to denote the Resin Recovery System receives sluice from the Condensate Polishing Demineralizer Backwash Sump and that the sump can contain both powdered and bead resins from various demineralizers.

## 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. No Technical Specification changes are required. No changes are required to the Selected Licensee Commitments.

## NUCLEAR STATION MODIFICATIONS

### DESCRIPTION

SYSTEM: Main Steam

Modification ON-22980 added a flow path from the "2B" Moisture Separator Drain Tank (MSDT) to a new demineralizer. Only a portion of the Moisture Separator Reheater (MSR) drain flow will be routed through the demineralizer. Then, this flow will go to the condenser. Note that MSR drain flow refers to the liquid flow leaving the moisture separator side of the MSRs. The majority of MSR drain flow will be pumped to the "C" Flash Tank or pressure fed to the "D" Flash Tank with existing components. The flow from the Moisture Separator drains will need to be cooled to some extent to prevent ion (i.e., contaminant) release from the demineralizer, as well as to prevent resin melting. The heat exchanger will use Low Pressure Service Water (LPSW) from the nonessential header as a cooling media. The cooling water will be returned to LPSW just prior to entering the Condenser Circulating Water (CCW) System

### EVALUATION SUMMARY

No technical specification or SLC changes are required. UFSAR Sections 10.3.5.1 and 10.4.5.2 were revised to add description about having the ability to divert a portion of the moisture separator drain liquid through a new heat exchanger and demineralizer, and that the heat exchanger is cooled by LPSW. UFSAR Figure 10-4 is to be revised to show a line going to the Moisture Separator Drain Demineralizer for Unit 2. UFSAR Section 11.6.3.2.1 is to be revised to denote the Resin Recovery System receives sludge from the Condensate Polishing Demineralizer Backwash Sump and that the sump can contain both powdered and bead resins from various demineralizers.

## NUCLEAR STATION MODIFICATIONS

### DESCRIPTION

SYSTEM: Feedwater

Modification ON-23053 involved circuitry used in the mitigation of accidents. A License Amendment Request (LAR) was approved on September 26, 2001 for the proposed modification and Technical Specifications to implement an Automatic Feedwater Isolation System (AFIS). New terminal blocks and fuse blocks are installed in the SGLC cabinet. The MSLB actuation relays are replaced with new relays. New interposing relays and transzorbs are installed. Unused breakers were deleted from the cabinet.

### EVALUATION SUMMARY

These components are QA-1. Relays are powered from safety related power sources. The power sources have adequate capacity for these additional loads. Circuit protection is coordinated such that a circuit failure would be isolated to that circuit (no failure propagation to other circuits). No technical specification or SLC changes were required. UFSAR sections 3.1.1.1, 5.2.3.4, 6.2.1.4.4, 7.1, 7.1.1, 7.4.3.1.2, 7.5.2.5, 7.9 (including subsections), 10.1, 10.3.2, 10.4.6.3, 10.4.7.2, 10.4.7.3, and 15.13.1 were revised.



## NUCLEAR STATION MODIFICATIONS

### DESCRIPTION

**SYSTEM:** Reactor Building Electrical Penetration

The modification NSM ON-23071 replaced four Reactor Building electrical penetration assemblies (EPAs) in ONS Unit 1. The four EPAs replaced by NSM ON-23071AL1 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

There are no changes to existing power sources or loads for those circuits passing through the new Conax electrical penetrations as compared to the same circuits passing through the replaced electrical penetrations. The electrical rating of the connectors and penetrations is adequate for their circuit application. The modification does not create any new seismic/non-seismic interactions. There is no new safety to non-safety (QA-1 to non-QA-1) electrical interfaces resulting from this modification. No Technical Specification or UFSAR changes are required. No changes are required to the Selected Licensee Commitments.

## NUCLEAR STATION MODIFICATIONS

### DESCRIPTION

SYSTEM: Emergency Feedwater

The NSM ON-23076 addressed the common mode failures in the nitrogen supply system and upgraded much of the instrument and control portion of valves 2FDW-315 and 2FDW-316 to a QA-1 status.

### EVALUATION SUMMARY

No Technical Specifications or SLC changes are required. UFSAR Section 3.2.2 was revised to add that the nitrogen supply to the Unit 2 EFW control valves is able to withstand the maximum hypothetical earthquake. UFSAR Table 3-68 was revised to include additional references for the seismic qualification documentation for the post accident monitoring indicators and the steam generator level control system cabinets. UFSAR Sections 7.4.3.1.2 and 7.4.3.2.2 was revised to provide the description of the Unit 2 control valves and their function. UFSAR Section 7.4.3.2.3 was revised to clarify that the feedwater control valves are the emergency feedwater control valves. UFSAR Section 10.4.7.2 was revised to address the function of the Unit 2 valves and their failure modes on loss of air/nitrogen. UFSAR Section 10.4.7.2 was revised to add some Unit 2 alarms. UFSAR Section 10.4.7.3 was revised to add information that the nitrogen supply to the Unit 2 EFW control valves is designed to withstand seismic loadings. UFSAR Section 10.4.9 was revised to add this Unit 2 NSM as a reference. No adverse effects on the 10 CFR 50 Appendix R fire scenarios were determined to exist. There is no adverse effect on containment integrity and no new release paths are created.

## NUCLEAR STATION MODIFICATIONS

### DESCRIPTION

SYSTEM: Reactor Building

The NSM ON-23095 replaced the existing RBCU fan motors, fan rotors, and fan housings with the L449TCZ frame motor design.

### EVALUATION SUMMARY

No UFSAR, Technical Specification or Selected Licensee Commitment changes are required. There are no new safety to non-safety (or QA-1 to non-QA-1) electrical interfaces. There is no adverse effect on containment integrity and no new release paths are created. Neither the function of the system nor the method of performing that function will be altered by this modification. There is no change in the operating modes, or events for which the system is required to function. This modification does not change the performance requirement of any system or equipment.

## NUCLEAR STATION MODIFICATIONS

### DESCRIPTION

**SYSTEM:** Feedwater

Modification ON-33053 involved circuitry used in the mitigation of accidents. A License Amendment Request (LAR) was approved on September 26, 2001 for the proposed modification and Technical Specifications to implement an Automatic Feedwater Isolation System (AFIS). New terminal blocks and fuse blocks are installed in the SGLC cabinet. The MSLB actuation relays are replaced with new relays. New interposing relays and transzorbs are installed. Unused breakers were deleted from the cabinet.

### EVALUATION SUMMARY

This modification required changes to Technical Specification 3.3.11, 3.3.12, 3.3.13 due to the new circuitry being used in the mitigation of accidents. The UFSAR changes initiated by this modification are to remove all references to MSLB detection circuitry, since the MSLB detection circuitry will have been replaced by AFIS on all three units after implementation of this modification. Also, the UFSAR changes remove unit references in discussions of AFIS (the existing UFSAR text describing AFIS operation is not changed), since AFIS will be applicable to all three units after implementation of this modification. These UFSAR changes incorporate appropriate information from this modification into the UFSAR Sections 7.4.3.1.2 and 7.4.3.2.2.

## NUCLEAR STATION MODIFICATIONS

### DESCRIPTION

#### SYSTEM: Emergency Feedwater

The NSM ON-33076 addressed the common mode failures in the nitrogen supply system and upgraded much of the instrument and control portion of valves 3FDW-315 and 3FDW-316 to a QA-1 status.

### EVALUATION SUMMARY

No Technical Specifications or SLC changes are required. UFSAR Section 3.2.2 was revised to add that the nitrogen supply to the Unit 2 EFW control valves is able to withstand the maximum hypothetical earthquake. UFSAR Table 3-68 was revised to include additional references for the seismic qualification documentation for the post accident monitoring indicators and the steam generator level control system cabinets. UFSAR Sections 7.4.3.1.2 and 7.4.3.2.2 was revised to provide the description of the Unit 3 control valves and their function. UFSAR Section 7.4.3.2.3 was revised to clarify that the feedwater control valves are the emergency feedwater control valves. UFSAR Section 10.4.7.2 was revised to address the function of the Unit 3 valves and their failure modes on loss of air/nitrogen. UFSAR Section 10.4.7.2 was revised to add some Unit 3 alarms. UFSAR Section 10.4.7.3 was revised to add information that the nitrogen supply to the Unit 3 EFW control valves is designed to withstand seismic loadings. UFSAR Section 10.4.9 was revised to add this Unit 3 NSM as a reference. No adverse effects on the 10 CFR 50 Appendix R fire scenarios were determined to exist. There is no adverse effect on containment integrity and no new release paths are created.

## NUCLEAR STATION MODIFICATIONS

### DESCRIPTION

SYSTEM: Reactor Building

Modification NSM-ON-33090/AL3 improved safety related electrical distribution system (EDS) and equipment terminal voltages under worst-case accident conditions with degraded grid by stopping and subsequently restarting the RBCU fans after a period of three (3) minutes from the high speed or off position.

### EVALUATION SUMMARY

The modification of the RBCU fan control circuitry does not introduce the possibility for a malfunction of a SSC with a different result because the activity does not introduce a failure mode that is not bounded by those described in the RBCU description in UFSAR Section 9.4.6 and Table 6-6. TS Bases Section B3.6.5 will be revised to reflect the added time delay. There is no adverse effect on containment integrity and no new release paths are created.

## NUCLEAR STATION MODIFICATIONS

### DESCRIPTION

#### SYSTEM: Reactor Building Spray

Modification ON-33105 improved the post-accident operation of the Reactor Building Spray (RBS) system is. It is the resolution of the actions described in LER 269/98-12, "Building Spray System Outside Design Basis due to Design Inadequacy". This LER was the result of the discovery that no NPSH calculations existed that evaluated the operation of the RBS system with suction from the BWST.

### EVALUATION SUMMARY

No Technical Specifications or SLC changes are required. This modification does not result in a departure from a method of evaluation described in the UFSAR used in establishing the design bases or in the safety analyses. This modification affects the inputs used in some of those analyses, but does not require any changes to evaluation methodology. In summary, no adverse effects are created as a result of this modification. This modification fulfill an outstanding NRC commitment. There is no adverse effect on containment integrity and no new release paths are created.

## NUCLEAR STATION MODIFICATIONS

### DESCRIPTION

**SYSTEM:** Emergency Condenser Circulating Water (ECCW)

Part C5 of NSM ON-53000/0 adds some of the Essential Siphon Vacuum (ESV) piping and components in the ESV trench located in the Intake Dike. This vacuum system was added to increase the reliability and duration of the Emergency Condenser Circulating Water (ECCW) siphon supply to the Low Pressure Service Water (LPSW) pumps following a Loss of Coolant Accident coincident with a Loss of Offsite Power (LOCA/LOOP).

### EVALUATION SUMMARY

The existing CCW structures and system are not designed for turbine missiles. This part of the modification is not performing a function by itself. Thus, protection from turbine missiles using UFSAR criteria is not needed at this time. No technical specification changes are required. UFSAR Section 3.2.2 was revised to list that the ESV System can withstand the MHE.



## NUCLEAR STATION MODIFICATIONS

### DESCRIPTION

SYSTEM: Emergency Condenser Circulating Water (ECCW)

NSM, ON-53003, Part B, Implementation Parts BM1 and BM2, reclassified the CCW Intake Header to QA Condition 1 and Branch Lines to QA Condition 4. Also, a variety of design changes were performed to upgrade the design of some of these piping sections to resist seismic loads. These design changes primarily consisted of pipe support/restraint upgrades along a few valve upgrades. These changes were made to help ensure the availability of water to the suction of the LPSW pumps during all Design Basis Events, especially those involving a Loss of Offsite Power (LOOP).

### EVALUATION SUMMARY

This modification did not change any of the existing functions, but simply enhanced the seismic capabilities of the system. Also, it upgraded some of the system and component classifications to QA Condition 1 to ensure that future maintenance and modifications are done in accordance with its level of importance. No Technical Specification changes are required. UFSAR Section 3.1.1.1 was revised to list the QA Condition 1 SSC's.

## NUCLEAR STATION MODIFICATIONS

### DESCRIPTION

**SYSTEM:** Demineralized Water (DW) and Filtered Water (FW)

Modification ON-53078 replaces obsolete and degraded components of the Demineralized Water (DW) and Filtered Water (FW) Systems and certain interfacing components from other systems which provide Water Treatment (WT) support functions. Existing components which are reused are, in some cases, relocated to accommodate the new components. The scope of this modification is non QA.

### EVALUATION SUMMARY

This modification does not adversely affect the design basis or operation of the DW System, FW System or any of the other systems which interface with WT. The modification does not affect the amount of chlorine on site. The on site storage location of the chlorine is not changed by this modification. Chlorine gas detection and annunciation is not affected by this modification. No UFSAR or Technical Specification changes are required. No changes are required to the Selected Licensee Commitments.

## NUCLEAR STATION MODIFICATIONS

### DESCRIPTION

**SYSTEM: Low Pressure Service Water (LPSW)**

The NSM ON-53096 replaced the existing three-way diverting valves LPSW-216 and LPSW-219 and replaced some of the existing carbon steel piping with stainless steel piping. The piping configuration was changed so that air will not be capable of accumulating in the chiller discharge piping and being transported to the chiller supply piping.

### EVALUATION SUMMARY

The modification does not affect any controlling numerical value for a parameter established during the licensing review as presented in the UFSAR for any parameter used to determine the integrity of the barrier. The activity does not involve a change in an evaluation methodology. UFSAR Figure 9-24 was revised to change some of the piping dimensions. No technical specification or SLC changes are required.

## II. MINOR MODIFICATIONS (ONOE<sub>s</sub>)

### DESCRIPTION

SYSTEM: Engineered Safeguards (ES)

Minor Modification ONOE-12852 replaced all the obsolete type CY motor starters in safety related motor control center (MCC) 3XS3 with an equivalent type TM motor starter.

### EVALUATION SUMMARY

No changes to the technical specifications are required. This modification does not adversely affect the single failure protection of the components or systems that are supplied by the affected MCC. UFSAR Table 3-68, "Electrical Equipment Seismic Qualification", has been revised to include the test report file number for the replacement motor starters. This activity will not increase the frequency of occurrence of an accident previously evaluated in the SAR.

## MINOR MODIFICATION (ONOE<sub>s</sub>)

### DESCRIPTION

#### SYSTEM: Low Pressure Injection (LPI)

Modification ONOE-15290 provided instructions for removing the Engineered Safeguard signal to valve 2LP-21 (2A BWST OUTLET ISOL VLV). Relays 2MX55, 2CR65, 2CR66 and 2RX56 and associated wiring will be removed in Engineered Safeguards Odd Channels Terminal Cabinet 2ESTC1. Cables 2EMC727, 2EMC728, 2EMC772 and 2EMC773 and associated RZ Modules will be spared in place for future use. Cables 2EXS3003, 2EMC422, and 2LP161D are deleted. New cable 2LP161DA is added to provide valve 2LP-21 position indication to the OAC. EGS Connectors are also added to the operator on 2LP-21.

### EVALUATION SUMMARY

No changes to the Technical Specifications are required. Tech Spec Bases 3.5.3 were modified to add a statement that the ES signal has been removed from 2LP-21 and 2LP-22. UFSAR Chapter 6, Section 6.3.2.2.2, Figures 6-1 and 6-2, Table 6-11, Chapter 7, Table 7-3, and Chapter 9, Figure 9-19 were changed to show the removal of the automatic feature of 2LP-21 and 2LP-22 to open on an ES signal.

## MINOR MODIFICATION (ONOE's)

### DESCRIPTION

#### SYSTEM: Low Pressure Injection (LPI)

Modification ONOE-15291 provided instructions for removing the Engineered Safeguard signal to valve 2LP-22 (2B BWST OUTLET ISOL VLV). Relays 2MX30, 2CR35, 2CR67 and 2RX34 and associated wiring will be removed in Engineered Safeguards Even Channels Terminal Cabinet 2ESTC2. Cables 2EMC729, 2EMC730, 2EMC809 and 2EMC810 and associated RZ Modules will be spared in place for future use. Cables 2EMC423, and 2LP164D are deleted. New cable 2LP164DA is added to provide valve 2LP-22 position indication to the OAC. EGS Connectors are also added to the operator on 2LP-22.

### EVALUATION SUMMARY

No changes to the Technical Specifications are required. Tech Spec Bases 3.5.3 were modified to add a statement that the ES signal has been removed from 2LP-21 and 2LP-22. UFSAR Chapter 6, Section 6.3.2.2.2, Figures 6-1 and 6-2, Table 6-11, Chapter 7, Table 7-3, and Chapter 9, Figure 9-19 were changed to show the removal of the automatic feature of 2LP-21 and 2LP-22 to open on an ES signal.

## **MINOR MODIFICATION (ONOE's)**

### **DESCRIPTION**

**SYSTEM: Electrohydraulic Control (EHC)**

Minor Modification ONOE-15997 deleted the Main Turbine trips on Low Feedwater Pump Hydraulic Oil pressure and Low Feedwater Pump Discharge Pressure generated by the EHC system. The EHC System provides protective devices that protect the turbine against overspeed, thermal damage, and mechanical damage. Currently, there are redundant Main Turbine trips on Low Feedwater Pump Hydraulic Oil pressure and Low Feedwater Pump Discharge Pressure generated from the EHC system and the Anticipatory Transient Without Scram (ATWS) system.

### **EVALUATION SUMMARY**

Deletion of the EHC logic removes a vulnerability to single failure. The EHC logic and the ATWS logic are redundant designs. Redundancy will be maintained, as the ATWS has two independent channels and both channels are required to trip to provide a signal to trip the turbine. No Technical Specification or other SAR document changes are required by this activity.

## MINOR MODIFICATIONS (ONOE<sub>s</sub>)

### DESCRIPTION

SYSTEM: Electrohydraulic Control (EHC)

Minor Modification ONOE-15998 deletes the EHC logic that trips the turbine on low Feedwater Pump hydraulic oil pressure and low Feedwater Pump Discharge Pressure. The EHC logic has single failure vulnerabilities that cause the turbine to trip. Deletion of the EHC logic removes this vulnerability to single failure. The EHC logic and the ATWS logic are redundant designs. Redundancy will be maintained, as the ATWS has two independent channels and both channels are required to trip to provide a signal to trip the turbine.

### EVALUATION SUMMARY

Deletion of these redundant trips does not introduce the possibility of a change in the likelihood of a malfunction because it is not an initiator of any new malfunctions and no new failure modes are introduced. The modified design is more reliable than the original since single failure vulnerability has been eliminated. No Technical Specification or other SAR document changes are required by this activity.



## MINOR MODIFICATIONS (ONOE's)

### DESCRIPTION

#### SYSTEM: Low Pressure Service Water (LPSW)

Modification OE-16266 replaced the control signal/components going to the existing LPSW 216/219 valves/actuators. (analog to digital upgrade) The existing pneumatic valve control loop consists of a temperature sensor in the 'exiting' condenser piping, a pneumatic temperature transmitter, a pneumatic controller/receiver, and a solenoid valve (energized whenever the chiller is operating to allow the control signal to control the valve and de-energized when the chiller is off to port a 20 psig signal to the valve positioner to place the valve in the 'full recirc' position).

### EVALUATION SUMMARY

The new and modified components do not cause any seismic interaction concerns between seismically qualified and non-seismically qualified structures, systems, or components. The modification does not create any adverse effects to the 10 CFR 50 Appendix R fire separation requirements. This modification does not require any changes to the fire protection system. There is no adverse effect on containment integrity and no new release paths are created. No adverse effects to the Appendix R fire scenarios were determined to exist. The equipment failure modes are the same as the existing components, so there is no increase in radiological dose. Therefore, the consequences of SAR-analyzed malfunctions of SSC's important to safety is unchanged as a result of this mod. UFSAR Section 9.2.5.2 was revised to correct the description of condenser water temperature control and to change the location of the sensor from downstream to upstream of the condenser.

## MINOR MODIFICATION (ONOE's)

### DESCRIPTION

SYSTEM: Main Steam

Minor modification OE-16719 documents tube repairs in the 2A OTSG. These repairs include the removal of any existing plugs which might contain defects, and installation of stabilizers (as necessary) and plugs as required by the results of visual inspections (bubble or drip tests) and eddy current testing, and the tube stabilization criteria document.

### EVALUATION SUMMARY

All the repair parts are QA condition 1 and will be no more likely to fail than the existing parts. Tube stabilization and plugging are accepted industry practices for removing heat exchanger tubes from service. Once the steam generator manways are closed up and secured the RCS pressure boundary of the steam generator is intact. No changes to the UFSAR or Technical Specifications are required.

## MINOR MODIFICATIONS (ONOE<sub>s</sub>)

### DESCRIPTION

SYSTEM: Main Steam

Minor modification OE-16720 documents tube repairs in the 2B OTSG. These repairs include the removal of any existing plugs which might contain defects, and installation of stabilizers (as necessary) and plugs as required by the results of visual inspections (bubble or drip tests) and eddy current testing, and the tube stabilization criteria document. All the repair parts are QA condition 1 and will be no more likely to fail than the existing parts.

### EVALUATION SUMMARY

All the repair parts are QA condition 1 and will be no more likely to fail than the existing parts. Tube stabilization and plugging are accepted industry practices for removing heat exchanger tubes from service. Once the steam generator manways are closed up and secured the RCS pressure boundary of the steam generator is intact. No changes to the UFSAR or Technical Specifications are required.

## MINOR MODIFICATIONS (ONOE's)

### DESCRIPTION

SYSTEM: Closed Circuit TV (CCTV)

Minor Modification ONOE-17026 added security cameras to the CCTV system. CCTV monitors and controls were also added to the security workstation console. Wireless receivers and a terminal box were added.

### EVALUATION SUMMARY

The security system is not safety related and does not interact with any safety system. No adverse effects and/or interactions with SSC's important to safety are associated with the addition of these security camera components. No adverse effects to the safety and health of the station or public will result from implementation of this modification. No changes to the UFSAR or Technical Specifications are required.

## MINOR MODIFICATION (ONOE's)

### DESCRIPTION

**SYSTEM:** Low Pressure Injection (LPI)

Minor Modification ONOE-17321 revised OSS-0254.00-00-1028 and UFSAR Section 6.3.3.2.1 to document the system limitations associated with opening the primary and alternate boron dilution flow paths.

### EVALUATION SUMMARY

This activity simply documents existing procedural guidance which was established to ensure that post accident equipment is used in a manner for which it was originally designed. Without the existing guidance in current procedures that is only being documented within OSS-0254.00-00-1028 and UFSAR Section 6.3.3.2 by this activity, post accident mitigation equipment may be damaged. The acceptable post accident mitigation strategies associated with the post accident boron dilution system has been evaluated. No changes to Technical Specifications are required.

## MINOR MODIFICATIONS (ONOE<sub>s</sub>)

### DESCRIPTION

SYSTEM: CCW

Minor modification ONOE-17323 revised the CCW System DBD to change the lake level required to support CCW reverse gravity flow during a Turbine Building flood.

### EVALUATION SUMMARY

The proposed changes would have no effect on the radiological consequences of a Turbine Building flood. The UFSAR does not contain a radiological consequence analysis for a Turbine Building flood. The SSF will be fully capable of performing its function of mitigating a Turbine Building flood. The proposed changes will not prevent or degrade the effectiveness of actions required to mitigate a flood using the SSF. The proposed changes are not initiators of any accidents and no new failure modes are introduced. Selected Licensee Commitments (SLC) Manual, Section 16.9.7 and Section 16.9.11 were changed. No changes to Technical Specifications are required.

### III. PROCEDURES

#### DESCRIPTION

##### **SYSTEM: Low Pressure Injection (LPI)**

The procedure EP/3/A/1800/01 change secures the Reactor Building Spray (RBS) pump and isolates BWST in order not to drain the RCS when LPI system is aligned to Decay Heat Removal (DHR) operation. The changes to the Turbine Building Flood, LOCA Cooldown, Force Cooldown, and HPI Cooldown enhanced the defense in depth methodology (Beyond Design Basis) mitigation.

#### EVALUATION SUMMARY

These changes are within the current licensing bases for Oconee as stated in the UFSAR. These changes do not constitute a change to analyzed conditions presented in the UFSAR or remove any commitments. 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. The changes do not change the committed mitigation strategy described in the TBD. No changes to UFSAR or Technical Specifications are required.

## PROCEDURES

### DESCRIPTION

**SYSTEM:** Spent Fuel

This safety evaluation supports performing procedure MP/O/A/1150/005B to allow the canal seal plate to be removed for repair while the fuel transfer tube covers are removed.

### EVALUATION SUMMARY

UFSAR section 9.1.4.2.2 mentions the canal seal plate, and the sequence in which fuel movement takes place. Specifically the sequence of installing the seal plate, closing SF-1 and SF-2 and then removing the transfer tube covers is mentioned. This appears to be simply the logical progression of events to allow defueling the reactor, and does not appear to be intended to ensure that the transfer tube covers are installed if the canal seal plate were to be removed for repair. The removal of the canal seal plate while the transfer tube covers are removed will not result in an inadvertent lowering of the spent fuel pool level since SF-1 and SF-2 are verified closed and not leaking. No changes to Technical Specifications or the UFSAR are required.



#### **IV. SELECTED LICENSEE COMMITMENTS**

##### **DESCRIPTION**

**SYSTEM:** Emergency Condenser Circulating Water (ECCW)

This safety evaluation supports a revision to Selected Licensee Commitment (SLC) 16.9.7 to state that measurement error must be added when using manual methods to determine lake level. The change requires a higher lake level to be maintained when relying on manual methods to determine the lake level. This will provide additional NPSH for the LPSW pumps.

##### **EVALUATION SUMMARY**

The proposed changes would 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. The proposed changes do not require a change to Technical Specifications. No changes to the UFSAR are required, other than the proposed changes themselves.

## SELECTED LICENSEE COMMITMENTS

### DESCRIPTION

SYSTEM: Spent Fuel

This activity revised SLC 16.6.1 and changed OSS-0254.00-00-4001 to reflect that local leak rate testing of Penetration 5a is not required and removed valves 1/2/3SF0073 from the list of valves in Penetration 11 and removed valves 1/2/3SF0072 from the list of valves in Penetration 12. This is an editorial correction.

### EVALUATION SUMMARY

The containment isolation system is used post accident to minimize leakage from containment. The system is not an accident initiator. This modification does not introduce any new failure modes for the containment isolation system nor any other systems, structures or components. 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. UFSAR Figure 6-9 and UFSAR Table 6-7 were revised. (UFSAR change 02-11)

## SELECTED LICENSEE COMMITMENTS

### DESCRIPTION

SYSTEM: Reactor Building

This evaluation supports raising the limit on containment Average Temperature (as imposed by SLC 16.6.13 and SLC 16.6.13 Bases) from 135°F to 140°F. It will also add an alternate means of determining average temperature.

### EVALUATION SUMMARY

The increase in containment average temperature has been evaluated by NEA (Safety Analysis Group) and found to be acceptable because it will not cause the minimum containment overpressure to fall below the required value of 2.2 psi (ref 7). The change has also been evaluated for potential adverse effects on EQ curves as documented in the Equipment Qualification Maintenance Manual, and these limits were not affected (ref 8). The current surveillance limit on concrete temperature is 175°F (ref 4), so there will be no adverse impact on concrete structures. The revision to SLC 16.6.13 and SLC 16.6.13 Bases has been completed.

## SELECTED LICENSEE COMMITMENTS

### DESCRIPTION

SYSTEM: Reactor Building Cooling Unit (RBCU)

SLC 16.9.12 was revised to allow an RBCU to be isolated when in Modes 1, 2, 3, or 4, and to allow SR 16.9.12.3 to be met by verifying the LPSW Isolation valves in a particular RBCU train are full open regardless of the position of LPSW-565. This revision facilitates system testing when system conditions may challenge a flow rate requirement when the RBACs are inservice.

### EVALUATION SUMMARY

No new components are being added to the facility. SLC 16.9.12 ensures that the safety-related functions of the LPSW System are maintained. SLC 16.9.12 does not create any conditions or events which lead to accidents previously evaluated in the SAR. The SLC revision does not adversely affect LPSW flow used for normal or accident operation. No malfunctions of SSCs important to safety will occur provided the specified conditions within the SLC are met. The SLC revision does not adversely affect a design basis limit for a fission product barrier. Evaluation methodologies, as describe in the UFSAR, are unaffected.

## SELECTED LICENSEE COMMITMENTS

### DESCRIPTION

SYSTEM: Keowee

SLC SR 16.9.2.3 was deleted and the Bases 3rd paragraph was expanded to clarify the expectations of SR 16.9.2.4 and SR 16.9.2.5. This activity removes the subjective part of the methodology in determining the sprinkler system operability which requires a highly experienced fire protection technical background to make the judgment and leaves in place the more objective and consistent acceptance criteria based on flow out a minimum number of nozzles which are directed appropriately.

### EVALUATION SUMMARY

This ensures during testing that the technicians can consistently apply the acceptance criteria. Proper sprinkler discharge flow and orientation will effectively maximize fire mitigation and prevent the impingement of water to other areas/equipment not affected by the fire. This activity removes the subjective part of the methodology in determining the sprinkler system operability which requires a highly experienced fire protection technical background to make the judgment and leaves in place the more objective and consistent acceptance criteria based on flow out a minimum number of nozzles which are directed appropriately. Removing SR 16.9.2.3 does not change effectiveness of any sprinkler system being tested as previously reported to the NRC.

## SELECTED LICENSEE COMMITMENTS

### DESCRIPTION

SYSTEM: Keowee

This safety evaluation supports a revision to Selected Licensee Commitment (SLC) 16.9.7 to state that measurement error must be added when using manual methods to determine lake level. The change requires a higher lake level to be maintained when relying on manual methods to determine the lake level. This will provide additional NPSH for the LPSW pumps.

### EVALUATION SUMMARY

The proposed changes would 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. The proposed changes do not require a change to Technical Specifications. No changes to the UFSAR are required, other than the proposed changes themselves.

## SELECTED LICENSEE COMMITMENTS

### DESCRIPTION

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

This activity added SLC) to control High Pressure Injection (HPI), Low Pressure Injection (LPI) and Reactor Building Spray (RBS) room temperature assumptions. This control is necessary to ensure starting temperatures assumed in OSC-6667 "Auxiliary and Turbine Building Loss of Cooling/Ventilation Analysis" (ref. 4) are valid.

### EVALUATION SUMMARY

This activity does not in any way increase the likelihood of initiation, or adversely affects the mitigation of, any SAR described accidents. No new radiological release pathways or failure modes are created. There is no increase in the consequences of any SAR described accident. There is no adverse affect on any SSC, and no increase in the probability of a malfunction of equipment important to safety. The creation of this SLC does not change design, material or construction standards for HPI, LPI or the RBS systems. No changes are made to the method of operation of the systems. This activity does not require a Technical Specification or other licensing change. No changes to the Technical Specifications are required to implement these SLC changes.

## V. TECHNICAL SPECIFICATION BASES

### DESCRIPTION

SYSTEM: Reactor Building Spray (RBS)

This activity revises Technical Specification Bases 3.3.7, 3.5.3 and 3.6.5 to document previously reviewed procedure changes to EP/\*A/1800/001 (Change 28b, 30b, 28b) and plant modifications (ONOE-12477, -12478, -13693, -13695, -15288, -15289).

### EVALUATION SUMMARY

This activity simply documents changes previously received within EP/\*A/1800/001 change 28b, 30b, and 28b. In particular, the support function of the Reactor Building Spray (RBS) trains to the operability of the LPI crossover is being documented within the TS 3.5.3 and TS 3.6.5 bases. Alignment (via automatic, remote manual, or local manual means) of the Reactor Building Spray trains prior to cross connection of LPI headers prevents potential over pressurization of the LPI suction headers. In addition, the time delay for establishing full LPI flow following a LBLOCA was revised and evaluated within plant modifications ONOE-12477, -12478, -13693, -13695, -15288, and 15289 from 53 seconds to 74 seconds. This activity simply corrects information within the TS 3.3.7 and 3.5.3 bases that was not previously revised per ONOE-12477, -12478, -13693, -13695, -15288, and 15289. As such, all changes associated with this activity have been previously reviewed and deemed acceptable.



## VI. UFSAR CHANGES (Pkg. 02-30)

### DESCRIPTION

SYSTEM: Reactor

UFSAR 3.1.16 was revised to clarify that RIA-16 and RIA-17 are not true N-16 radiation monitors.

### EVALUATION SUMMARY

This UFSAR revision does not result in a change that would cause any system parameter to change. RIA-16 and RIA-17 are not considered fission product barriers; therefore, this activity does not result in a design basis for any fission product barrier as described in the UFSAR being exceeded or altered. No Technical Specification changes are required. UFSAR Section 3.1.16 was updated accordingly.

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## **VII. CALCULATIONS**

None

## **VIII. MISCELLANEOUS**

### **PROBLEM INVESTIGATION PROCESS (PIP)**

#### **DESCRIPTION**

**SYSTEM: HPSW**

The procedure enhancements to the HPSW Alarm Response Guide and RP/0/A/1000/029 "Fire Brigade Response" will ensure that minimal cycling of HPSW pressures occur while maintaining maximum deliverable water pressures to the water spray systems and fire hose stations.

#### **EVALUATION SUMMARY**

The changes provide protection to the HPSW pumps by ensuring minimum flow requirements is maintained. The license commitment of pump automatically starting has not been defeated; therefore, the operation of the HPSW pump is within compliance of the license condition of SLC 16.9.1. Maintaining maximum pressures available to water spray systems and fire hose connections are already established criteria of SLC 16.9.2 and SLC 16.9.4 respectively. In summary, these changes to HPSW system operation satisfy the requirements of SLC 16.9.1, 16.9.2 and 16.9.4 and HPSW. There are no changes to Technical Specifications or UFSAR required.