

# CATEGORY 1

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ACCESSION NBR: 9907090284	DOC. DATE: 98/12/31	NOTARIZED: NO	DOCKET #
FACIL: 50-269 Oconee Nuclear Station, Unit 1, Duke Power Co.			05000269
50-270 Oconee Nuclear Station, Unit 2, Duke Power Co.			05000270
50-287 Oconee Nuclear Station, Unit 3, Duke Power Co.			05000287
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SUBJECT: "10CFR50.59 Annual Rept for Period Jan-Dec 1998." With  
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June 30, 1999

U. S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
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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, 1998, and December 31, 1998. This report is submitted pursuant to the requirement of 10 CFR 50.59 (b) (2).

An attachment to denote any UFSAR changes performed in accordance with licensing amendments is also included for information.

If there are any questions, please contact Edwin Price at (864) 885-4388.

Very truly yours,



W. R. McCollum

Attachment

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## I. NUCLEAR STATION MODIFICATIONS

### DESCRIPTION

SYSTEM: Reactor Coolant (RCS)

NSMs ON-1, 32865 replaced all RCS hot leg and cold leg Rosemount 177HW or GY RTDs and their gasketed thermowells with triple element RTDs using welded thermowells on Units 1 & 3, respectively. The new thermowells are welded design to prevent leakage. The replacements include 10 RTDs, weld in thermowells, normalization of the RC piping bosses (stress relief to reduce the risk of primary water stress corrosion cracking after welding), and EQ quick disconnect connectors (one for each RTD). Weed Instruments supplied the new RTDs and thermowells.

### SAFETY EVALUATION SUMMARY

These RTDs provide safety related Regulatory Guide 1.97 signals to the RPS and the ICCM systems. They also provide non-safety signals to the ICS. This modification has no effect on the function of the systems stated. This modification replaces the thermowells, and devices which supply the resistive signal (the RTD), for each system. The systems function with the new Weed RTDs the same as with the Rosemount RTDs. The weld is QA condition 1 and Class A. The RTDs and cables are environmentally qualified. The new RTD is inside the same missile shield walls. No additional amounts of Aluminum or Zinc are added to the system, so the potential for increased hydrogen generation following a LOCA is not increased. The new RTDs do not increase the electrical loads in the cables. The pipe stress analysis and support designs have been reviewed and no changes are necessary. There are no additional seismic interaction concerns of non-safety components with this modification's safety related components. This modification involves no USQs or safety concerns. No technical specification changes are required. UFSAR Table 3-68 (Page 1 of 6) Electrical Equipment Seismic Qualification of the UFSAR was changed. The Weed Instrument Report, 06-8680-003 (OM-377-0008-0001), was added to the Seismic Qualification Document Reference. Table 7-5 of the UFSAR, NNI Inputs to Engineered Safeguards, was also revised to reflect use of the Weed design.

## NUCLEAR STATION MODIFICATIONS

### DESCRIPTION

SYSTEM: BWST, HPI

NSM ON-32885, Parts AK1, AL1 and AM1, added an interlock between the Letdown Storage Tank (LDST) Lo-Lo Level signal and the High Pressure Injection (HPI) Pump Suction Supply from the Borated Water Storage Tank (BWST) Isolation valves 3HP-24 and 3HP-25 that open when the LDST Lo-Lo Level setpoint is reached on Unit 3. A switch was also added to the control boards to provide the capability to disable the interlock. Computer points were added to monitor the new circuitry. New alarms were also added.

This modification replaced the pneumatic and electronic LDST pressure instrument loops with QA Condition 1 electronic components and power supply. These modification parts also replaced both trains of LDST level instrumentation with QA Condition 1 instrumentation. The setpoint for the LDST Lo-Lo level was raised. This setpoint is used to interlock valve 3HP-14 (LDST Bypass) to the LDST Lo-Lo Level. The LDST Hi level computer point was renamed the HiHi level and the Hi level point was deleted. The Lo level setpoint for the recorder and statalarm was increased and the Hi level setpoint was reduced. This modification deleted a pressure switch whose function was to automatically open valve 3N-1 to add nitrogen to the LDST on low LDST pressure. This function is no longer used.

### SAFETY EVALUATION SUMMARY

The normal function of the HPI System is not adversely affected. The new circuitry's automatic action is a backup action to the manual Operator action to align the BWST outlet valves. The potential for hydrogen from the LDST to reach the HPI pumps is not increased. Monitoring for RCS leakage is not adversely affected. The increase in the setpoint of the Lo-Lo level alarm will provide the Operators with additional time to be aware of low LDST level. The new control circuitry to open the valves 3HP-24 and 3HP-25 when the low LDST level setpoint is reached is QA-1. All equipment associated with this modification, except the Operator Aid Computer annunciators and alarms, the local readout instrumentation, and the nitrogen switch are QA-1. There are no single failures that will cause the circuitry to actuate inadvertently and open the BWST isolation valves. This modification does not affect the ES operation of the valves 3HP-24 and 3HP-25. The ES signal will open the valves if they have not already been opened by the new logic. The power supplies and electrical components are adequate for the new loads. An electrical 10 CFR 50 Appendix R fire review was performed. This modification meets the applicable electrical standards in UFSAR Sections 8.3.1.4, 8.3.1.5, and 9.5.1.4.3. No Regulatory Guide 1.97 instrument indications are adversely affected. A seismic control board review was performed. A core drill was made to the QA-1 Auxiliary Building wall, but does not adversely affect the structural integrity of the wall. This modification involves no USQs or safety concerns. No technical specification changes are required. Since the LDST level instrumentation was changed to a Regulatory Guide 1.97 Category 2 instrument, changes were made to UFSAR Section 7.5.2.45. UFSAR Section 5.2.3.10.3 was revised to change the high and low setpoints for the LDST high and low alarm (statelarm) indication and the approximate maximum time that the LDST low level would provide the alarm indications for Unit 3.

## NUCLEAR STATION MODIFICATIONS

### DESCRIPTION

#### SYSTEM: Spent Fuel Pool (SFP) Fuel Handling

NSM ON-32914, Parts, AL1 & AL2, upgraded the power systems, control systems and the mechanical design of the Unit 3 SFP fuel handling bridge to resolve reliability and obsolescence issues. The electrical control consoles, motor control centers, load weight systems, feeder cabling, motor drives, brakes, fuel grapples, air systems, and wiring were replaced or modified. The present analog controls were replaced with a digital Programmable Logic Controller (PLC) controller and a programmable load cell. The crane interlocks (bridge, trolley, and hoist permissives and safety features) are implemented through PLC programming, in place of relay logic. The fuel bridge/grapple operational interlocks and bypasses are functionally equivalent to those of the existing system. More reliable and versatile load cell and elevation systems provide inputs to the PLC in the new design. Bridge and trolley positioning capabilities were added, to permit small, controlled changes in fuel grapple position. The fuel bridge drive motors were modified to have frequency drive for smooth variable speeds operation. The fuel handling grapple was replaced with a newer design, very similar to that presently in use on the Unit 3 main fuel bridge. An unused grapple interlocks bypass capability is removed. A grapple controls bypass function is added that provides a backup in case of controls failures or problems with pneumatic valves. However, the design of fuel grapple will not permit it to open/disengage unless the grappled fuel assembly is fully seated in a spent fuel pool rack or fuel transfer carriage basket, unloading the grapple locking mechanism. The hydraulic fuel grapple actuation system was replaced with a pneumatically actuated design. The fuel hoist was modified to incorporate a programmable load cell into the load weight system. The configuration of the load weight system was modified, with the three existing pulleys being replaced with a single load-bearing pulley.

### SAFETY EVALUATION SUMMARY

The SFP fuel handling bridge plays no direct role in plant operations other than fuel handling (e.g. refueling, fuel shuffles within the SFPs, dry cask loading, etc.). The system is not a precursor for any accident other than the design basis fuel handling accident. The number of fuel assemblies potentially damaged during a fuel handling accident is not changed by this modification. With the reconfigured hoist and fuel grapple configuration, the minimum water depth above fuel being handled in the SFP, presently credited for personnel radiation shielding, is still met. The water depth credited for the removal / retention of iodine within the SFP water during a SFP fuel handling accident is not adversely impacted. The consequences of the design basis, single fuel assembly fuel handling accident (FHA) in the SFP are not adversely impacted. The functional design and safety features of the SFP Fuel Handling System and the fuel bridge are retained. Interlock protection is provided for new control features that replace existing manual capabilities. The fuel bridges will still move only one fuel assembly at a time. The fuel bridge mast will still be used only to lift/move fuel assemblies, control rod assemblies, and burnable poison assemblies. No reductions in the margins of safety as defined in the basis of any technical specification are postulated. The fuel handling crane will still be restricted to suspending loads no greater than 3000 lbm. There are no credible adverse impacts on the ability of the Unit 3 SFP Ventilation System to be used to mitigate the consequences of a FHA. There are no adverse impacts on the RCS, containment integrity, or containment isolation capabilities. This modification involves no safety concerns or USQs. No changes are required to the station SLCs, Technical Specifications, or Technical Specification bases. UFSAR Section 9.1.4 and Figure 9-7 were updated to reflect the modification.

## NUCLEAR STATION MODIFICATIONS

### DESCRIPTION

#### SYSTEM: Reactor Building Fuel Handling

NSM ON-32914, Parts BL1 and BL2, implemented changes to the Fuel Handling System within the Unit 3 Reactor Building. The unused Auxiliary fuel handling bridge was removed from containment and scrapped. Power systems, control systems and the mechanical design of the main fuel handling bridge were upgraded. The multifunctional fuel handling mast was replaced with a newer design for handling fuel assemblies with/without control/orifice rod components. The main bridge fuel hoist now has a programmable load cell in the weighing system. The existing hoist pulley arrangement was similarly modified. The electrical control consoles, motor control centers, load weight systems, feeder cabling, motor drives, brakes, fuel grapples, air systems, and wiring were replaced or modified. The existing programmable logic controller (PLC) controls for the bridge, trolley, and hoist were replaced with a newer digital model and programmable load cell. The unused automatic positioning system for the main fuel bridge and associated control logic was removed. The control logic was modified to reflect the replacement of the multifunctional mast with a fuel-only mast. Control logic for the rod handling mast was deleted, and the man/machine interface changed accordingly. The crane interlocks (bridge, trolley, and hoist permissives and safety features) are now implemented through PLC programming. More reliable and versatile load cell and elevation systems provide the inputs. Bridge and trolley positioning "jog" capabilities were added, to permit small, controlled changes in fuel grapple position. The electrical control console, motor control center, festoon cabling, and wiring were replaced. The fuel bridge drive motors were modified to have frequency drive for smooth variable speeds operation. The fuel handling grapple was replaced with a newer design, very similar to that presently in use on the Unit 3 main fuel bridge. The design of fuel grapple will not permit it to open/disengage when it is loaded. The existing, pneumatically-actuated fuel grapple actuation system was also replaced with a similar design.

### SAFETY EVALUATION SUMMARY

The main fuel handling bridge plays no direct role in plant operations other than fuel handling. The system is not a precursor for any accident other than the design basis fuel handling accident. The fuel handling crane plays no direct role in mitigating the progression or radiological consequences of any accident described in the SAR. The number of fuel assemblies potentially damaged during a fuel handling accident is not changed by this modification. With the reconfigured hoist and fuel grapple configuration, the minimum water depth above fuel being handled in the Unit 3 refueling canal, presently credited for personnel radiation shielding, is still met. The water depth credited for the removal / retention of iodine within the SFP water during a RB fuel handling accident is maintained. As a result, the consequences of the design basis, single fuel assembly fuel handling accident (FHA) in the SFP are not adversely impacted. No adverse impacts on post-accident Reactor Building conditions, containment integrity, or the environmental qualification of plant SSCs are postulated. The functional designs and safety features of the Fuel Handling System and the Unit 3 main fuel bridge specifically related to fuel assembly handling are retained, and are not adversely impacted by the modification. Interlock protection is provided for new control features that replace existing manual capabilities. The fuel bridges will still move only one fuel assembly at a time. The design of fuel grapple will not permit it to open/disengage unless the grappled fuel assembly is fully seated. There are no adverse impacts on the RCS, containment integrity, or containment isolation capabilities. This modification involves no safety concerns or USQs. No changes are required to the station SLCs, Technical Specifications, or Technical Specification bases. UFSAR Section 9.1.4 and Figure 9-7 were updated to reflect the modification.

## NUCLEAR STATION MODIFICATIONS

### DESCRIPTION

#### SYSTEM: Security

NSM ON-52931/0 contained several modification implementation phases to make changes to the access control system and other security aspects of the station. This evaluation is addressing the design aspects of Implementation Phase 1 of this NSM.

NSM-ON-52931/0 (Implementation Phase 1) established an interim PAP and relocated security search services into the interim PAP. The existing search lobby and PAP were renovated to install new plant access turnstiles and Access Control Officer (ACS) enclosure with greater visibility and control of search lobby. After the completion of the new search lobby and PAP, security search devices were returned to the newly renovated PAP and installed and tested. The interim PAP was returned to Commodities & Facilities for plant canteen use. The establishment of an interim PAP included relocation of search equipment into a temporary search lobby. Construction barriers to allow modification of the search lobby were added. Disconnecting and removing existing electrical equipment from the existing search lobby was also performed. Implementation Phase 1 also consisted of removal and replacement of the existing Heating/Ventilation/ Air Condition (HVAC) equipment, including ductwork, in the search lobby. The ceiling was removed from this area to allow unobstructed view of the floor above. The ductwork was exposed. Dropped ceilings cover the ductwork in the office areas. Some existing High Pressure Service Water (HPSW) piping was rerouted to remove the interference with the new ACS enclosure. The existing firehose cabinet from the existing search lobby was relocated in the new search lobby.

### SAFETY EVALUATION SUMMARY

This implementation phase did not delete the existing security computer or access control system. This phase also did not make the new computer or access control system functional. The establishment of an interim PAP and other changes associated with Implementation Phase 1 does not cause non-compliance with the existing Security Plan or Emergency Plan. The HPSW System and fire prevention systems, as described in the SAR, were not adversely affected. This change does not reduce the effectiveness of the plant security measures for mitigating a security event. This modification phase does not affect the QA-1 portion of the security system. This modification is non-QA and non-safety related, except for some mounting of equipment. Some equipment is mounted QA-4 to prevent seismic interaction. Non-QA mounted equipment and walls do not create any seismic interaction concerns. The CAS and SAS panels are non-seismic, so no special seismic review is required for their functioning. No new core drills were required. The floor loadings due to the new loads are acceptable. A seismic interaction review was performed for this package with no concerns identified. Cabinet additions in the Auxiliary Building, SSF, and at Keowee were designed for appropriate seismic loads. An electrical 10 CFR 50 Appendix R fire review was performed. The power and electrical components are adequate for their loads, and they do not adversely affect existing component loads. There are no new safety/non-safety boundaries created by this part of the modification. The new equipment does not change heat loads, such that changes in HVAC equipment are needed. The relocated HPSW piping still has adequate flow for its function and causes no seismic interaction concerns. Changes to the HPSW System do not adversely affect the rest of the HPSW System. The duct barriers meet the criteria for a protected area boundary. This NSM phase involves no USQs or safety concerns. No UFSAR or technical specification changes are required.

## NUCLEAR STATION MODIFICATIONS

### DESCRIPTION

#### SYSTEM: Security

NSM ON-52931/0 contained several modification implementation phases to make changes to the access control system and other security aspects of the station. This evaluation is addressing the design aspects of Implementation Phases 2 & 3 of this NSM.

Implementation Phase 2 of NSM ON-52931 installed new security cabinets, fiber distribution cabinets, and some cabinet air conditioners. New computer equipment was installed in the Central Alarm Station (CAS) and Secondary Alarm Station (SAS). Emergency preparedness equipment was installed and wired. Security and non-security power was connected in the new computer cabinets. Existing security interface cabinets were wired into the new computer cabinets. New power supplies were added to the existing security interface cabinets for DC microwave operation. New cabling was installed in new cabinets and terminated. No inputs to the existing security computer system were changed at this time. No inputs were added to the new security computer system at this time. This implementation phase did not delete the existing security computer or access control system. This phase also did not make the new computer or access control system functional. NSM ON-52931/0 contained several modification implementation phases to make changes to the access control system and other security aspects of the station. This evaluation is addressing the design aspects of Implementation Phases 1 of this NSM.

Implementation Phase 3 of NSM ON-52931/0 replaced the security PAP doors.

### SAFETY EVALUATION SUMMARY

The installation of new security and emergency preparedness equipment and other changes associated with Implementation Phase 2 do not cause non-compliance with the existing Security Plan or Emergency Plan. This change did not reduce the effectiveness of the plant security measures when mitigating a security event. This modification phase did not affect the QA-1 portion of the security system. This modification is non-QA and non-safety related, except for some mounting of equipment. Some equipment was mounted QA-4 to prevent seismic interaction. Non-QA mounted equipment does not create any seismic interaction concerns. The CAS and SAS panels are non-seismic, so no special seismic review is required for their functioning. No new core drills were required. The floor loadings due to the new loads are acceptable. A seismic interaction review was performed for this part of the modification for equipment additions/relocations and no concerns were identified. An electrical 10 CFR 50 Appendix R fire review was performed for the design phase. The power and electrical components are adequate for their loads, and they do not adversely affect existing component loads (including the effects on the power supply to the ISFSI). There are no new safety/non-safety boundaries created by this package of the modification. The new equipment does not change heat loads, such that changes in HVAC equipment are needed. There are no adverse effects to the structural integrity of the adjacent floor and walls due to the replacement of the doors. The doors being replaced are not fire or flood barriers. The replacement doors have been determined to be adequate for providing access control as security doors. This evaluation addresses the design aspects of Implementation Phases 2 & 3 of this NSM. These NSM phases involve no USQs or safety concerns. No UFSAR or technical specification changes are required.

## NUCLEAR STATION MODIFICATIONS

### DESCRIPTION

#### SYSTEM: Siphon Seal Water (SSW)

NSMs ON-1, 2, 32932 Parts AM1, AK1, AL1, and AL2 installed piping, instrumentation, and heat trace around the Unit's CCW pumps to support supplying QA-1 shaft sealing, bearing lubrication, and motor oil cooling water as part of the overall Oconee Service Water Project. The normal water supply is from high pressure service water (HPSW), with low pressure service water (LPSW) being the safety related backup source. Control Room alarms are also provided to indicate low SSW flow to a CCW pump. The purpose of the new SSW system is to assist in ensuring a reliable siphon to the LPSW pump suction following a LOCA/LOOP.

### SAFETY EVALUATION SUMMARY

The piping and components installed by Part 'A' are seismically designed and will maintain the integrity of the SSW system pressure boundary in a design basis seismic event. The piping does not have to be designed for protection against tornado loads. The missile protection design method used for this modification design meets the method allowed by the SAR. The Security Plan is not adversely affected. The new piping and equipment do not increase the likelihood of initiation, or adversely affect the mitigation of any SAR described accidents. There is no increase in the consequences of any SAR described accident. No new radiological release pathways or failure modes are created. There is no adverse affect on any SSC, and no increase in the probability of a malfunction of equipment important to safety. This modification involves no USQs or safety concerns. No changes to the Technical Specifications are required. UFSAR Figure 9-42 (Siphon Seal Water System) was added. SLC 16.9.8, "HPSW Pump Requirement to Support LPSW" was also revised.

## NUCLEAR STATION MODIFICATIONS

### DESCRIPTION

#### SYSTEM: Siphon Seal Water (SSW)

NSM ON-52932 Parts AK1, AK2, AL1 installed instrumentation and cable support systems as part of the overall Oconee Service Water Project. The specific modification activities covered by this evaluation are as follows:

Part AK1: Install Flow measurement loop for Siphon Seal Water (SSW) Headers in the Turbine Building

Part AK2: Install Differential Pressure measurement across SSW Strainers in the ESV Building.

Part AL1: Install Trace Heat and Cable Support Systems in the RWF Trench and the new Dike Trench, Install Buried Conduit between B3T Switchgear House and Radwaste Facility (RWF) Trench

### SAFETY EVALUATION SUMMARY

The measurement loops installed by Parts AK1 and AK2 are seismically designed systems that will maintain the integrity of the SSW system pressure boundary in a design basis seismic event. These measurement loops have no safety function and do not affect operation of any other SSCs. They are not required to function during or after any design basis event, nor are they required to mitigate the consequences of any event nor do they contribute to the probability or the severity of any new or previously identified design basis event or equipment malfunction event.

The trace heating systems installed by Part AL1 are non-safety systems which do not serve any safety function, are not required to function during or after any design basis event and are not required to mitigate the consequences of any event. They are provided for equipment weather protection of non-operating systems only and do not affect the operation of any other SSCs and they do not contribute to the probability or severity of any new or previously analyzed design basis event or equipment malfunction. The cable tray and conduit systems installed by Part AL1 are designed and installed as QA-1 and QA-4 systems in those areas where they are used to carry safety related cable. The cable tray systems are designed to meet all criteria governing separation of safety trains, separation of power and control, tray fill factor and cable spacing. The cable support systems do not affect the operation of any other SSCs and they do not contribute to the probability or severity of any new or previously analyzed design basis event or equipment malfunction.

This modification involves no USQs or safety concerns. No changes to the Technical Specifications or the UFSAR are required.



## NUCLEAR STATION MODIFICATIONS

### DESCRIPTION

SYSTEM: Siphon Seal Water (SSW)

NSM ON-52932, Part AK3, installed the flow instrumentation (pressure gauge, orifice, panel, D/P transmitter, tubing and valves) on the Siphon Seal Water (SSW) supply lines to each of the three Essential Siphon Vacuum (ESV) pump seals for the Oconee Units. The modification is part of the overall Oconee Service Water Project to enhance the siphon function to the LPSW pumps.

### SAFETY EVALUATION SUMMARY

The SSW flow components are classified QA Condition 1 based on connection to Class F piping. Their function is passive. The flow gauges can be used as information by the operators to determine pump operability and configuration change requirements when other primary alarms are present. The equipment does not increase the likelihood of initiation, or adversely affect the mitigation of any SAR described accidents. No new radiological release pathways or failure modes are created, so there is no increase in the consequences of any SAR described accident. No SSCs are degraded. There is no adverse affect on any SSC, and no increase in the likelihood of a malfunction of equipment important to safety. This modification involves no USQs or safety concerns. No changes to the UFSAR or Technical Specifications are required.

## NUCLEAR STATION MODIFICATIONS

### DESCRIPTION

#### SYSTEM: Siphon Seal Water (SSW)

Part AM1 of NSM ON-52932 installed the new Siphon Seal Water (SSW) Headers "A" and "B" in the Radwaste Facility Trench and Header "B" in the Turbine Building. The new SSW Headers facilitate supplying Essential Siphon Vacuum (ESV) pump sealing water and Condenser Circulating Water (CCW) pump sealing and oil cooler water from Low Pressure Service Water (LPSW). This piping is part of the new SSW System. The purpose of the new system is to assist in ensuring a reliable siphon to the LPSW pump suction following a LOCA/LOOP. Both headers were connected to the buried SSW header sections that were installed per NSM ON-52932 Part AM2. This modification part will installed piping, piping components, an annubar, and hangers/supports. No electrical components or electrical changes were made by this part of the modification.

### SAFETY EVALUATION SUMMARY

The new SSW piping and components are QA-1 (Class F) and are seismically qualified to the Maximum Hypothetical Earthquake (MHE), with exception of two items. There is some Class G piping that goes from the HPSW "M" Header to a seismic boundary check valve (SSW-4) in the new SSW piping. The annubar is non-QA-1 for function, but is QA-1 for pressure boundary integrity. The annubar is used for testing. The piping installed by this part of the modification is to be supported by supports/restraints that connect to the Radwaste Facility trench and to the Turbine Building. These supports are QA-1. Some of the support/restraints that support the new headers are connected to the Radwaste Facility trench that was upgraded to a QA-4 structure. The other supports are connected to the Turbine Building, which is a QA-4 structure. The affected piping is in the trench and the Turbine Building. Therefore, snow, ice, wind, and tornado loads are not applicable. This modification was designed for turbine missiles using an NRC approved method. The piping does not create any new radiological release pathways. The new piping has no adverse effects on the Security Plan. This modification involves no USQs or safety concerns. No technical specification changes are required. UFSAR Section 3.2.2, Figures 9-10 and 9-11 were revised accordingly.

## NUCLEAR STATION MODIFICATIONS

### DESCRIPTION

#### SYSTEM: Siphon Seal Water (SSW)

Part AM3 of NSM ON-52932 installed the new Siphon Seal Water (SSW) "A" and "B" Headers in the Essential Siphon Vacuum (ESV) Building. The new SSW Headers assist in providing a supply of Essential Siphon Vacuum (ESV) pump sealing water and Condenser Circulating Water (CCW) pump sealing and oil cooler water from Low Pressure Service Water (LPSW). The piping is part of a new SSW System. The purpose of the new system is to assist in ensuring a reliable siphon to the LPSW pump suction following a LOCA/LOOP. Each SSW Header contains a duplex strainer to provide the filtration necessary for the CCW pump shaft seal and bearing lubrication supply. The SSW "A" and "B" Headers are cross-connected. The cross-connect intersects SSW "A" Header downstream of the "A" Header strainer and intersects SSW "B" Header upstream of "B" Header strainer. This configuration allows water from the intake to be fed backwards through SSW "A" Header and over to SSW "B" Header and through "B" Header strainer during an Appendix R scenario. Isolation valves are provided for each strainer, though a strainer can be flushed while on-line. A flush connection is provided downstream of each strainer. Code relief valves are to be installed around each strainer. Each of the ESV pump supply headers in the ESV building has nine branches to supply seal water to the ESV pumps. These branches cross-connect prior to entering an ESV pump. Valves are located on the branches to isolate one header from the other. This part of the modification is designed to provide adequate flow to the CCW and vacuum pumps. They do not create any new radiological release paths or adversely affect containment integrity.

### SAFETY EVALUATION SUMMARY

All of the new ESV piping and components are QA-1 (Class F) and are seismically qualified to the Maximum Hypothetical Earthquake (MHE), except for part of the fire hose connection and part of the strainer wash connections. There is a normally closed manual seismic boundary valve at this fire hose connection and each of the strainer wash connections. This modification part installed piping, valves, strainers, and hangers/supports only. The piping and components installed are all in the ESV building. This piping has a maximum design temperature of 125 F and will not exceed this temperature. This portion of the upgrade is designed such that a single, active failure will not prevent the system's safety-related function from being accomplished. The piping has been designed for adequate flow. There are no seismic interaction concerns with existing non-seismic SSCs interacting with QA-1 piping or components or with the new non-seismic piping and components interacting with QA-1 SSCs. Part of the SSW piping and components do not have heat tracing since the ESV building is heated. Building heating is not required for system function to mitigate an accident. Passive ESV building ventilation removes heat from the building during accident modes. During normal operation, both natural ventilation and non-QA fans remove the building heat. The fans are not needed during accident conditions. The piping installed by this part of the modification is supported by supports/restraints that connect to the ESV building pad/foundation/pit. The pad/foundation/pit is QA-1 (Class 2 structure designed for MHE loads). The supports/restraints are designed QA-1. The piping does not have to be designed for protection against tornado loads. The missile protection design method used for this modification part's design meets the method allowed by the SAR. The Security Plan is not adversely affected. This modification involves no USQs or safety concerns. No technical specification changes are required. UFSAR Sections 3.2.2.2 and 3.7.3.8 were revised to address installation and that the SSW System can withstand the MHE.

## NUCLEAR STATION MODIFICATIONS

### DESCRIPTION

#### SYSTEM: Siphon Seal Water (SSW)

Part AM4 of NSM ON-52932 installed the new Siphon Seal Water (SSW) Header portion in the new dike trench and across the intake's bridge. The new SSW Headers facilitate supplying Essential Siphon Vacuum (ESV) pump sealing water and Condenser Circulating Water (CCW) pump sealing and oil cooler water from Low Pressure Service Water (LPSW). This piping is part of the SSW System. The purpose of the new system is to assist in ensuring a reliable siphon to the LPSW pump suction following a LOCA/LOOP. The header ends are capped. This part of the modification also added a branch to Header "A" with an isolation valve and a rack nipple connection for the submersible pump in an Appendix R scenario

### SAFETY EVALUATION SUMMARY

The new SSW piping and components are QA-1 (Class F) and are seismically qualified to the Maximum Hypothetical Earthquake (MHE). The new piping has no adverse effects on the Security Plan. The piping does not create any new radiological release pathways or affect containment integrity. The piping is heated traced, but heat tracing is not required for system function. The piping is designed to provide adequate system flow. There are no seismic interaction concerns. The piping will not exceed the design temperature, even if the heat tracing malfunctions, due to a single failure. Portions of the piping installed by this part of the modification are supported by supports/restraints that connect to the new trench. The new dike trench and supports are QA-1. Piping that is outside of the trench is supported by QA-1 support/restraints. Some of the support/restraints that support the pipe outside the trench are connected to the intake bridge, which was upgraded to be a QA-4 structure. Snow, ice, and wind loadings were considered for all exterior exposed piping. This modification involves no USQs or safety concerns. No technical specification changes are required. UFSAR Section 3.2.2 was revised to list that the SSW System can withstand the MHE.

## NUCLEAR STATION MODIFICATIONS

### DESCRIPTION

#### SYSTEM: Siphon Seal Water (SSW)

Part AM7 of NSM ON-52932 installed the portions of the new Siphon Seal Water (SSW) headers that span east to west across the intake structure. The piping is part of the new SSW System. The SSW System supplies Essential Siphon Vacuum (ESV) pump sealing water and Condenser Circulating Water (CCW) pump sealing and oil cooler water from Low Pressure Service Water (LPSW). The purpose of the new system is to assist in ensuring a reliable siphon to the LPSW pump suction following a LOCA/LOOP. Four valves, located on the east and west terminal points of both SSW headers, were provided to facilitate header flushing. For maintenance convenience, Units 1 and 3 CCW pump SSW supply can be isolated with valves located in the SSW headers. Also relocated a maintenance header to avoid interference with the new SSW piping.

### SAFETY EVALUATION SUMMARY

The new piping does not cause any accidents or adversely affect the mitigation of any accidents. Not does it create any new radiological release paths or affect containment integrity. The new SSW piping and components are QA-1 (Class F) and are seismically qualified to the Maximum Hypothetical Earthquake (MHE). The piping, components, and hangers are not in trenches or buried, but are located on the intake structure. No electrical changes were made under this part of the OSW modification. There are no seismic interaction concerns. The piping installed by this part of the modification is supported by supports/restraints that connect to the intake structure. The supports are QA-1 and the intake structure is QA-4. Snow, ice, and wind loadings are considered for the piping since it is exposed to the outside environment. The piping does not have to be designed for protection against tornado loads. The existing CCW structures and system are not designed for turbine missiles. The new piping has no adverse effects on the Security Plan. The rerouted maintenance header is non-QA Condition. The rerouting does not adversely affect the flow of the header or cause any seismic interaction concerns. This modification involves no USQs or safety concerns. No technical specification changes are required. UFSAR Section 3.2.2 was revised to list that the SSW System can withstand the MHE.

## NUCLEAR STATION MODIFICATIONS

### DESCRIPTION

SYSTEM: Operator Aid Computer, CRVS

NSMs ON-1, 2, 32962 replaced the Honeywell Operator Aid Computer (OAC) on all three units and were reported in the 1997 50.59 Annual Summary. Revision 1 was made to the modification 10 CFR 50.59 evaluation to address the addition of LDST Pressure vs. Level Displays and Total RC Inventory Leakage Monitor to all three Unit's OACs as supplemental operator aids. Also, Revision 2 was made to the Unit's evaluations since a drywall computer bay wall was added to the Unit 1&2 and Unit 3 Control Room envelop, necessitating an additional detector be added to the respective Fire Detection System. Control Room Ventilation System (CRVS) ductwork is rerouted within the control room envelope.

### SAFETY EVALUATION SUMMARY

The purpose of the OAC is to supplement control indications and provide clear concise plant information that may otherwise not be directly available. The OAC is not safety related, not QA-1; and not required to be single failure proof. The OAC does not perform a function required to mitigate an accident, does not trip the reactor or actuate a safety-related system, and is not significant to any Emergency Operating Systems. There are no design basis requirements for the OAC and the OAC is not required to be operable for the plant to operate. The OAC and related indicating devices are not accident initiators, nor are they relied upon to initiate a reactor trip, mitigate an accident or actuate a safety system. The new OAC displays/monitors, computer bay wall, CRVS components, and Fire Detection System sensors do not adversely affect the function or operation of any important to safety SSCs. There are no adverse impacts on containment integrity, radiological release pathways, fuel design, filtration systems, steam relief setpoints, or radwaste systems. The changes do not degrade the control board or negatively impact the accident information being provided to the operator. There are no SAR evaluated malfunctions associated with failure of the OAC. The design functions of the CRVS, including control room habitability and equipment cooling, are not adversely impacted. No adverse impacts on the Fire Detection System design bases and functions are postulated. These changes are not postulated to adversely impact the probability or consequences of a malfunction of other equipment important to safety that are evaluated in the SAR. The margin of safety as defined in the basis for any Technical Specification is not adversely affected. No UFSAR or technical specification changes are required.

## NUCLEAR STATION MODIFICATIONS

### DESCRIPTION

SYSTEM: 7 kV Electrical

NSM ON-32983/0 addresses the following:

Item 1- Interlocks the 7kV startup breakers (E) with switchyard isolation actuation to prevent them from closing and trip, if closed, during a Loss of Offsite Power (LOOP) event. Both channels of switchyard isolation are used to preclude single channel failure. Switchyard isolation signal currently exists in Unit 3 Keowee Emergency Start Panel, and this signal is used for Unit 3.

Item 2 - Replaced the slow bus transfer timers (Agastat) with Cutler Hammer relays and timers, and reset the 7kV slow bus transfer timers.

### SAFETY EVALUATION SUMMARY

The Switchyard Isolation and its associated wiring is QA Condition 1. The portion of this modification associated with the 7kV startup breakers is also QA Condition 1. A review for seismic interaction between non-seismic and seismic structures, systems, and components was performed and no concerns were identified. The new electrical components are adequate for the electrical loading. The new safety/non-safety electrical interfaces are protected with safety related isolation devices. The new equipment is qualified for its environment. An electrical 10 CFR 50 Appendix R fire review was performed. The slow bus transfer time delay relay setting does not adversely affect the slow bus transfer and associated equipment's operation. The function of the Agastat E7012 time delay relay contacts was not changed. The nuclear fuel, RCS, and containment integrity are not adversely impacted, and no new radiological release pathways are created. This modification involves no USQs or safety concerns. No technical specification changes are required. UFSAR Section 8.3.1.1.2 was revised to change the time delay (on Unit 3) when the main generator has been supplying in-plant loads while separated from the switching station and the normal unit source is lost. The time delay was changed from 1 second to 1.8 seconds.

## NUCLEAR STATION MODIFICATIONS

### DESCRIPTION

SYSTEM: Essential Siphon Vacuum (ESV)

NSM, ON-1,2, 33000, Part C, Implementation Parts CM1, CK1, CL1, and CL3 tied the ESV system into the existing plant systems. Specific activities include:

- Install tie-in piping including CCW high point vent replacement and the ESV float valve (ESV-1,2)
- Cutting and capping of the mid and high point CCW vents
- Removal of control room indicating lights and power for valves CCW-26, 27, 28, 29
- Removal of existing CCW Intake Level probe circuitry
- Install the new CCW Intake Header Level probe
- Install the heat tracing on the tie-in piping and float valve including the float valve thermocouple

### SAFETY EVALUATION SUMMARY

The entire system is seismically designed. Seismic non-seismic interaction was considered. Each ESV train is associated with an independent CCW Intake Header that represents a single siphon path. With two siphon paths required for LPSW operability, a single failure of one, whether ESV related or not, still allows for adequate water transport to the LPSW pumps. The missile design criterion in UFSAR 3.1.40 was applied to the ESV system design. Likewise, the HELB review indicated that the plant could be safely shutdown following a HELB that disabled ESV power supplies. The ESV piping and equipment in the ESV building are not near any high energy lines. The additional load of the emergency power system is acceptable. The removal of the mid-point vents is acceptable as well as the use of a manual valve on the high-point vents.

The operation of the ESV system enhances the siphon mode of operation of the CCW system. The reliability of the siphon is improved with ESV providing air removal. Note that operation of ESV aligned to the CCW Intake Header is based upon approval of Technical Specification 3.19. This modification involves no USQ's or safety concerns. No Technical Specification changes are required. UFSAR Section 9.2.2.1 was revised to address the new ESV system and a new section was added. UFSAR Figures 9-42 (Siphon Seal Water System) and 9-43 (Essential Siphon Vacuum System) were added. UFSAR Figure 9-9 was revised. SLC 16.9.7, "Keowee Lake Level" and SLC 16.9.8, "HPSW Pump Requirement to Support LPSW" were also revised.



## NUCLEAR STATION MODIFICATIONS

### DESCRIPTION

SYSTEM: Essential Siphon Vacuum (ESV)

This NSM, ON-1, 2, 33000, Part C, Implementation Parts CL2 ties the ESV system into existing plant systems. Specific activities include:

- Installation of new 600 VAC starters in XS1, 2 & 3 and connection of the power supplies to the ESV pumps.
- Installation of the controls and control components (relays, switches, lights) for the ESV pumps.
- Termination of ESV Tank Vacuum instrumentation cabling to the vacuum instruments. Connections to the control room annunciator and the plant computer for alarms and process data collection.
- Removal of two indicators from 2AB3A that are no longer used. Relocation of the control switch for Main Vacuum Priming Pump A to provide additional control board space for the ESV Pump controls.

### SAFETY EVALUATION SUMMARY

All QA-1 components in the ESV system are seismically qualified, seismically designed and meet the design and construction requirements for QA-1 applications. Non-QA-1 equipment identified as a potential seismic interaction with QA-1 equipment was evaluated as acceptable (i.e. no impact to function) or has been seismically restrained with a seismically qualified restraint. All ESV system equipment or components are located in mild environments. Each ESV train is associated with an independent CCW Intake Header, which represents a single siphon path. With two siphon paths required for LPSW operability, a single failure of one, whether ESV related or not, still allows for adequate water transport to the LPSW pumps. The missile design criterion in UFSAR 3.1.40 was applied to the ESV system design. Likewise, the HELB review indicated that the plant could be safely shutdown following a HELB that disabled ESV power supplies. The ESV piping and equipment in the ESV building are not near any high energy lines. The additional load of the emergency power system is acceptable.

The operation of the ESV system enhances the siphon mode of operation of the CCW system. The reliability of the siphon is improved with ESV providing air removal. Note that operation of ESV aligned to the CCW Intake Header was based upon approval of Technical Specification 3.19. This modification involves no USQ's or safety concerns. No Technical Specification changes are required. UFSAR Section 9.2.2.1 was revised to address the new ESV system and a new section was added. UFSAR Figures 9-42 (Siphon Seal Water System) and 9-43 (Essential Siphon Vacuum System) were added. UFSAR Figure 9-9 was revised. SLC 16.9.7, "Keowee Lake Level" and SLC 16.9.8, "HPSW Pump Requirement to Support LPSW" were also revised.

## NUCLEAR STATION MODIFICATIONS

### DESCRIPTION

SYSTEM: Essential Siphon Vacuum (ESV)

NSM ON-1,2 33000, Part C, Implementation Part CL4, ties the ESV system into existing plant systems. Specific activities include:

- Installation of GE FANUC based multiplexer (MUX) equipment, fiber optic connection related, and serial bus related equipment for instrument signal connection to the plant computer (OAC) and local indication.
- Termination of both external and internal cabling to the Essential Siphon Vacuum Local Control Panel ESVLCP, located in the ESV Building and Siphon Seal Water Terminal Cabinet SSWTC, located on the CCW Intake Structure, for connection of field device signals to the OAC via the MUX equipment. The instruments being terminated are associated with both the Siphon Seal Water (SSW) system (NSM ON-x2932) and the Essential Siphon Vacuum (ESV) system (NSM ON-x3000).
- Addition of a Type T thermocouple to the ESV pump instrumentation panel to measure ESV Building ambient temperature and provide local and control room indication.
- Fiber Optic related equipment additions to AP00 to support connection to the plant computer
- Power supply switching controls for the ESVLCP and SSWTC redundant power supply equipment.
- Termination of all conventional copper based cabling, Fiber Optic cables and Serial Bus cabling to connect the overall modification into a cohesive installation

### SAFETY EVALUATION SUMMARY

All the described installations and activities are non-QA1. Power supply breaker coordination is adequate. Qualified isolation devices were used, as required, to isolate QA1 signals from non-QA1 receiving device/component or QA-1 power sources from non-QA1 applications. Breaker/fuse applications and coordination was evaluated and found acceptable. All QA-1 components in the ESV system are seismically qualified, and meet the design and construction requirements for QA-1 applications. Non-QA-1 equipment identified as a potential seismic interaction with QA-1 equipment has been evaluated as acceptable (i.e. no impact to function) or has been seismically restrained with a seismically qualified restraint. Each ESV train is associated with an independent CCW Intake Header, which represents a single siphon path. With two siphon paths required for LPSW operability, a single failure of one, whether ESV related or not, still allows for adequate water transport to the LPSW pumps. The missile design criterion in UFSAR 3.1.40 was applied to the ESV system design. Likewise, the HELB review indicates that the plant may be safely shutdown following a HELB that disabled ESV power supplies. The ESV piping and equipment in the ESV building are not near any high energy lines. The additional load of the emergency power system is acceptable. The operation of the ESV system enhances the siphon mode of operation of the CCW system. The reliability of the siphon is improved with ESV providing air removal. Note that operation of ESV aligned to the CCW Intake Header was based upon approval of Technical Specification 3.19. This modification involves no USQ's or safety concerns. No Technical Specification changes are required. UFSAR Section 9.2.2.1 was revised to address the new ESV system and a new section was added. UFSAR Figures 9-42 (Siphon Seal Water System) and 9-43 (Essential Siphon Vacuum System) were added. UFSAR Figure 9-9 was revised. SLC 16.9.7, "Keowee Lake Level" and SLC 16.9.8, "HPSW Pump Requirement to Support LPSW" were also revised.

## NUCLEAR STATION MODIFICATIONS

### DESCRIPTION

SYSTEM: Auxiliary Power, Emergency Power

NSMs ON-1, 2, 3000 Part DL-1 relocated several loads currently on the safety related electrical system to the non-safety related electrical system in order to allow for the addition of some new safety related loads. The relocated loads are the Low Activity Waste Tank (LAWT) sump pump motors 1A and 1B, High Activity Waste Tank (HAWT) sump pump motors 1A and 1B, Heat Trace Panel KTH2, and the Transformer CT5 Emergency Feeder.

### SAFETY EVALUATION SUMMARY

The affected loads are not accident initiators or required for the mitigation of accidents. Transformer CT5 can be used to provide emergency power to Oconee during certain scenarios per Technical Specifications, but its emergency feeder is not required as part of the Oconee licensing basis. CT5 is non-QA-1 and is not required to meet the single failure criteria. Thus, the emergency feeder is not required to make CT5 operable. There are no seismic interaction concerns with the new equipment's location. The non-safety related load supply is adequate for the addition of these new loads. The change in MCC power supplies for CT5 does not affect the Emergency Power Switching Logic (EPSL) CT5 Degraded Grid Voltage Protection. There are also no changes made to the main feeder busses, standby busses (including the undervoltage relays), or to Keowee underground transformer CT4. The cables meet the applicable electrical specifications identified in UFSAR Sections 8.3.1.4, 8.3.1.5, and 9.5.1.4.3. An electrical 10 CFR 50 Appendix R fire review was performed for the design phase. The non-QA-1 non-load shed MCCs are located in a mild environment, are installed QA-4, and do not perform any required safety function to prevent or mitigate the consequences of an accident. The power source changes do not cause any new safety/non-safety electrical interfaces that are not protected with safety related isolation devices. This modification involves no USQs or safety concerns. No UFSAR or technical specification changes are required.

## NUCLEAR STATION MODIFICATIONS

### DESCRIPTION

#### SYSTEM: ESV

NSM ON-53000 Part C2 added the common buried Essential Siphon Vacuum (ESV) piping for the three units and also added a conduit bank inside the Protected Area and cable trays in the cable trench inside the Protected Area.

Part C5 of NSM ON-53000 added some of the ESV piping and components to the ESV trench located in the Intake Dike.

This vacuum system is being 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).

### SAFETY EVALUATION SUMMARY

The new piping and components do not increase the likelihood of initiation, or adversely affect the mitigation of any SAR described accidents. No new radiological release pathways are created. There is no increase in the consequences of any SAR described accident. There are no adverse effects to the Security Plan. The buried ESV piping, cable trays, and the conduit bank are all QA-1 and seismically qualified to the MHE. The piping is class F. There is no adverse effect on the structural integrity of other piping in the area. Heat tracing/freeze protection is not required since the piping is buried below the frost line. The piping is designed to provide adequate flowrate. The buried piping, cable trays, and conduit bank do not have to be designed for protection against tornado. No technical specification changes are required. UFSAR Sections 3.2.2 and 3.7.3.8 were revised to reflect the seismic qualification of the ESV lines.

## NUCLEAR STATION MODIFICATIONS

### DESCRIPTION

#### SYSTEM: ESV, SSW

NSM ON-53000, Part C3, added the ESV piping, valves, pumps, and tanks in the ESV building. Several modifications together added the new Essential Siphon Vacuum (ESV) System. NSMs ON-4, 53000 added the common ESV equipment for the three units and NSMs ON-1, 2, 3000 added the tie-ins to the respective unit's Condenser Circulating Water (CCW) headers. The ESV System vacuum pumps are liquid ring design with the sealing water being discharged from the pump. Each vacuum pump is sized to handle the maximum expected air in-leakage associated with one ECCW siphon header. Six vacuum tanks, one for each ECCW siphon header, are provided for system capacitance (for transient conditions) and to provide a place to remove entrained liquid. The vacuum system was installed 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).

### SAFETY EVALUATION SUMMARY

The new piping and equipment do not increase the likelihood of initiation, or adversely affect the mitigation of any SAR described accidents. There is no increase in the consequences of any SAR described accident. No new radiological release pathways or failure modes are created. There is no adverse affect on any SSC, and no increase in the probability of a malfunction of equipment important to safety. All of the new ESV piping and components are QA-1 (Class F) and are seismically qualified to the Maximum Hypothetical Earthquake (MHE) for this modification part. Minimum flow lines are to be connected to the tanks for protection of the pumps. The ESV System vacuum pumps and tanks will be located on a seismically qualified pad in the plant yard are to be enclosed in a QA-4 building designed for MHE. A single, active failure will not prevent the system's safety-related function from being accomplished. The piping has been designed for adequate flow. Heat tracing is not required, since the building is heated. Passive ESV building ventilation removes heat from the building during accident modes. During normal operation; both natural ventilation and non-QA fans remove the building heat. Check valves in the ESV line between the tank and the ESV pumps prevent air leakage from the pumps to the CCW headers during the time that the pumps are not running following a LOOP. Snow, ice, and wind loads do not apply since the piping and components are contained in the ESV building, which is a QA-4, Class 2 structure. The missile protection design method meets the method approved by the NRC. There are no security concerns, and the Security Plan will not be adversely affected. This modification involves no USQs or safety concerns. No technical specification changes are required. UFSAR Section 3.2.2, and Table 3-2 were revised accordingly to describe the new equipment.

## NUCLEAR STATION MODIFICATIONS

### DESCRIPTION

SYSTEM: ESV, SSW

NSM ON-53000 Part CL3 installed electrical equipment enclosures and internal components at the Intake Structure, in the ESV Pump Building, in the Equipment Rooms and in the Cable Rooms associated with the ESV and SSW systems for the Oconee Service Water Project. The electrical equipment enclosures and internal components include controls and instrumentation component mounting associated with the CCW Pumps, ESV Pumps and other equipment which comprises the ESV and SSW systems.

### SAFETY EVALUATION SUMMARY

This change does not increase the likelihood of initiation, or adversely affect the mitigation of any SAR described accidents. There is no increase in the consequences of any SAR described accident. No new radiological release pathways or failure modes are created. There is no adverse affect on any SSC, and no increase in the probability of a malfunction of equipment important to safety. No SSCs are degraded. Thus, the modification involves no USQs or safety concerns. No UFSAR or Technical Specification changes are required.

## NUCLEAR STATION MODIFICATIONS

### DESCRIPTION

SYSTEM: LPSW, CCW

NSM ON-53001 Part B (BM1, BK1, BL1) re-located the chiller condenser supply from the LPSW System to the CCW System. The purpose of this modification is to allow isolation of the Unit 2 LPSW non-essential header after a LOCA using 2LPSW-139, without isolating the control room chiller condenser cooling water. NSMs ON-1, 23001 Part C installed 2LPSW-139 and provides the ability to operate the valve from the control room. Previously, non-safety valves were used to isolate the Unit 2 LPSW non-essential header. The new chiller condenser cooling water supply piping is routed from the CCW header in the turbine building basement, upstream of LPSW 'C' Pump, to downstream of LPSW-135. LPSW flow to the chiller condensers can be isolated by closure of LPSW-135. This modification installed piping, piping components, a pressure gauge, hangers/support and also a larger diameter chiller condenser pump impeller and larger horsepower motor.

### SAFETY EVALUATION SUMMARY

The new chiller supply piping and components from the CCW header to the seismic boundary valve, CCW-487, are QA-1 (Class F) and are seismically qualified to the Maximum Hypothetical Earthquake (MHE). Downstream of the seismic boundary valve the piping and components are non-QA components and Class G piping. This includes the pump impellers, motors, and motor stands; piping and fittings; and a pressure gauge. The Class F portions of the piping installed by this part of the modification is supported by supports/restraints that connect to the Turbine Building, a QA-4 structure. The supports are QA-1. There are no adverse effects to the LPSW or CCW Systems. All associated piping is in the Turbine Building, therefore snow, ice, and wind loading is not considered and protection against tornado loads is not required. The modification was designed for turbine missiles. The new piping has no adverse effects on the Security Plan. The new piping does not increase the potential for a turbine building flood as analyzed in the UFSAR. Sufficient NPSH is available for the LPSW Pumps prior to and after the installation of this modification. This change does not increase the likelihood of initiation, or adversely affect the mitigation of any SAR described accidents. There is no increase in the consequences of any SAR described accident. No new radiological release pathways or failure modes are created. There is no adverse affect on any SSC, and no increase in the probability of a malfunction of equipment important to safety. This modification involves no USQs or safety concerns. No technical specification changes are required. UFSAR Figures 9-9 and 9-24 were revised accordingly to reflect the new configuration.

## NUCLEAR STATION MODIFICATIONS

### DESCRIPTION

#### SYSTEM: CCW

Part A of NSMs ON-2, 33003 upgraded a portion of the Unit's 2 & 3 Condenser Circulating Water (CCW) pump discharge valves (CCW-10, CCW-11, CCW-12, and CCW-13) control circuitry from non-QA to QA-1. This modification does not alter the method of operation of the discharge valves. This change helps assure that the discharge valves will remain in existing position (opened or closed) following power restoration after a LOOP. This modification also deleted some relay contacts to the high point and mid point vent valve controls.

### SAFETY EVALUATION SUMMARY

The function of the CCW pump discharge valve controls has not changed. Portions of the valve controls were upgraded to QA-1. The capability to close the CCW pump discharge valve with a control room push-button is still available to reduce the potential of Turbine Building flooding due to siphoning of CCW. The mitigation of an Appendix R fire is not adversely affected. Containment integrity is not degraded. No new radiological release pathways are created. All non-safety/safety electrical interfaces are protected with safety related (QA-1) isolation devices. The discharge valve circuitry has been analyzed and no single failure is postulated which could result in the discharge valve changing from it's 'as is" position during a LOOP or LOCA/LOOP. In addition, the valve circuitry ensures that the discharge valve for the last pump running will remain open which will make siphon flow available. Voltage adequacy was reviewed and no concerns were identified. All power sources are QA-1 designed sources. The design meets the electrical specifications identified in UFSAR Sections 8.3.1.5, 9.5.1.4.3, and the applicable portions of Section 8.3.1.4. A control board seismic review was performed for the control board changes, with no concerns identified. The replacement circuitry devices are QA-1 components and are located in mild environments, so environmental qualification requirements related to harsh environments do not apply. There are no seismic interaction concerns due to existing non-safety structures, systems, and components impacting the newly classified/designed QA-1 equipment. The valve controls do not require design for protection against tornado loads. This modification part meets the separation/protection criteria for turbine missiles. No postulated high trajectory or low trajectory missiles create concerns with causing malfunctions of the valve circuitry. This modification involves no USQs or safety concerns. No UFSAR or technical specification changes are required.



## NUCLEAR STATION MODIFICATIONS

### DESCRIPTION

SYSTEM: CCW

ON-53003, Parts BM1, BM2, reclassified the Condenser Circulating Water (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 and 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).

### SAFETY 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. This change does not increase the likelihood of initiation, or adversely affect the mitigation of any SAR described accidents. There is no increase in the consequences of any SAR described accident. No new radiological release pathways or failure modes are created. There is no adverse affect on any SSC, and no increase in the probability of a malfunction of equipment important to safety. No SSCs are degraded. Thus, the modification involved no USQs or safety concerns. No Technical Specification changes are required. UFSAR Section 3.1.1.1 was revised to list the QA Condition 1 SSCs.

## NUCLEAR STATION MODIFICATIONS

### DESCRIPTION

#### SYSTEM: Low Pressure Service Water

NSMs 2, 33022 replaced and relocated control valves LPSW-251 and LPSW-252 on Units 2 & 3. The associated solenoid valves were also relocated. Isolation valves LPSW-254 and LPSW-256 were replaced. The valve ID numbers were also changed on U3 for consistency. Vent and drain lines were modified/added. Some carbon steel piping around these valves was replaced with stainless steel pipe. Marbo plugs were installed through existing fittings. The existing control valve E/P converters were deleted. The existing pressure regulators were reused. A permanent differential pressure gauge across each control valve was added. A core drill through the wall structure was performed on Unit 2 to provide access for instrument tubing, power, and control wiring.

### SAFETY EVALUATION SUMMARY

The modification does not adversely affect the LPSW flow used for normal or emergency operation. Travel stops are still on the valves to prevent excessive flow to the LPI Coolers. No new LPSW System operational function occurs as a result of this change. Relocation of the valves and solenoids does not degrade their qualifications. All other electrical components are in the control room and are adequate for the environment. The Appendix R fire scenario is not impacted. There are no new safety/non-safety electrical interfaces. The control board seismic qualification is not impacted. The power supply, cabling, and breakers are adequate for the new/replaced loads. The replacement valves and components are all rated for the existing system design parameters of temperature and pressure. The new valves, components, and the component relocations do not create any undesirable seismic interactions. The pipe stresses and support/ restraints were analyzed as adequate. There are no adverse effects on separation or missile protection requirements. The new differential pressure gauge across each of the control valves is used to monitor for blockages. The gauges are not required to function during an accident and are non-QA. Although, the new differential gauges are not QA-1, they are qualified to maintain the pressure boundary. The relocation of the control valves necessitated a core drill through the nearby wall on Unit 2. The affected wall is not a fire barrier, and its integrity is not reduced due to the core drill. This modification involves no USQs or safety concerns and no Technical Specification changes are required. UFSAR sections 7.5.2.58, 9.2.2.2.3, Figure 9-12 and SLC 16.9.12 were revised accordingly.

## NUCLEAR STATION MODIFICATIONS

### DESCRIPTION

#### SYSTEM: CBSAT, CS

NSM ON-33044 replaced the Unit 3 Concentrated Boric Acid Storage Tank (CBAST) positive displacement pumps with a single centrifugal pump with a flow capacity of approximately 50 gpm to the Letdown Storage Tank. Unit 3 had two CBAST pumps. Only one pump was replaced. The primary function of the new CBAST pump is to deliver concentrated boric acid water to the Reactor Coolant System (RCS) via the Letdown Storage Tank and the High Pressure Injection (HPI) pumps. The new pump will also recirculate the contents of the CBAST. Additionally, this modification; Removed accumulators downstream of the pumps' discharge, replaced throttle valve 3CS70, replaced the CBAST recirculating flow measuring orifice and associated flow gage with components designed for the higher recirculation flow rate; added a manual valve in the pump discharge line for double isolation; added a check valve in the pump discharge line for pump protection; added connections to allow the capability for a temporary pump to circulate the CBAST; removes the pump discharge pressure gage from the control room; added a new pump discharge pressure gage for local indication; added new instrument blowdown valves for the flow gage; and replaced affected piping. All affected heat tracing and wiring was removed and/or replaced.

### SAFETY EVALUATION SUMMARY

The new pumps, piping, and new components are QA-2, Class E. The QA-1 portion of the suction piping is not affected by this NSM. The replaced piping is stainless steel. The modified Coolant Storage (CS) System will contain the specified sources of concentrated boric acid, including pumps and flowpaths. The modified CS System retains adequate trace heating. The new CBAST pump has a flowrate capacity greater than that in the technical specification bases. The removal of one CBAST pump and associated piping does not increase the likelihood of loss of boration control since the Technical Specifications already allow the plant not to be in an LCO with only one CBAST pump and associated flow path operable. The design includes having adequate heat tracing to meet the requirements of Technical Specifications. The new pump, piping, and other replaced/added components are designed for proper design conditions (e.g. pressure, temperature, and class). There are no seismic interaction concerns. A 10 CFR 50 Appendix R fire review was performed for the design phase, with no concerns identified. No special environmental qualification is required. The probability of the moderator dilution accident is not increased. The NSM replaced the auto stop batch counter, but the new controller also has a batch counter auto stop feature. This modification involves no USQs or safety concerns. No technical specification changes are required. UFSAR Section 9.3.1.2.1, Tables 3-2, 9-10, Figures 1-3, 9-21 were revised accordingly.

## NUCLEAR STATION MODIFICATIONS

### DESCRIPTION

#### SYSTEM: CRVS

NSM ON-53046, Parts AM1, AL1 modified the Control Room Ventilation System (CRVS) to enable a flow path to be established so that either Air Handling Unit (AHU) 1-34 or 2-35 can provide cooling to both of the Units 1 & 2 cable rooms. The purpose of the modification is to design CRVS so that it can be functional following a single active failure. These changes enable a flow path to be established with minimal impact to AHU performance so that either AHU 1-34 or 2-35 can provide adequate cooling to both cable rooms. The scope of the modification includes the following:

Installation of two motorized fire dampers between the Units 1 & 2 electrical equipment rooms.

Installation of two motorized fire dampers between the Units 1 and 2 cable rooms.

Installation of four safety-related motorized damper assemblies over each of the existing air transfers between the units 1 and 2 electrical equipment and cable rooms.

Relocated sprinkler and detector to meet fire protection requirements.

### SAFETY EVALUATION SUMMARY

The CRVS is designed non-safety related, but performs a safety related function. The motorized fire dampers installed in the cable and electrical equipment rooms meet QA-3 requirements. The motorized control dampers are qualified to QA-4 to prevent seismic interaction. The associated controls are non-QA and control damper motor power and control power is provided from non-safety related power sources. There are no single active failures of any active components that will prevent the system from performing its intended function for room cooling. The modified system keeps temperatures in the cable and electrical equipment rooms below the maximum Station Blackout temperatures in UFSAR Section 3.11.4. This modification causes no adverse effects to the cooling, pressurization, and filtering of the control rooms. The motorized control and fire dampers are designed to close as needed against airflow through the damper opening. The new fire dampers and relocated sprinkler and detector meet fire protection requirements. There are no adverse effects to the Security Plan and no changes are needed to the Plan due to this modification. The HPSW System was not adversely affected by minor change to the fire protection system to eliminate spray pattern interference. This modification meets the applicable electrical information in UFSAR Sections 8.3.1.4, 8.3.1.5, and 9.5.1.4.3. No new radiological release pathways are created. This modification involves no USQs or safety concerns. No technical specification changes are required. UFSAR Sections 3.11.4, 9.4.1, 9.5.1, Table 9-11, and Figure 9-24 were revised to describe the new equipment, limits, and functions. The bases of Selected Licensee Commitment (SLC) 16.7.7 were amended to describe the new components needed for the system to function and be considered operable.

## II. MINOR MODIFICATIONS (ONOE's)

### DESCRIPTION

SYSTEM: Standby Shutdown Facility RC Makeup Pump

ONOE's-9401, 9402, 9403 replaced the SSF RC Makeup Pump suction pressure transmitters with Rosemount model absolute pressure design on Units 1, 2 & 3. The new design is not susceptible to fluctuations in reactor building pressure. The new digital indicator enhances accuracy and readability.

### SAFETY EVALUATION SUMMARY

The new pressure transmitters are QA-1 Class E components. The new transmitters do not in any way increase the likelihood of initiation or adversely affect the mitigation of any SAR described accidents. No new accident scenarios 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. No new radiological release pathways or failure modes are created. No SSCs are degraded. All Design Basis requirements were maintained. No USQs or safety concerns are involved with this modification and no Technical Specification changes are required. UFSAR Table 3-68 (Pkg 98-53) was revised to include the new qualification report.

## MINOR MODIFICATIONS (ONOE's)

### DESCRIPTION

SYSTEM: Reactor Coolant System (RCS)

Minor Modifications ONOE's-9489 & 9490 installed isolation valves 2RC-202, 203 downstream of existing sample line valves 2RC-147, 148, respectively on Unit 2. The existing needle valves provide good flow control but do not isolate efficiently after extended use. Addition of the new globe valves alleviates the problem.

### SAFETY EVALUATION SUMMARY

The addition of seismically and environmentally qualified isolation valves to the sample lines does not in any way increase the likelihood of initiation, or adversely affect the mitigation of, any SAR described accidents. No new accidents 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. No new radiological release pathways or failure modes are created. No SSCs are degraded. All Design Basis requirements were maintained. No USQs or safety concerns are involved with this modification and no Technical Specification or UFSAR changes are required.

## NUCLEAR STATION MODIFICATIONS

### DESCRIPTION

#### SYSTEM: CRVS

NSM ON-53046, Parts AMI, ALI modified the Control Room Ventilation System (CRVS) to enable a flow path to be established so that either Air Handling Unit (AHU) 1-34 or 2-35 can provide cooling to both of the Units 1 & 2 cable rooms. The purpose of the modification is to design CRVS so that it can be functional following a single active failure. These changes enable a flow path to be established with minimal impact to AHU performance so that either AHU 1-34 or 2-35 can provide adequate cooling to both cable rooms. The scope of the modification includes the following:

Installation of two motorized fire dampers between the Units 1 & 2 electrical equipment rooms.

Installation of two motorized fire dampers between the Units 1 and 2 cable rooms.

Installation of four safety-related motorized damper assemblies over each of the existing air transfers between the units 1 and 2 electrical equipment and cable rooms.

Relocated sprinkler and detector to meet fire protection requirements.

### SAFETY EVALUATION SUMMARY

The CRVS is designed non-safety related, but performs a safety related function. The motorized fire dampers installed in the cable and electrical equipment rooms meet QA-3 requirements. The motorized control dampers are qualified to QA-4 to prevent seismic interaction. The associated controls are non-QA and control damper motor power and control power is provided from non-safety related power sources. There are no single active failures of any active components that will prevent the system from performing its intended function for room cooling. The modified system keeps temperatures in the cable and electrical equipment rooms below the maximum Station Blackout temperatures in UFSAR Section 3.11.4. This modification causes no adverse effects to the cooling, pressurization, and filtering of the control rooms. The motorized control and fire dampers are designed to close as needed against airflow through the damper opening. The new fire dampers and relocated sprinkler and detector meet fire protection requirements. There are no adverse effects to the Security Plan and no changes are needed to the Plan due to this modification. The HPSW System was not adversely affected by minor change to the fire protection system to eliminate spray pattern interference. This modification meets the applicable electrical information in UFSAR Sections 8.3.1.4, 8.3.1.5, and 9.5.1.4.3. No new radiological release pathways are created. This modification involves no USQs or safety concerns. No technical specification changes are required. UFSAR Sections 3.11.4, 9.4.1, 9.5.1, Table 9-11, and Figure 9-24 were revised to describe the new equipment, limits, and functions. The bases of Selected Licensee Commitment (SLC) 16.7.7 were amended to describe the new components needed for the system to function and be considered operable.

## NUCLEAR STATION MODIFICATIONS

### DESCRIPTION

#### SYSTEM: CBSAT, CS

NSM ON-33044 replaced the Unit 3 Concentrated Boric Acid Storage Tank (CBAST) positive displacement pumps with a single centrifugal pump with a flow capacity of approximately 50 gpm to the Letdown Storage Tank. Unit 3 had two CBAST pumps. Only one pump was replaced. The primary function of the new CBAST pump is to deliver concentrated boric acid water to the Reactor Coolant System (RCS) via the Letdown Storage Tank and the High Pressure Injection (HPI) pumps. The new pump will also recirculate the contents of the CBAST. Additionally, this modification; Removed accumulators downstream of the pumps' discharge, replaced throttle valve 3CS70, replaced the CBAST recirculating flow measuring orifice and associated flow gage with components designed for the higher recirculation flow rate; added a manual valve in the pump discharge line for double isolation, added a check valve in the pump discharge line for pump protection, added connections to allow the capability for a temporary pump to circulate the CBAST, removes the pump discharge pressure gage from the control room, added a new pump discharge pressure gage for local indication, added new instrument blowdown valves for the flow gage, and replaced affected piping. All affected heat tracing and wiring was removed and/or replaced.

### SAFETY EVALUATION SUMMARY

The new pumps, piping, and new components are QA-2, Class E. The QA-1 portion of the suction piping is not affected by this NSM. The replaced piping is stainless steel. The modified Coolant Storage (CS) System will contain the specified sources of concentrated boric acid, including pumps and flowpaths. The modified CS System retains adequate trace heating. The new CBAST pump has a flowrate capacity greater than that in the technical specification bases. The removal of one CBAST pump and associated piping does not increase the likelihood of loss of boration control since the Technical Specifications already allow the plant not to be in an LCO with only one CBAST pump and associated flow path operable. The design includes having adequate heat tracing to meet the requirements of Technical Specifications. The new pump, piping, and other replaced/added components are designed for proper design conditions (e.g. pressure, temperature, and class). There are no seismic interaction concerns. A 10 CFR 50 Appendix R fire review was performed for the design phase, with no concerns identified. No special environmental qualification is required. The probability of the moderator dilution accident is not increased. The NSM replaced the auto stop batch counter, but the new controller also has a batch counter auto stop feature. This modification involves no USQs or safety concerns. No technical specification changes are required. UFSAR Section 9.3.1.2.1, Tables 3-2, 9-10, Figures 1-3, 9-21 were revised accordingly.



## MINOR MODIFICATIONS (ONOE's)

### DESCRIPTION

SYSTEM: Reactor Coolant System (RCS)

Minor Modifications ONOE's-9489 & 9490 installed isolation valves 2RC-202, 203 downstream of existing sample line valves 2RC-147, 148, respectively on Unit 2. The existing needle valves provide good flow control but do not isolate efficiently after extended use. Addition of the new globe valves alleviates the problem.

### SAFETY EVALUATION SUMMARY

The addition of seismically and environmentally qualified isolation valves to the sample lines does not in any way increase the likelihood of initiation, or adversely affect the mitigation of, any SAR described accidents. No new accidents 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. No new radiological release pathways or failure modes are created. No SSCs are degraded. All Design Basis requirements were maintained. No USQs or safety concerns are involved with this modification and no Technical Specification or UFSAR changes are required.

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

### DESCRIPTION

SYSTEM: Standby Shutdown Facility RC Makeup Pump

ONOE<sub>s</sub>-9401, 9402, 9403 replaced the SSF RC Makeup Pump suction pressure transmitters with Rosemount model absolute pressure design on Units 1, 2 & 3. The new design is not susceptible to fluctuations in reactor building pressure. The new digital indicator enhances accuracy and readability.

### SAFETY EVALUATION SUMMARY

The new pressure transmitters are QA-1 Class E components. The new transmitters do not in any way increase the likelihood of initiation or adversely affect the mitigation of any SAR described accidents. No new accident scenarios 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. No new radiological release pathways or failure modes are created. No SSCs are degraded. All Design Basis requirements were maintained. No USQs or safety concerns are involved with this modification and no Technical Specification changes are required. UFSAR Table 3-68 (Pkg 98-53) was revised to include the new qualification report.

## MINOR MODIFICATIONS (ONOE's)

### DESCRIPTION

SYSTEM: Condenser Circulating Water (CCW), ASW

Minor Modification ONOE-10387 changed out the existing Rosemount SSF Auxiliary Service Water (ASW) flow transmitter (3CCWFT0225) with another Rosemount QA-1 device with a narrower range to reduce readout uncertainty. The loop range was changed from 1200 to 600 gpm with a high alarm setpoint of 500 gpm. The analog flow indicator was replaced with higher accuracy digital indicator.

### SAFETY EVALUATION SUMMARY

This change was made to improve readability of the ASW flowrate indication. The new components are QA Condition 1, Class E. This change does not cause, or adversely affect the mitigation of, any previously analyzed SAR accidents. No new radiological release pathways or failure modes are created. The CCW and ASW systems will continue to perform their design functions during normal and accident conditions. There is adverse effect on plant setpoints, safety limits, or design parameters. There is no effect on reactivity. Based on the safety evaluation performed, no USQs or safety concerns are created by this minor modification. No Technical Specification or Selected Licensee Commitment changes are required. No UFSAR changes are required.

## MINOR MODIFICATIONS (ONOE's)

### DESCRIPTION

#### SYSTEM: High Pressure Injection (HPI)

Minor mod ONOE-10554, 10555, & 10556 upgraded the HPI Makeup Flow pneumatic instrumentation with electronic and added an analog computer point on all three units. The existing Yarway manifold valve IHPIIV0113 for transmitter IHPIFT0010A was replaced with an Anderson-Greenwood Model V4S manifold valve. New tubing and fittings were installed from the inlet of the manifold valve to the transmitter. The function of the instrumentation is to provide the control room with a non-safety related indication of HPI Makeup Flow.

### SAFETY EVALUATION SUMMARY

This function of the HPI instrumentation was not changed as a result of this minor mod. The pressure boundary provided by the manifold valve, instrument tubing/fittings and instrument (transmitter) and the seismic mounting of the transmitter and indicator are QA-1. The transmitter does not have to function during any design basis event, but shall remain intact to provide a safety related pressure boundary. The transmitter and indicator are seismically mounted by torque values obtained from the manufacturer and in accordance with OSS-0060.00-00-0001 section 8.4.1.3 and/or approved station torquing procedures. The manifold valve and all tubing/fittings conform to the requirements of QA-1, Duke Class B and were installed in accordance with approved station specifications and procedures. The materials of construction for the new Rosemount transmitters have been reviewed and determined to be adequate to ensure the QA-1 pressure boundary is maintained and to ensure the new transmitter is acceptable for the anticipated environmental conditions. The accidents evaluated in the SAR are caused/initiated by other factors than HPI Makeup Flow instrumentation, vital power, or OAC. The replacement of a pneumatic loop with an electronic loop, or the slight load addition on 1KVIC, does not create any condition or events that initiate accidents evaluated in the SAR. No new radiological release pathways are created. The HPI system will still perform as described in the accident scenarios. No Technical Specification or UFSAR changes are required and no Unreviewed Safety Questions exist for this modification.

## MINOR MODIFICATION (ONOE's)

### DESCRIPTION

SYSTEM: Reactor Coolant System (RCS)

Minor Modification ONOE- 9459, 10942, 11473 replaced the operators on valves 2, 3, IRC-4, respectively. Based on the latest industry, NRC, and EPRI information, in particular the EPRI Performance Prediction Methodology for MOVs, the operators were replaced with a Limitorque size SB-0-25, versus the present Limitorque size SB-00-15. This modification is solely to ensure the operator has sufficient margin to position valves RC-4 in its design safety position during a Design Basis Accident or Event.

### SAFETY EVALUATION SUMMARY

The replacement of the obsolete operators with newer more reliable devices that provide all required SAR described functions does not in any way increase the likelihood of initiation, or adversely affect the mitigation of, any SAR described accidents. No new accidents 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. No new radiological release pathways or failure modes are created. No SSCs are degraded. The installation complies with GL 89-10 requirements. All Design Basis requirements were maintained. The UFSAR presently addresses the EPRI testing done on PORV Block Valves and that ONS "uses the same Westinghouse valve and Limitorque operator for the PORV block valve application." No USQs or safety concerns are involved with this modification and no Technical Specification changes are required. UFSAR Chapter 5, Section 5.4.6.4.1, 'PORV and Block Valve Testing and Qualification', was revised to reflect the replacement of the operator.

## MINOR MODIFICATION (ONOE's)

### DESCRIPTION

SYSTEM: WC, LPSW

This activity involves implementation of minor mod OEC-11120 per TN/0/B/11120/MM/AMI. This modification installed two 6" wet taps into existing Chilled Water (WC) piping to provide tie-in connections for a portable chiller that can be used to provide control room cooling. Also, an 8" wet tap into existing LPSW piping was installed to provide a tie-in connection for the new CCW supply to control room chillers 'A' and 'B' condensers and pumps.

### SAFETY EVALUATION SUMMARY

Though the WC System is not a safety-related system, the major equipment of the Chilled Water System is arranged in two parallel redundant trains with one supply and return line and each train capable of supplying the required cooling capacity. Implementation of this modification with all units at power operation was addressed in that a portable chiller and temporary piping were made available to provide cooling to the affected areas. The machine and wet taps can be closed so the LPSW inventory will remain intact and the system can continue to operate as designed. The piping, components, and valves installed per this minor modification are Class G and non-QA. No new electrical components were added. Pipe support/restraints were installed per specification no. OSS-0027.00-00-0003, d "Design, Fabrication and Erection Specification for Class E, G, and H Pipe Supports". Weld integrity and leak tightness of the wet tap fittings and assembly were hydro-statically tested prior to attaching tapping equipment and performing the taps. Minor Mod OEC-11120 does not adversely affect any equipment important to safety. There is no increase the likelihood of initiation, or adverse affect on the mitigation of, any SAR described accidents. No new accidents 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. No new radiological release pathways or failure modes are created. No USQs or safety concerns are involved with this modification. No Technical Specification changes are required. No UFSAR changes are necessary.

## MINOR MODIFICATIONS (ONOE's)

### DESCRIPTION

SYSTEM: Emergency Feedwater (EFW)

This safety evaluation supports Minor Modification ONOE-11537 (with field work). This activity simply repaired a ½" hole in the 8" diameter embedded pipe for the Turbine Driven EFW Pump suction line from the hotwell

### SAFETY EVALUATION SUMMARY

The repairs were made in accordance with approved station specifications and procedures. The affected piping section is non-QA non-seismic Class G. The concrete structure is QA-4 seismically qualified. Both pipe and concrete were restored to their original design conditions. This change does not cause, or adversely affect the mitigation of, any previously analyzed SAR accidents. There are no physical changes to the facility or operating procedures. No new radiological release pathways or failure modes are created. The EFW system will continue to perform its design functions during normal and accident conditions. There is no change to plant setpoints or safety limits. Based on the safety evaluation performed, no USQs or safety concerns are created by this minor modification. No Technical Specification, Selected Licensee Commitment, or UFSAR changes are required.

## MINOR MODIFICATIONS (ONOE's)

### DESCRIPTION

SYSTEM: Once Through Steam Generators (OTSG)

Minor modifications ONOE's- 9612, 9613, 11460, 11461, 12559 and 12560 document tube repairs in the 2A, 2B, 3A, 3B, 1A, and 1B OTSGs, respectively. The 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 I 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. Presently there are 286 in-service sleeves installed in the 3A OTSG and 570 tubes plugged. Based on the information in TAC ONTC-0-100A-0001-001, there must be greater than 13,978 tubes available in each steam generator to meet core thermal-hydraulic design criteria. Following the completion of the repair activities (tube plugging/sleeving) performed under this modification, the TAC was re-evaluated using the revised plugging and sleeving numbers.

### SAFETY EVALUATION SUMMARY

The inspections and repairs are done to ensure the integrity of the OTSGs. This activity does not cause, or adversely affect the mitigation of, any previously analyzed SAR accidents. There is no adverse affect on any SSC, and no increase in the probability of a malfunction of equipment important to safety. No new radiological release pathways, or failure modes are created. No SSCs are degraded. No new failure modes are created. The OTSGs will continue to perform their design functions during normal and accident conditions. Based on the safety evaluation performed, no unreviewed safety questions are involved with these minor modifications. No changes to the Technical Specifications or the UFSAR are required.



## MINOR MODIFICATION (ONOE's)

### DESCRIPTION

#### SYSTEM: High Pressure Injection (HPI)

Minor Modification ONOE's-11636, 11650, 11637, 11651 replaced the operators on valves 2,3HP-26 & 2,3HP-27, respectively. Based on the latest industry, NRC, and EPRI information, in particular the EPRI Performance Prediction Methodology for MOVs, the operators were replaced with a Limitorque size SB-0-25, versus the present Limitorque size SB-00-15. This modification is solely to ensure the operator has sufficient margin to position the valves in their design safety position during a Design Basis Accident or Event.

### SAFETY EVALUATION SUMMARY

The replacement of the obsolete operators with newer more reliable devices that provide all required SAR described functions does not in any way increase the likelihood of initiation, or adversely affect the mitigation of, any SAR described accidents. No new accidents 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. No new radiological release pathways or failure modes are created. No SSCs are degraded. The installation complies with GL 89-10 requirements. All Design Basis requirements were maintained. No USQs or safety concerns are involved with this modification and no Technical Specification changes are required. UFSAR Chapter 6, Appendix 6, Table 6-16 is revised to reflect the new operator size.

## MINOR MODIFICATIONS (ONOE's)

### DESCRIPTION

SYSTEM: Standby Shutdown Facility Auxiliary Service Water

ONOE-12359, provides revision of the design temperature for the SSF-ASW Pump from 110°F to 150°F. The pump design data is provided in UFSAR Table 9-14. The original design temperature for the pump was 110°F. Analysis of the SSF Service Water System determined the need to increase the pump rating to accommodate temperatures up to 150°F (Reference PIP O-93-1068).

### SAFETY EVALUATION SUMMARY

The SSF ASW pump provides flow to all 3 Oconee units to adequately remove decay heat from the RCS and maintain natural circulation in the RCS. This safety evaluation addressed to increase the design temperature for the SSF-ASW Pump from 110°F to 150°F based on engineering analysis of the existing pump. The re-analysis of the SSF ASW design temperature does not in any way increase the likelihood of initiation, or adversely affect the mitigation of, any SAR described accidents. No new accident scenarios 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. No new radiological release pathways, or failure modes are created. No SSCs are degraded. All Design Basis requirements were maintained. No modifications to the existing plant equipment or changes in the operation of the plant were required. No USQs or safety concerns are involved with this modification and no Technical Specification changes are required. UFSAR Table 9-14 was revised accordingly.

## MINOR MODIFICATIONS (ONOE's)

### DESCRIPTION

#### SYSTEM: Penetration Room Ventilation System (PRVS)

Minor Modifications ONOE's-12391, 12392 and 12393 provided access ports in the Units 1, 2 and 3, respectively, Penetration Room Ventilation System (PRVS) piping to perform air flow measurements using the pitot traverse method. The function of the PRVS is scavenging containment leakage from the Penetration Rooms, cleaning it by passing through the Particulate, Absolute, and Carbon Filtering systems then routing it to the unit vent stack for release. These filters are maintained at a minimum efficiency of 90% in removal of methyl iodide, 99% for removal of R-11, and 99% for removal of DOP. The three access holes are provided at 60-degree intervals at three traverse locations on the PRV fan discharge lines going to the unit vent stack. One (three hole) traverse location is provided at each fan discharge and one on the common piping after the two fan discharge lines merge.

### SAFETY EVALUATION SUMMARY

Each train of the PRVS consists of piping from the penetration room through a Particulate, Absolute, and Carbon (PAC) filter bank, a single stage direct drive fan, and piping to the unit vent stack. System design flow is 1000 CFM +/-10%. At this point in the system air has been filtered and is in transit to the unit vent with no valves or other provisions for closure. These flow measurement ports are provided to allow independent pitot traverse determination of actual flow for calibration of the installed orifice plates and to make this measurement as required by Technical Specifications in accordance with ANSI N510-1975 on a refueling outage frequency. These holes are drilled and tapped into 12" standard schedule carbon steel pipe and plugged with screwed pipe plugs. They holes will be opened only during data gathering. During implementation of the work only one hole was allowed to be open at a time. The worst case effects of one of these holes being open during system operation was analyzed with consideration of the Maximum Hypothetical Accident and determined not to cause an increase in offsite dose nor to cause control room operator dose to exceed the limits of 10 CFR 20. This modification simply provides an additional method for PRVS airflow measurement. PRVS airflow measurement was previously done by pressure drop through an installed orifice plate. The orifice plate pressure drop method alone was determined to be unacceptable by the NRC. The pitot traverse method is now used to verify proper flow in the system. This change does not cause, or adversely affect the mitigation of, any previously analyzed SAR accidents. No new radiological release pathways or failure modes are created. Operating procedures are not affected by this modification. Plant operation methods will not be affected by this activity. Tests or experiments as defined in the SAR are not changed by this activity. No other systems structures or components are affected by this activity. No Technical Specifications or UFSAR changes are required.

## MINOR MODIFICATIONS (ONOE's)

### DESCRIPTION

#### SYSTEM: Incore Instrument System

Minor Modification, ONOE-12611, evaluated a change to the number of incore neutron detector signals that are processed by the OAC, and a change to Section 7.6.2 of the UFSAR. Unit 2 incore locations L-2 and O-12 were previously blank-flanged due to cracks and a broken incore assembly. Both locations have been permanently abandoned.

### SAFETY EVALUATION SUMMARY

Fifty incore detectors remain available to measure neutron flux. This number and available locations exceed those required by the Technical Specifications to perform axial imbalance and quadrant power tilt calculations. The number of core exit thermocouples available for ICCM is not affected. These changes do not involve any changes to the operation, design basis or function of any structure, system or component. The changes do not involve any safety or licensing issues, and do not revise any regulatory commitments. This change does not cause, or adversely affect the mitigation of, any previously analyzed SAR accidents. No new radiological release pathways or failure modes are created. No design basis or safety functions of any structure, system or component are adversely affected by these changes. Operating procedures are not adversely affected by this modification. Plant operation methods are not affected by this activity. Tests or experiments as defined in the SAR are not changed by this activity. No other systems structures or components are adversely affected by this activity. No USQs or safety concerns are created by this change. No Technical Specifications changes are required. Section 7.6.2 of the UFSAR (Pkg 98-78) was revised accordingly.

## MINOR MODIFICATIONS (ONOE's)

### DESCRIPTION

#### SYSTEM: Main Steam

This safety evaluation supports a change to the Main Steam design Basis Document OSS-0254.00-00-1037 performed via ONOE-12764. The change clarifies that the number two stop valve, MS-104, on each unit is a continuously positioned valve while the other stop valves have only two positions: fully opened or fully closed. This change creates consistency in the main steam/turbine stop valves description with the as built configuration as described in vendor documentation and the UFSAR.

### SAFETY EVALUATION SUMMARY

This DBD change does not affect the design, function, or operation of plant secondary equipment or systems. The Main Turbine system, as evaluated in the SAR, is not adversely affected by this activity which simply provides for enhanced accuracy. It does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. The change is consistent with UFSAR Section 10.3.4, therefore no revisions were necessary.

## MINOR MODIFICATIONS (ONOE's)

### DESCRIPTION

#### SYSTEM: High Pressure Injection (HPI)

Minor modification, ONOE-13045, "Correct Documentation - HPI - Seal Supply Filters", was used to revise station documentation, including the UFSAR, HPI Design Basis Document (DBD), and vendor drawing to improve technical accuracy and clarify existing specifications. Oconee PIP 0-098-2055, Corrective Action #34 identified several discrepancies relating to the High Pressure Injection (HPI) System Seal Supply (Injection) Filter design pressure, design flow and code of construction.

### SAFETY EVALUATION SUMMARY

These changes to the HPI component descriptions to facilitate agreement with the as-built plant do not cause, or adversely affect the mitigation of, any previously analyzed SAR accidents. There are no physical changes to the facility or operating procedures. No new radiological release pathways or failure modes are created. The HPI system will continue to perform its design functions during normal and accident conditions. Based on the safety evaluation performed, no USQs or safety concerns are created by this minor modification. No Technical Specification or Selected Licensee Commitment changes are required. Table 9-7 (Pkg 98-57) of the UFSAR was revised to correct the Seal Injection Filter design flow and code of construction as well as adding an additional design pressure at 150 °F.

## MINOR MODIFICATIONS (ONOE's)

### DESCRIPTION

#### SYSTEM: Control Rod Drive (CRD) Circuitry

This Corrective Minor Modification; ONOE-13093 w/o field work, revised Control Rod Drive (CRD) related UFSAR section 7.6.1.1.8 and Design Basis Document (DBD) OSS-0254.00-00-2013 section 20.2.4.1. Both documents previously made reference to a "Trip Fault" circuit designed to sense faults that may affect operation of the trip circuit. However, a review of the AS-BUILT condition of the CRD system indicates that the "Trip Fault" circuit does not exist as described in the UFSAR. There are however, statalarms and computer points that provide trip indication for the trip devices [CRD breakers] and the four trip channels [RPS]. The operator can use these statalarms and/or computer points to deduce if a fault associated with the trip circuit exists. The reference to the "Trip Fault" circuit was revised to describe the equivalent existing circuitry.

### SAFETY EVALUATION SUMMARY

The existing statalarms and computer points provide the operator with trip fault information. Although there is no specific "Trip Fault" circuitry, detection circuitry is available to provide equivalent indication to the operator. Correcting the information in the CRD sections of the UFSAR and the DBD ensures that these documents contain accurate information. This activity has no adverse effects on the CRD system or any other system, structure, component (SSC) and will not reduce the current level of protection and safety provided by the CRD system. These changes do not cause, or adversely affect the mitigation of, any previously analyzed SAR accidents. There are no physical changes to the facility or operating procedures. No new radiological release pathways or failure modes are created. The CRD system will continue to perform its design functions during normal and accident conditions. Based on the safety evaluation performed, no USQs or safety concerns are created by this minor modification. No Technical Specification or Selected Licensee Commitment changes are required. Section 7.6.1.1.8 (Pkg 98-140) of the UFSAR was revised to clarify the trip fault/status detection circuitry.

## MINOR MODIFICATIONS (ONOE's)

### DESCRIPTION

#### SYSTEM: Low Pressure Service Water

This Corrective Minor Modification; ONOE-13152 w/o field work, revised the OFD and UFSAR Figure 9-11. The change reflects that the Units 1&2 supply line taps off the 'A' LPSW line upstream of LPSW-69 & 70. Also, that only the 'A' header supplies the RB component coolers.

### SAFETY EVALUATION SUMMARY

The safety and function of the LPSW system, as previously evaluated in the SAR, is not adversely affected by this activity which provides a correction to the LPSW drawings to match the as-built plant. It does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. Figure 9-11 (Pkg 98-136) was revised accordingly.



## MINOR MODIFICATIONS (ONOE's)

### DESCRIPTION

SYSTEM: Condenser Circulating Water (CCW)

Minor Modification ONOE-13155 (w/o field work) changed to CCW pumps design temperature from 75 to 90 degrees F.

### SAFETY EVALUATION SUMMARY

The change was made based on an engineering evaluation of the CCW components. This change does not cause, or adversely affect the mitigation of, any previously analyzed SAR accidents. There are no physical changes to the facility or operating procedures. No new radiological release pathways or failure modes are created. The CCW system will continue to perform its design functions during normal and accident conditions. There is no change to plant setpoints or safety limits. Based on the safety evaluation performed, no USQs or safety concerns are created by this minor modification. No Technical Specification or Selected Licensee Commitment changes are required. Table 9-4 (Pkg 98-96) of the UFSAR was revised to reflect the change.

## MINOR MODIFICATIONS (ONOE's)

### DESCRIPTION

SYSTEM: Steam Generator (OTSG)

Corrective Minor Modification ONOE-13240 (w/o field work) revised UFSAR section 10.4.7.1.1. The OTSG pressure was corrected from 1064.7 to 1064 psig.

### SAFETY EVALUATION SUMMARY

This change does not cause, or adversely affect the mitigation of, any previously analyzed SAR accidents. There are no physical changes to the facility or operating procedures. No new radiological release pathways or failure modes are created. The CRD system will continue to perform its design functions during normal and accident conditions. Based on the safety evaluation performed, no USQs or safety concerns are created by this minor modification. No Technical Specification or Selected Licensee Commitment changes are required. Section 10.4.7.1.1 (Pkg 98-79) of the UFSAR was revised to reflect the correct pressure.

### III. TEMPORARY MODIFICATIONS (TSMs)

#### DESCRIPTION

SYSTEM: Main Feedwater

This 10 CFR 50.59 evaluation was performed for temporary modification ONTM-2020. This activity added 6 8" C-type clamps to the 1B MFW Pump Turbine duplex strainer cover to stop an apparent gasket leak.

#### SAFETY EVALUATION SUMMARY

This temporary modification simply tightened the strainer cover to secure a leak on a non-safety related component. This temporary activity does not affect the functions of the MFW system. The activities performed do not cause or adversely affect the mitigation of any previously analyzed SAR accidents. There are no effects on reactivity. No safety related plant SSCs are adversely affected. There is no adverse affect on containment integrity, no new radiological release pathways are created, and no new failure modes are created. This temporary mod involves no USQ's or safety concerns. No Technical Specification or UFSAR changes are required.

## TEMPORARY MODIFICATIONS (TSMs)

### DESCRIPTION

#### SYSTEM: Condenser Circulating Water (CCW)

This 10 CFR 50.59 evaluation was performed for temporary modification ONTM-2050 (described in PIP 2-O98-3562) that addressed a problem with a damaged relay in the CCW pump and discharge valve circuitry located in Miscellaneous Terminal Cabinet 2MTC-1. This temporary modification electrically removed the damaged relay and other related relays from the circuit, thus facilitating the subsequent troubleshooting and repairs. The TSM disconnected existing wiring at the damaged relays, open sliding links, and installing temporary jumpers. These changes ensured the CCW pump discharge valves would not fail closed upon power restoration following a loss of off-site power (LOOP). Also, the capability to remotely close all CCW pump discharge valves was preserved. Normal operating characteristics of the CCW pump start circuitry and the CCW pump discharge valves circuitry were disabled, specifically the auto-close feature. Operating procedures and abnormal procedures were modified, as necessary, to address the changes in the operation of the system. Specifically, procedure steps were added to close the CCW Pump discharge valves as required using the breaker switches in Unit 2 equipment room since the temporary modification causes the loss of the CCW Pump discharge valve auto-close capability. Another effect of the modification was to cause the Essential Siphon Vacuum (ESV) Tank minimum flow solenoid valves to function different from the normal design. Specifically, these valves would not fail closed if both CCW pumps on the associated Emergency Condenser Circulating Water (ECCW) siphon header are stopped (or lose power). The solenoid valves continue to fail closed on loss of off-site power as required.

### SAFETY EVALUATION SUMMARY

The temporary modification ensures that the CCW pump discharge valves will stay "as-is" upon power restoration after a LOOP. The CCW pump discharge valves receive power from safety related sources, so that power would be available from emergency power sources during a LOOP event. The circuitry is designed to prevent the valves from failing closed, and the modification will ensure that this feature is still operable. UFSAR Section 9.2.2.2.1 states that the CCW pump discharge valves can be closed during a Turbine Building flood by a pushbutton in the control room. This feature was not disabled. During a LOOP event, the minimum flow solenoid valves would fail closed so that all of the available ESV pump capacity would be directed to the ECCW siphon headers. But, operator action is not immediately required to reopen the solenoid valves, since the pumps could be deadheaded for up to a month. Normally, a CCW pump discharge valve would close automatically whenever its associated CCW pump is stopped. This function was disabled, requiring that operators manually close the valve, if desired, using pushbutton controls on the breaker compartment in the equipment room. Whenever a CCW pump is started, the valves on the discharge of the remaining pumps normally receive a signal to close unless their respective pumps are running. This automatic closure would not function. However, these automatic functions are not required for the CCW System to fulfill its required safety functions. The modification did not affect the capability to restart a CCW pump. The controls associated with the Dam Failure pushbutton are also unaffected by the modification. This temporary mod and procedure involve no USQ's or safety concerns. No Technical Specification or UFSAR changes are required.

## TEMPORARY MODIFICATIONS (TSMs)

### DESCRIPTION

#### SYSTEM: Recirculated Cooling Water (RCW)

This 10 CFR 50.59 evaluation was performed for a temporary modification and the associated Chemistry procedure, CP/0/B/4002/39, to assess the installation of the Framatome Ammonia Removal skid package on the RCW system. The skid system (which consists of a supply/return pump, heater, ammonia stripper column, vacuum pump, associated piping and electrical power supply) is considered a faster more economical method of ammonia control.

### SAFETY EVALUATION SUMMARY

The skid is operated by Chemistry personnel and checked out by the vendor. The RCW is a non-QA closed loop cooling system that does not provide any nuclear safety related function. The temporary modification activities do not affect the functions of the RCW system. The activities performed do not cause, or adversely affect the mitigation of, any previously analyzed SAR accidents. There are no effects on reactivity. No safety related plant SSCs are adversely affected. There is no adverse affect on containment integrity, no new radiological release pathways are created, and no new failure modes are created. Environmental limits for ammonia release are maintained. There are no seismic interaction concerns with the skid location in the turbine building basement. The 480V power supply is auxiliary power fed from the main switchyard. This temporary mod and procedure involve no USQ's or safety concerns. No Technical Specification or UFSAR changes are required.

## IV. PROCEDURES

### DESCRIPTION

SYSTEM: Reactor Coolant System (RCS)

This safety evaluation supports Chemistry procedure CP/0/B/2002/07A, Revision 28, which provides detailed instructions on addition of lithium or demineralized water to the RCS. The change includes notification to the Operations Group of any additions to ensure proper reactivity control.

### SAFETY EVALUATION SUMMARY

This change incorporates new Lithium control guidance and conservatively addresses reactivity concerns. This activity does not in any way increase the likelihood of initiation or adversely affect the mitigation of any SAR described accidents. 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. No new radiological release pathways or failure modes are created. No SSCs are degraded. There is no physical change to the plant. There is no adverse effect on reactivity. No plant safety limits, setpoints, or design parameters are adversely impacted. This activity also has no effect on any margins of safety as previously evaluated in the SAR. No USQs are involved and no Technical Specification changes are required. No UFSAR changes are required.

## PROCEDURES

### DESCRIPTION

#### SYSTEM: Main Feedwater

This safety evaluation supports Chemistry procedure CP/0/B/3002/14, Revision 11, which provides detailed instructions on how to add chemicals to the steam generators for the purpose of placing them in a wet lay-up condition during shutdown periods.

### SAFETY EVALUATION SUMMARY

Wet lay-up conditions are specifically designed to minimize corrosion to the all parts of the steam generators by using chemicals to adjust the pH of the water and remove oxygen. Dimethylamine (DMA) has been tested and evaluated by Electric Power Research Institute (EPRI) for use in the secondary side of pressurized water reactors and found to be acceptable. There are currently four plants in the U.S. that use DMA routinely to control and maintain secondary side chemistry. No adverse affects have been reported by any of these plants. Oconee has been adding DMA routinely for over two years to the secondary side to reduce fouling during normal power operations and has observed no detrimental effects. While DMA is a different type of amine, it has very similar chemical properties to other amines, which have been routinely used in the secondary system for years. This activity does not in any way increase the likelihood of initiation, or adversely affect the mitigation of, any SAR described accidents. 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. No new radiological release pathways or failure modes are created. No SSCs are degraded. There is no effect on reactivity. This activity also has no effect on any margins of safety as previously evaluated in the SAR. No USQs are involved and no Technical Specification changes are required. No UFSAR changes are required.

## PROCEDURES

### DESCRIPTION

#### SYSTEM: Main Feedwater

Procedure CP/3/B/3002/21 was changed to allow introduction of titanium into the plant feedwater system on Unit 3 in order to reduce corrosion.

### SAFETY EVALUATION SUMMARY

Injection of titanium into the FDW on all three Oconee units was previously evaluated as acceptable. Titanium in the proper concentrations is used to fight intergranular attack and stress corrosion cracking of the Alloy 600 steam generator tubing. EPRI research has shown Titanium to be an effective agent with no detrimental effects on secondary side components. This activity does not in any way increase the likelihood of initiation, or adversely affect the mitigation of, any SAR described accidents. 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. No new radiological release pathways or failure modes are created. No SSCs are degraded. There is no effect on reactivity. This activity also has no effect on any margins of safety as previously evaluated in the SAR. No USQs are involved and no Technical Specification changes are required. UFSAR Section 10.3.5.1 already addresses titanium addition.



## PROCEDURES

### DESCRIPTION

#### SYSTEM: Tendon Gallery Sumps

This safety evaluation supports a re-write to Chemistry procedure CP/0/B/5200/60. Revision 15 placed the sumps in automatic mode to allow continuous discharge to the yard drains and Chemical Treatment Pond #3. Groundwater intrusion has placed an undue burden on operators having to crawl into the pits to sample and release.

### SAFETY EVALUATION SUMMARY

This change reverts the system to its original design configuration and deletes a commitment made to routinely sample the tendon galleries. After 18 years experience, the concentrations found in the diluted tendon gallery water were determined to pose no safety concern. The source is groundwater intrusion. The levels are below 10CFR Part 20, Appendix B limits even before mixing in CTP #3. This activity does not in any way increase the likelihood of initiation, or adversely affect the mitigation of, any SAR described accidents. 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 existing wastewater release pathway is unchanged. No new failure modes are created. No SSCs are degraded. There is no effect on reactivity. No plant safety limits, setpoints, or design parameters are adversely impacted. This activity also has no effect on any margins of safety as previously evaluated in the SAR. No USQs are involved and no Technical Specification changes are required. No UFSAR changes are required.

## PROCEDURES

### DESCRIPTION

#### SYSTEM: Emergency Core Cooling (ECCS)

The purpose of this 10CFR50.59 evaluation is to address any potential inadequacies of the original 10CFR50.59 screening (as stated PIP 98-174) for Change # 22 of the Emergency Operating Procedure (EOP) EP/1/A/1800/01. Similar changes were made to EP/2/A/1800/01 (chg # 25) and EP/3/A/1800/01 (chg 23). This USQ Evaluation is applicable to all three units' Emergency Operating Procedures. The aforementioned revisions changed the steps, which initiate the swap-over from the BWST to the containment sump from a BWST level of less than or equal to 6 feet, to a BWST level of greater than or equal to 6 feet.

### SAFETY EVALUATION SUMMARY

Changing the initiation of swap-over (change the set point for opening LP-19/LP-20) from when the BWST  $< 6$  ft to  $> 6$  ft does not change the UFSAR. The assumptions stated in the UFSAR that the "BWST is drawn down from the Technical Specification minimum (which is 46 ft) water level to 6 feet level remaining in the BWST at time of switchover" was not violated. The assumption stated in the UFSAR is that the BWST is drawn down from the Technical Specification minimum (which is 46 ft) water level to 6 feet level remaining in the BWST at time of switchover is a conservative requirement for establishing NPSHa. The EOP change did not violate this assumption. This calculation examined the effects of this debris transport and evaluated that the resultant blockage of the emergency sump screens, if any, remains acceptable for support of BS and ECCS pump operation in the post-accident sump recirculation mode following a LOCA. The potential for having  $> 6$  ft in the BWST when in sump circulation and conceivably affecting the quantity of water on the Reactor Building Floor thereby impacting post accident sump chemistry is not a concern since caustic addition into the RBES is performed manually and based on sump chemistry acidity and adjusted accordingly to have a pH 7 to 8 within 24 hrs. This conservative re-evaluation of the EOP procedure changes does not increase the likelihood of initiation or adversely affect the mitigation of any SAR described accidents. There is no adverse affect on any SSC, and no increase in the probability of a malfunction of equipment important to safety. No new radiological release pathways or failure modes are created. This change does not increase the possibility or consequences of any SAR evaluated accidents or create any new accidents or failure modes. There is no effect on reactivity. No plant safety limits are adversely impacted. There are no USQs or safety concerns. No UFSAR or Technical Specification changes are required.

## PROCEDURES

### DESCRIPTION

SYSTEM: Emergency Core Cooling (ECCS)

This safety evaluation supports changes to the Emergency Operating Procedures EP/1/A/1800/001 Rev 26 Chg I, EP/2/A/1800/001 Rev 28 Chg H, and EP/3/A/1800/001 Rev 26 Chg I for the compensatory actions associated with maintaining the Reactor Building Spray and ECCS Systems in an Operable But Degraded Condition (OBD). These changes are required to ensure that there is adequate NPSH available for the ECCS and RB Pumps when suction is taken from the Reactor Building Emergency Sump following an accident. These compensatory actions were implemented by revision to the EOPs. The restricted procedure changes to the Emergency Operating Procedures provide guidance for the actions that will be performed by a dedicated operator to throttle Building Spray flow to 1500 gpm within five minutes of the initiation of an accident

### SAFETY EVALUATION SUMMARY

None of the Operable But Degraded Comp Actions allows operation outside the range of values presently permitted. This activity does not increase the likelihood of initiation or adversely affect the mitigation of any SAR described accidents. There is no adverse affect on any SSC, and no increase in the probability of a malfunction of equipment important to safety. No new radiological release pathways or failure modes are created. This change does not increase the possibility or consequences of any SAR evaluated accidents or create any new accidents or failure modes. There is no effect on reactivity. No plant safety limits are adversely impacted. There are no USQs or safety concerns. No UFSAR or Technical Specification changes are required.

## PROCEDURES

### DESCRIPTION

#### SYSTEM: High Pressure Injection (HPI)

This safety evaluation supports changes to IP/O/A/0050/001, Rev 8. This procedure is used to power an HPI pump from the Auxiliary Service Water Switchgear during certain scenarios when the normal power supplies are unavailable. The procedure change adds additional isolation points which may be needed depending on the scenario, i.e. tornado, high-energy line break (HELB), etc. and the availability of secondary cooling. The HELB (OS-73.2) Report, which is part of the SAR, states the time to restore power to HPI is 30 minutes. An exception to this requirement was taken.

### SAFETY EVALUATION SUMMARY

Safety analyses calculations have demonstrated that an increase in the time to restore HPI from 30 minutes to one hour is acceptable. The ability to keep the core covered and cooled is unaffected by the increase. Initiation of feedwater is the more time critical function. This change does not adversely affect the design, function, or operation of plant equipment or systems. The HPI system, as evaluated in the SAR, is not adversely affected by this activity. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant. No plant safety limits are adversely impacted. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Section 3.6.1.3 was revised to note the exception to the HELB Report accordingly.

## PROCEDURES

### DESCRIPTION

#### SYSTEM: Inadequate Core Cooling Monitor (ICCM)

This safety evaluation supports Procedure Revision #47 to IP/O/A/0200/041A, B Inadequate Core Cooling Monitor System Train A and B System Electronics Calibration. It was made to allow the procedure to be performed in its entirety during any unit status. The ICCM system is required to be operable per Tech Specs, but is allowed to be out of service for certain times to account for normal maintenance and failure repair.

### SAFETY EVALUATION SUMMARY

The ICCM system is a monitoring system that has no direct influence on plant operation. The system itself consists of two redundant trains, each of which contains sufficient information to meet all of the design basis requirements of the entire system. Taking the ICCM system out of service under this procedure already is a normal activity allowed when necessary for repair of an equipment malfunction. This procedure revision extends this philosophy to allow removal from service for performance of required surveillance as defined within Tech Specs. The Tech Spec surveillance intervals have already been defined as appropriate intervals for system analysis, to assure continued reliable operation; therefore, removing the system from service at that interval will not affect the overall performance of this Safety Related equipment. Tech Specs also allow one train of the ICCM system to be out of service for repair for certain maximum times. The procedure contains appropriate prerequisite steps that require review of the Tech Spec operability requirements, and for alerting responsible personnel to the system status. This activity does not in any way increase the likelihood of initiation, or adversely affect the mitigation of, any SAR described accidents. 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. No new radiological release pathways or failure modes are created. No SSCs are degraded. There is no effect on reactivity. This activity also has no effect on any margins of safety as previously evaluated in the SAR. No USQs are involved and no Technical Specification or UFSAR changes are required.

## PROCEDURES

### DESCRIPTION

SYSTEM: Reactor Protection System (RPS)

This safety evaluation supports original issue of Procedure IP/0/A/0305/001Q, "RPS Pressure Transmitter Range Change for LTOP Backup Indication". This procedure provides instructions for reconfiguring a selected RPS narrow range pressure transmitter to provide a backup LTOP indication after the affected unit is below hot shutdown and before LTOP indication is required. The selected channel will be considered OOS for RPS functions.

### SAFETY EVALUATION SUMMARY

This activity is employed only after the affected unit is below hot shutdown. The required RPS function is restored prior to reaching hot shutdown conditions and power escalation. The RPS is operable as defined by having 3 channels operable as long as power is applied to the control rod drive system. This activity does not in any way increase the likelihood of initiation, or adversely affect the mitigation of, any SAR described accidents. 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. No new radiological release pathways or failure modes are created. No SSCs are degraded. There is no effect on reactivity. This activity also has no effect on any margins of safety as previously evaluated in the SAR. No USQs are involved and no Technical Specification or UFSAR changes are required.

## PROCEDURES

### DESCRIPTION

SYSTEM: Reactor Building Cooling Units, LPSW

This safety evaluation is for procedures OP/1,2,3/A/1104/010 which returned the reactor building auxiliary cooling units to service on all three units. The coolers were earlier removed from service due to waterhammer concerns in the associated LPSW piping. Extensive Duke and Altran engineering calculations determined the coolers could be placed back in service while maintaining the LPSW system operable. These procedures implemented the new configuration.

### SAFETY EVALUATION SUMMARY

The new LPSW alignment simply reduces the likelihood of a damaging waterhammer. The new operating configuration does not in any way increase the likelihood of initiation, or adversely affect the mitigation of, any SAR described accidents. 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. No new radiological release pathways or failure modes are created. No SSCs are degraded. There is no affect on reactivity. No plant safety limits or setpoints are adversely impacted. This activity also has no effect on any margins of safety as previously evaluated in the SAR. No Technical Specification changes are required. There are no unreviewed safety questions or safety concerns. UFSAR sections 6.2.2.2.7, 9.2.2.2.3, 9.4.6.2, and Figures 6-3, 4 and 9-12 were revised accordingly.

## PROCEDURES

### DESCRIPTION

#### SYSTEM: Control Room Ventilation (CRVS)

This safety evaluation supports changes to OP/0/A/1104/017 to implement, if needed, the compensatory actions associated with maintaining the CRVS single failure proof despite an existing design deficiency. The temporary actions include opening connecting doors, closing fire dampers, and imposing fire watches within 12 hours of a design basis accident.

### SAFETY EVALUATION SUMMARY

The aforementioned compensatory actions are to be implemented post-accident to ensure the CRVS is not left susceptible to a single failure. The operator actions were thoroughly evaluated under PIP 98-1165. The activity does not create any conditions or events, which lead to accidents previously, evaluated in the SAR. There is no adverse effect on containment integrity and no new release paths are created. The activity will not result in any new credible failure modes. No new accidents different than already evaluated in the SAR are postulated. The activity does not affect any safety limits or limiting safety system settings. There is no effect on reactivity. There are no USQs or safety concerns. No Technical Specification changes are required. Since the actions were only temporary, while a modification was developed and installed to correct the design deficiency, no UFSAR changes were required.



## PROCEDURES

### DESCRIPTION

SYSTEM: Main Feedwater, Emergency Feedwater

This safety evaluation is for restricted changes #128B and #128C to procedure OP/3/A/1106/002. This change allowed 3FDW-35 (3A S/G Startup Feedwater Control) to be isolated at hot shutdown conditions for a packing leak repair. Change C addressed manual control of 3FDW-32 (MFW control valve) to maintain S/G 3A level.

### SAFETY EVALUATION SUMMARY

Isolation of FDW-35 removes one of the alternative pathways for establishing emergency feedwater flow to an unaffected S/G post-accident. However, numerous alternative pathways are still available including the SSF ASW. In the event of loss of RCPs, MFW to the 3B S/G can still fulfill the natural circulation requirements. Therefore, the new temporary operating configuration does not in any way increase the likelihood of initiation, or adversely affect the mitigation of, any SAR described accidents. No unanalyzed conditions 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. No new radiological release pathways or failure modes are created. There is no affect on reactivity. No plant safety limits or setpoints are adversely impacted. This activity also has no effect on any margins of safety as previously evaluated in the SAR. No Technical Specification changes are required. There are no unreviewed safety questions or safety concerns. No UFSAR changes were necessary.

## PROCEDURES

### DESCRIPTION

SYSTEM: Nuclear Fuel, Fuel Handling

This safety evaluation provides a comprehensive review of the evolution for ultrasonic testing (UT) of fuel assemblies and the Fuel Assembly Inspection by UT Inspection that can be performed under PT/0/A/0124/006, "Fuel Assembly Post Irradiation Examinations", specifically Revision 15.

### SAFETY EVALUATION SUMMARY

This evaluation covers the use of all of the tools necessary to accomplish fuel assembly inspection by UT. The methods used to move a fuel assembly for examinations are no different than those discussed in the SAR and therefore do not increase the probability of the fuel handling accident. The equipment used to examine the fuel assemblies is unobtrusive to the fuel pin cladding, therefore, damage to fuel pins is not credible. No criticality margins are reduced and no margins of safety as related to the spent fuel or pool as defined in the bases of the Technical Specifications are affected. No new radiological release pathways or failure modes are created. Based on the subject evaluation the process of performing UT inspections as controlled by PT/0/A/0124/006 involves no safety concerns or USQs. No UFSAR or Technical Specification changes are required.

## PROCEDURES

### DESCRIPTION

SYSTEM: Low Pressure Service Water (LPSW)

This safety evaluation is for PT/0/A/0251/026, LPSW System Flow Test, Rev #8. The activity purpose is to (1) verify LPSW flow conditions while simulating accident conditions, (2) verify or set travel stop positions for cooler outlet valves, (3) verify throttling capability of associated LPSW valves, (4) verify ECCW can supply suction to the LPSW pumps, and (5) demonstrate the Unit 3 LPSW pumps can take siphon from the ECCW siphon for extended periods (NRC Commitment.).

### SAFETY EVALUATION SUMMARY

These changes to the procedure simply facilitate and enhance the system flow test. This activity does not in any way increase the likelihood of initiation, or adversely affect the mitigation of, any SAR described accidents. 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 LPSW system can still fulfill all its cooling requirements (LPI, RBCUs, RCP coolers, etc.). The LPI pumps will not cavitate during performance of the test. No new radiological release pathways or failure modes are created. No SSCs are degraded. There is no effect on reactivity. There is no change to plant setpoints, safety limits or design parameters. This activity also has no effect on any margins of safety as previously evaluated in the SAR. No USQs are involved and no Technical Specification or UFSAR changes are required as a result of this procedure.

## PROCEDURES

### DESCRIPTION

SYSTEM: Low Pressure Service Water (LPSW)

This safety evaluation is for PT/0/A/0251/026, LPSW Cross-Connect Flush. The activity purpose is to flush the 24" LPSW Cross-Connect between Unit 1&2 and Unit 3 LPSW Systems. The performance of this periodic flush is a GL 89-13 Commitment. During 3EOC-17, PT/0/A/0251/026 flushed the LPSW Cross-connect.

### SAFETY EVALUATION SUMMARY

The LPSW Cross-Connect line is normally closed, but may be used as an alternate or makeup source of cooling water between units. No design basis accident or event credits the LPSW Cross-Connect for accident mitigation. Unit 3 was defueled during the performance of this test. Thus, LPSW was not required for any type of accident mitigation or decay heat removal. During the test procedure, the flush alignment was maintained such that no flow was allowed from the LPSW Cross-connect to the Unit 3 LPSW system which ensure service water debris was not exposed to Unit 3's safety related heat exchangers. This activity does not in any way increase the likelihood of initiation, or adversely affect the mitigation of, any SAR described accidents. 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. No new radiological release pathways or failure modes are created. No SSCs are degraded. There is no effect on reactivity. This activity also has no effect on any margins of safety as previously evaluated in the SAR. No USQs are involved and no Technical Specification or UFSAR changes are required as a result of this procedure.

## PROCEDURES

### DESCRIPTION

SYSTEM: Essential Siphon Vacuum (ESV), ECCW

This safety evaluation is for PT/2/A/0261/007, Emergency CCW System Flow Test, Rev #17. This change (1) removed two steps involved in venting the CCW inlet headers during restoration and testing of the siphon flow mode and (2) allows the ESV system and pumps to be aligned, but not operating.

### SAFETY EVALUATION SUMMARY

These changes to the procedure simply facilitate and enhance the flow test. The venting is not required. This activity does not in any way increase the likelihood of initiation, or adversely affect the mitigation of, any SAR described accidents. 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. No new radiological release pathways or failure modes are created. No SSCs are degraded. There is no effect on reactivity. There is no change to plant setpoints, safety limits or design parameters. This activity also has no effect on any margins of safety as previously evaluated in the SAR. No USQs are involved and no Technical Specification or UFSAR changes are required as a result of this procedure.

## PROCEDURES

### DESCRIPTION

#### SYSTEM: Fuel Handling

This safety evaluation supports several minor changes to the fuel assembly Post Irradiation Examination (PIE) inspection procedure (PT/0/A/0750/005 Rev 9). The changes are (1) insertion of a prerequisite to have a completed checklist for PT/0/A/0105/06, and (2) simple editorial corrections.

### SAFETY EVALUATION SUMMARY

This procedure covers the use of all of the tools necessary to accomplish the PIE for inspecting the lead test assemblies, and the interactions that the PIE tools may have with SSCs in the spent fuel pool and the fuel assemblies being examined. The changes per Rev 9 are largely editorial and conservative in nature. This activity does not in any way increase the likelihood of initiation, or adversely affect the mitigation of, any SAR described accidents. 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. No new radiological release pathways or failure modes are created. No SSCs are degraded. There is no effect on reactivity. This activity also has no effect on any margins of safety as previously evaluated in the SAR. No USQs are involved and no Technical Specification or UFSAR changes are required as a result of this procedure change.

## PROCEDURES

### DESCRIPTION

#### SYSTEM: Security

This safety evaluation supports TN/5/A/2931/00/AS6, which implemented NSM ON-52931/0 Part AS-6. This activity constructed a new pathway for security electrical cabling from the north-south SSF trench to the SSF building.

### SAFETY EVALUATION SUMMARY

An LCO was entered due to loss of flood protection while the SSF wall was worked. This activity did not reduce the effectiveness of the plant security measures for mitigating a security event. The implementation did not adversely affect the QA-I portions of the SSF. This activity does not in any way increase the likelihood of initiation, or adversely affect the mitigation of, any SAR described accidents. There is no increase in the consequences of any SAR described accident. There is no increase in the probability of a malfunction of equipment important to safety. No new radiological release pathways or failure modes are created. There is no effect on reactivity. There is no change to plant setpoints, safety limits or design parameters. This activity also has no effect on any margins of safety as previously evaluated in the SAR. No USQs are involved. No UFSAR or technical specification changes are required.

## PROCEDURES

### DESCRIPTION

SYSTEM: Low Pressure Service Water (LPSW)

TN/2, 3/A/3022/0/AM1 implemented NSMs-2, 33022 on Units' 2 and 3, respectively. Low Pressure Injection (LPI) cooler discharge outlet control valves 2,3LPSW-251 and 2,3LPSW-252 and manual block valves 2,3LPSW-254 and 2,3LPSW-256 were replaced with valves that are better suited for service water applications. Vent and drain lines were added to the piping to facilitate testing and draining of the system.

### SAFETY EVALUATION SUMMARY

This implementation procedure does not adversely affect any important to safety plant SSCs. The activities performed do not cause, or adversely affect the mitigation of, any previously analyzed SAR accidents. No new radiological release pathways or failure modes are created. No SSC QA, seismic or environmental qualifications are degraded. Temporary supports were used to maintain seismic integrity. The procedure provided adequate instructions to ensure all necessary plant conditions and alignments were available prior to, and during the work process. All piping and components were installed in accordance with approved drawings, specifications, procedures, and codes. The requirements of the applicable SLCs were met. The LPSW system continues to function as designed during normal and accident conditions, when required. All installation activities performed under TN/2, 3/A/3022/0/AM1 conform to SAR requirements and descriptions. No UFSAR changes are required for this implementation procedure. The implementation of this modification involves no USQ's or safety concerns. No Tech Spec changes are required.



## PROCEDURES

### DESCRIPTION

SYSTEM: Fire Protection, HPSW, and HPI

Procedure TN/3/A/11347/MM provided implementation of Minor Modification ONOE-11347. This modification is a routine repair to return fire hose station AX-14 to an operable status. The MM relocated QA-3 Fire hose station AX-14 from its present location on the Unit 3 HPI Hatch Area east wall to a new location on the wall west of the access ladder leading to the hatch area. The modification also replaced some partially clogged piping with stainless steel pipe to prevent any future loss of function due to suspected corrosion and fouling problems. The carbon steel piping replaced supplies backup High Pressure Service Water (HPSW) cooling water to the Unit 3 High Pressure Injection (HPI) Pump Motor Coolers.

### SAFETY EVALUATION SUMMARY

A Severe Accident Analysis Report evaluated the Core Melt risk involved in doing this work online for a maximum of 7 days, and determined it to be acceptable. Especially against the alternative of allowing the QA Condition 3 fire hose station to remain inoperable and the corroded carbon steel piping to remain in service. The requirement for the HPSW supply to the HPI Pump Motor Cooler is for the Turbine Building Flood and the Loss of LPSW scenarios. The requirement is based on the Probabilistic Risk Analysis (ONS PRA, rev. 2). It is not a UFSAR Chapter 15 Design Basis Accident. The licensing basis is use of the SSF. This HPSW supply is only the backup after loss of the LPSW cooling supply and LPSW back-up cooling supply. The Auxiliary Service Water (Tornado) Pump located in the Auxiliary Building, and not affected by the Turbine Building Flood can also supply cooling. Fire hose stations AX-3, AX-4, AX-5, and AX-14 were taken out of service during installation. Compensatory actions were provided to comply with the required level of fire protection per the SLCs. The automatic HPSW backup cooling water supply to the HPI Pump motor coolers was out of service at the same time. The SLC required the unavailability be recorded in the Operations Log for Maintenance Rule performance monitoring. Operations performed a RISK Assessment considering the equipment out of service as required by the SLC. This modification will not change the frequency or severity of any accident previously evaluated in the SAR nor will it alter any assumptions previously made in evaluating the radiological consequences of an accident. This piping does not serve a function in mitigating the radiological consequences of an accident. This modification will not affect any fission product barriers or hinder the access to accident mitigation equipment in post accident conditions. There is no adverse effect any SSC important to safety. This procedure does not involve a USQ. No changes to the UFSAR or Technical Specifications are required.

## PROCEDURES

### DESCRIPTION

#### SYSTEM: Fire Protection

This safety evaluation is for TT/0/A/0250/02. This activity is a new temporary procedure for the monthly inspection of fire suppression systems availability of HPSW and the inspection/verification of correct operating level of the priming water level of the dry pipe water suppression systems in the Oconee Oil Drum Storage Building and Building #8019 (Old Warehouse #4). This procedure was issued to insure compliance with applicable NFPA codes and insurance recommendations.

### SAFETY EVALUATION SUMMARY

The verification of priming water level does not create any adverse effects concerning fire protection. It only verifies whether or not the priming level is excessive due to the clapper valve leak by. The 2 dry pipe systems are non-QA. The new temporary test procedure ensures that fire suppression systems have the desired supply pressure and in the case of the dry pipe fire suppression systems ensure adequate priming level which will demonstrate availability of the fire protection system. The activities addressed by this procedure do not affect the design basis of fire protection since the activities only monitors and ensures fire protection systems availability and operability. This activity does not increase the likelihood of initiation or adversely affect the mitigation of any SAR described accidents. 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. No new radiological release pathways or failure modes are created. No SSCs are degraded. There is no effect on reactivity. There is no change to plant setpoints, safety limits or design parameters. This activity also has no effect on any margins of safety as previously evaluated in the SAR. No USQs are involved and no Technical Specification or UFSAR changes are required as a result of this procedure.

## PROCEDURES

### DESCRIPTION

SYSTEM: CCW, CRVS

This safety evaluation is for TT/0/B/0261/008, CCW Cross-Connect Supply to Chillers A & B, Revision #0 and #2. Rev 0 was the initial test procedure. Rev #2 is a complete re-write. The activity purpose is to verify acceptable A and B Chiller Condenser Service Water Pump performance in both modes of operation. This test procedure also verifies temporary chiller installation to ensure control room and vital area temperatures are not exceeded.

### SAFETY EVALUATION SUMMARY

During the Cross-Connect procedure, the temporary chiller and one chiller (A or B) are always available and maintained operable. This activity does not in any way increase the likelihood of initiation, or adversely affect the mitigation of, any SAR described accidents. 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. No new radiological release pathways or failure modes are created. No SSCs are degraded. There is no effect on reactivity. There is no change to plant setpoints, safety limits or design parameters. This activity also has no effect on any margins of safety as previously evaluated in the SAR. No USQs are involved and no Technical Specification or UFSAR changes are required as a result of this procedure.

## PROCEDURES

### DESCRIPTION

SYSTEM: CCW, SSF

This safety evaluation is for TT/O/A/0600/019, SSF Submersible pump flow test. This procedure demonstrates that the flowpath, used by the submersible pump to refill the Unit 2 CCW piping following an SSF event, functions properly. It is a post-modification test associated with NSMs-23000 and 22932.

### SAFETY EVALUATION SUMMARY

Unit 2 was in a refueling shutdown when this test was performed. During performance of this procedure in service equipment is operated using established operating procedures. In service system alignment is performed in accordance with the descriptions in the UFSAR and Technical Specifications. This activity does not increase the likelihood of initiation or adversely affect the mitigation of any SAR described accidents. 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. No new radiological release pathways or failure modes are created. No SSCs are degraded. There is no effect on reactivity. This activity also has no effect on any margins of safety as previously evaluated in the SAR. No USQs are involved and no Technical Specification or UFSAR changes are required as a result of this test.

## PROCEDURES

### DESCRIPTION

#### SYSTEM: Keowee Emergency Power

This safety evaluation is for TT/0/A/0620/040, Keowee Load Rejection Testing. This procedure gathers data for the commercial operation envelope for Keowee Hydro Station. During implementation of the procedure, the Keowee units are loaded and an emergency start signal is applied, which makes the operating units separate from the grid and attempt to energize the standby buses. Since Lee Combustion Turbines supply the backup emergency power and the switchyard is energized through the Oconee units and grid during the test, the breakers will not close to allow Keowee to provide power to the Oconee Nuclear Station.

### SAFETY EVALUATION SUMMARY

During performance of this procedure, in service equipment is operated using established operating procedures. In service system alignment is performed in accordance with the descriptions in the UFSAR and Technical Specifications. Two power sources are available to the Oconee Units. The Technical Specifications actually require load rejection testing at the maximum allowed output for the given lake elevation conditions. This activity does not increase the likelihood of initiation or adversely affect the mitigation of any SAR described accidents. 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. No new radiological release pathways or failure modes are created. No SSCs are degraded. There is no effect on reactivity. This activity also has no effect on any margins of safety as previously evaluated in the SAR. No USQs are involved and no Technical Specification or UFSAR changes are required as a result of this procedure change.

## PROCEDURES

### DESCRIPTION

SYSTEM: Keowee Emergency Power

This safety evaluation is for TT/0/A/0620/040 Revision 1, Keowee Load Rejection Testing. The changes are as follows:

Section 2.0 - References: Added KEE-112-1 and KEE-212-1 for the Field Flashing Breaker circuitry.

Enclosure 13.2 - KHU-2 Single Unit Load Rejection: Added steps for the removal and installation of the Field Flashing Breaker control circuit fuses for KHU-2.

Enclosure 13.3 - KHU-1 Single Unit Load Rejection: Added steps for the removal and installation of the Field Flashing Breaker control circuit fuses for KHU-1.

Enclosure 13.4 - Dual Unit Load Rejection: Added steps for the removal and installation of the Field Flashing Breaker control circuit fuses for both KHU-1 and KHU-2.

Enclosure 13.5 - Contingency Procedure: Added steps for verification and installation of the Field Flashing Breaker control circuit fuses for both KHU-1 and KHU-2.

### SAFETY EVALUATION SUMMARY

The removal of the fuses is desirable in order to eliminate the possibility of the Field Flashing Breaker sustaining any sort of damage due to cycling upon a load rejection. This characteristic is based on the interaction between the over frequency produced by the load rejection as the Turbine Generator increases in speed above normal speed, and the characteristics of the voltage sensing relay 53-31T. This relay can be affected by the over frequency condition such that it is actuated to cause the Field Flashing Breaker to close and open in rapid succession. While the breaker has undergone this type of actuation previously without obvious detrimental effects, there is always the possibility of damage to the breaker mechanism or coils. In order to prevent the possibility of damage to the breaker, it is desirable to remove the control circuit fuses after the Keowee units have been brought up to speed or loaded. At this point, the Field Flashing Breaker serves no purpose because the generator is self-exciting. After the load rejection, the fuses are installed, and either the next test can be performed, or testing may be stopped. Addition of these steps does not affect the test, but provides assurance that the testing will not damage the Field Flashing Breakers. Damage to the breakers would require unavailable time for the repair or replacement of the breaker. It is desirable to ensure the availability of the Keowee units is as high as possible. This activity does not increase the likelihood of initiation, or adversely affect the mitigation of, any SAR described accidents. 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. No new radiological release pathways or failure modes are created. No SSCs are degraded. There is no effect on reactivity. This activity also has no effect on any margins of safety as previously evaluated in the SAR. No USQs are involved and no Technical Specification or UFSAR changes are required as a result of this procedure change.

## PROCEDURES

### DESCRIPTION

#### SYSTEM: Condensate Steam Air Ejector

This safety evaluation is for Procedure TT/3/B/1106/003, Rev. 0. This activity installed a temporary drain on the Unit 3 Condensate Steam Air Ejector (CSAE) discharge line to remove water from the line. There is an existing drain on this discharge line, but a lot of water was still not being drained effectively (especially during startup and shutdown conditions). The water in this line needs to be removed because it has a negative impact on the operation of the Unit 3 Condenser Off-Gas Radiation Monitor 3RIA-40.

### SAFETY EVALUATION SUMMARY

The only SSCs involved with this activity are the CSAE system and 3RIA-40. Both of these are non-safety related and neither is required for a safe reactor shutdown. Removing water from the CSAE discharge line has no impact on the operation of the CSAE system, but does improve the reliability of 3RIA-40. No new or different failure modes are introduced by this activity. There are no design basis accidents affected by this activity, and no margin of safety is reduced. Drains on the CSAE discharge line do not increase the radiological consequences of any accident evaluated in the SAR. The water in these drain lines may become radioactive if radioactivity leaks to the secondary side of the steam generator; however, the drains are routed to the turbine building sump which is monitored for radioactivity prior to release. In an effort to be more conservative, the temporary drain line associated with this activity will be closed if steam generator tube leakage is indicated. This activity does not increase the likelihood of initiation or adversely affect the mitigation of any SAR described accidents. There is no adverse affect on any SSC, and no increase in the probability of a malfunction of equipment important to safety. No SSCs are degraded. There is no effect on reactivity. There is no effect on reactivity. No plant safety limits are impacted. This activity also has no effect on any margins of safety as previously evaluated in the SAR. No USQs are involved and no Technical Specification or -UFSAR changes are required as a result of this procedure.

## V. OPERABILITY EVALUATIONS

### DESCRIPTION

#### SYSTEM: Reactor Building Spray (BS)

This safety evaluation supports the compensatory action associated with changing the Reactor Building Spray System from an Inoperable Condition to an Operable But Degraded Condition. This activity established a dedicated Control Room operator to be responsible for throttling the flowrate of the BS systems to ~1500 gpm within five minutes of the initiation of a design basis accident. This action is part of the existing Emergency Operating Procedures; however, it may be performed as late as approximately 15 minutes following an accident. A dedicated operator was assigned this task as an interim Compensatory Action since it may not be performed quickly enough by the normal control room operators as a part of their EOP directed actions. The dedicated operators have no other assigned activities that might delay their performance of this function. One dedicated operator was assigned to the Unit 1 and Unit 2 control room, and another dedicated operator assigned to the Unit 3 control room.

### SAFETY EVALUATION SUMMARY

The actions the dedicated operator performs to throttle Reactor Building Spray are the same as those directed by the Emergency Operating Procedures, with the exception that the dedicated operator can and will start, and subsequently complete, these actions significantly earlier. There is no minimum time that the Reactor Building Spray must run before the flowrate is throttled, thus there is no concern generated by performing this action earlier than would otherwise occur as a result of the existing EOP. The dedicated operator can accomplish this task via throttle valves BS-1 and BS-2. This action is not complex, and can be accomplished via instruments and controls in the control room within five minutes of the initiation of an accident. Although this response time does not meet the ANS Standard for Operator Actions, a five minute operator action time is judged to be acceptable since the actions are for Operable but Degraded Compensatory Actions. This change does not increase the possibility or consequences of any SAR evaluated accidents or create any new accidents or failure modes. There is no effect on reactivity. No plant safety limits are impacted. No new radiological release pathways or failure modes are created. There are no USQs or safety concerns. No UFSAR or Technical Specification changes are required.



## OPERABILITY EVALUATIONS

### DESCRIPTION

#### SYSTEM: Emergency Core Cooling (ECCS)

This safety evaluation supports the compensatory actions associated with maintaining the Reactor Building Spray and ECCS Systems in an Operable But Degraded Condition (OBD). The new limits ensure the validity of assumptions made in engineering calculations performed for the operability evaluation. These changes are required to demonstrate that there is adequate NPSH available for the ECCS and RB Pumps when suction is taken from the Reactor Building Emergency Sump following an accident. The three OBD Comp Actions changed: (1) the maximum allowable BWST temperature from an actual of 115°F (assumed in various safety analysis calculations) to an indicated temperature of 92.5°F (this assures that, with measurement uncertainty, the maximum temperature of the tank contents will be less than 100°F), (2) established a maximum allowable indicated lake water temperature to 83°F (which will limit the actual temperature to 85°F including measurement uncertainty), and (3) requires that the indicated RB pressure be maintained at a value greater than -0.5 (this will assure that, with measurement uncertainty, the building pressure will be above -1.0 psig). These compensatory actions were implemented by revision to appropriate operating procedures.

### SAFETY EVALUATION SUMMARY

None of the Operable But Degraded Comp Actions allows operation outside the range of values presently permitted. This activity does not increase the likelihood of initiation or adversely affect the mitigation of any SAR described accidents. There is no adverse affect on any SSC, and no increase in the probability of a malfunction of equipment important to safety. No new radiological release pathways or failure modes are created. This change does not increase the possibility or consequences of any SAR evaluated accidents or create any new accidents or failure modes. There is no effect on reactivity. No plant safety limits are adversely impacted. There are no USQs or safety concerns. No UFSAR or Technical Specification changes are required.

## OPERABILITY EVALUATIONS

### DESCRIPTION

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

This safety evaluation, and subsequent revisions #1 and #2, supports the compensatory actions associated maintaining the Low Pressure Service Water System in an Operable But Degraded Condition. To prevent the severe waterhammers, LPSW flow must be maintained above 550 gpm to each RBCU whenever containment integrity is required. Due to the flow rate requirement, the stroke testing of valves LPSW-18, -21, -24, -566 can no longer be performed during power operation. The surveillance frequency was changed from quarterly to cold shutdown. The LPSW system is Operable But Degraded due to new design limits and a change in a surveillance activity (Ref PIP 98-3629).

### SAFETY EVALUATION SUMMARY

The activity maintains sufficient LPSW flow to each RBCU to prevent waterhammers from occurring and also changes the frequency of a surveillance stroke test. No new components are being added. The activity ensures that the safety-related functions of the LPSW and RBC system are maintained and does not create any conditions or events, which lead to accidents previously, evaluated in the SAR. The activity does not adversely affect the LPSW flow used for normal operation or normal shutdown. Separation criteria and environmental qualification criteria are not adversely affected. No additional loads are imposed and no SSC protection features are modified. The change in surveillance frequency is allowed since the full stroke is not practical during normal operations. The activity does not affect any test acceptance criteria used to demonstrate adequate performance of the systems. There is no adverse effect on containment integrity and no new release paths are created. The activity will not result in any new credible failure modes. No new accidents different than already evaluated in the SAR are postulated. The activity does not adversely affect the safety functions of the LPSW System, RBC System, or Containment Integrity. Operating and test procedures were revised to ensure the required flow rates are maintained to the RBCUs. The activity does not affect any safety limits or limiting safety system settings. There is no effect on reactivity. There are no USQs or safety concerns. No UFSAR or Technical Specification changes are required.

## OPERABILITY EVALUATIONS

### DESCRIPTION

#### SYSTEM: Control Room Ventilation (CRVS)

This safety evaluation supports the compensatory actions associated maintaining the CRVS single failure proof despite an existing design deficiency. The temporary actions include opening connecting doors, closing fire dampers, and imposing fire watches within 12 hours of a design basis accident. The units' 1 & 2 CRVS is considered degraded, but operable, with the compensatory actions in place.

### SAFETY EVALUATION SUMMARY

The aforementioned compensatory actions are to be implemented post-accident to ensure the CRVS is not left susceptible to a single failure. Therefore, the temperatures within the control room area can be maintained within acceptable limits even with a single active failure. No new components are being added. The activity does not create any conditions or events, which lead to accidents previously, evaluated in the SAR. There is no adverse effect on containment integrity and no new release paths are created. The activity will not result in any new credible failure modes. No new accidents different than already evaluated in the SAR are postulated. The activity does not affect any safety limits or limiting safety system settings. There is no effect on reactivity. There are no USQs or safety concerns. No Technical Specification changes are required. Since the activity was only temporary, while a modification was developed and installed to correct, no UFSAR changes were required.

## VI. SELECTED LICENSEE COMMITMENTS

### DESCRIPTION

SYSTEM: N/A

This safety evaluation supports a revision to Selected Licensee Commitment Manual Section 16.1 and the Appendix. This change deleted Compliance Section Manual 4.12 references from section 16.1, adds reference NSD 221 to section 16.1, and deleted the Appendix from the SLC. The Control Of SLCs is appropriately addressed by directive NSD 221 'Facility Operating License and Technical Specifications Amendments /Selected Licensee Commitments/ Technical Specifications Bases Changes'.

### SAFETY EVALUATION SUMMARY

These revisions are largely editorial in nature and do not change the technical intent. This activity does not in any way increase the likelihood of initiation, or adversely affect the mitigation of, any SAR described accidents. 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. No new radiological release pathways or failure modes are created. No SSCs are degraded. There is no effect on reactivity. This activity also has no effect on any margins of safety as previously evaluated in the SAR. No USQs are involved and no Technical Specification changes are required. The subject SLC is part of the SAR (specifically Chapter 16 of the UFSAR) and was revised accordingly.

## SELECTED LICENSEE COMMITMENTS

### DESCRIPTION

#### SYSTEM: Reactor Coolant System (RCS)

This safety evaluation performed a revision to Selected Licensee Commitment Manual Section 16.5.2.4. The section was changed to implement unit specific makeup flow requirements and appropriately set the HP-120 valve travel stops. This need for this change was subsequently removed by License Amendment 302/302/302, which approved the new RCS pressure/temperature curves for 26 EFPY. Rev #1 of this evaluation revised it to conform to NSD-209 without impacting the technical aspects (Ref PIP 98-4584).

### SAFETY EVALUATION SUMMARY

This change placed conservative limits on RCS makeup flow. It does not in any way increase the likelihood of initiation, or adversely affect the mitigation of, any SAR described accidents. 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. No new radiological release pathways or failure modes are created. No SSCs are degraded. There is no effect on reactivity. This activity also has no effect on any margins of safety as previously evaluated in the SAR. No USQs are involved and no Technical Specification changes are required. The subject SLC is part of the SAR (specifically Chapter 16 of the UFSAR) and was revised accordingly.

## SELECTED LICENSEE COMMITMENTS

### DESCRIPTION

#### SYSTEM: SSF ASW

This safety evaluation supports a revision to Selected Licensee Commitment Manual Section SLC 16.7.13. The section was changed to require a CHANNEL CALIBRATION of the SSF ASW pump flow instrumentation and to remove a like requirement for the SSF ASW pump discharge pressure instrumentation.

### SAFETY EVALUATION SUMMARY

The addition of CHANNEL CALIBRATION requirements for the SSF ASW pump flow instrumentation is considered an enhancement. The CHANNEL CALIBRATION SLC requirement for the pump discharge instrumentation was removed since it is now a secondary flow-measuring device. This activity does not in any way increase the likelihood of initiation, or adversely affect the mitigation of, any SAR described accidents. 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. No new radiological release pathways or failure modes are created. No SSCs are degraded. There is no effect on reactivity. This activity also has no effect on any margins of safety as previously evaluated in the SAR. No USQs are involved and no Technical Specification changes are required. The subject SLCs are part of the SAR (specifically Chapter 16 of the UFSAR) and were revised accordingly.

## SELECTED LICENSEE COMMITMENTS

### DESCRIPTION

#### SYSTEM: 125 VDC Vital Power

This safety evaluation supports a revision to Selected Licensee Commitment Manual Section 16.8.5. The 125 VDC Vital Instrument and Control Ground Locating Policy was revised to incorporate the following changes: 1) editorial changes which relocate requirements from notes and the Bases into the required actions, 2) an additional requirement for the Operations Shift Manager to log the reason that buses cannot be separated to determine the ground magnitude, and 3) a clarification to the Bases to specify minimum requirements for the ground detection system.

### SAFETY EVALUATION SUMMARY

The 125VDC system is an ungrounded system. Therefore, a ground on one leg of the system will not cause any equipment to malfunction. The ground detection system serves to alert the operator to the existence of a ground on the system. Applicable design bases, safety functions, and regulatory commitments associated with the 125 VDC Vital I&C ground detection system are not affected. The ground detection system is not required for mitigation of design basis events. This activity does not in any way increase the likelihood of initiation, or adversely affect the mitigation of, any SAR described accidents. 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. No new radiological release pathways or failure modes are created. No SSCs are degraded. There is no effect on reactivity. This activity also has no effect on any margins of safety as previously evaluated in the SAR. No USQs are involved and no Technical Specification changes are required. The subject SLCs are part of the SAR (specifically Chapter 16 of the UFSAR) and were revised accordingly.

## SELECTED LICENSEE COMMITMENTS

### DESCRIPTION

#### SYSTEM: Fire Protection

This safety evaluation supports revision to Selected Licensee Commitment Manual Sections 16.9.2 through 16.9.6. These changes (1) add additional information about the specific design attributes of the transformer fire suppression activation equipment, and (2) increased the consideration for the application of fire protective compensatory actions at any time a fire protection system is removed from service rather only at times when the fire protection system is removed from service at times when the equipment it is protecting is required to be OPERABLE.

### SAFETY EVALUATION SUMMARY

For conservatism and for enhanced safety, the ONS site fire protection now goes beyond the original commitment and requires that the fire protection systems be OPERABLE at all times. This activity did not change existing system design, construction, or operation. The revision to these SLCs did not result in any plant modifications, procedure changes, or other activities, which involved an unreviewed safety question. This activity does not in any way increase the likelihood of initiation, or adversely affect the mitigation of, any SAR described accidents. 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. No new radiological release pathways or failure modes are created. No SSCs are degraded. There is no effect on reactivity. There is no change to plant setpoints, safety limits or design parameters. This activity also has no effect on any margins of safety as previously evaluated in the SAR. No Technical Specification changes were required. The subject SLCs are part of the SAR (specifically Chapter 16 of the UFSAR) and were revised accordingly.



## SELECTED LICENSEE COMMITMENTS

### DESCRIPTION

#### SYSTEM: Fire Protection

This safety evaluation supports revision to Selected Licensee Commitment Manual Section 16.9-4, "Fire Hose Stations". The title was changed to read as follows "Fire Hose Stations and Fire Extinguishers". Also included in this change are the requirements for availability, surveillance, and compensatory actions for specific fire extinguishers referenced in licensing documentation, installation and removal of the reactor building fire extinguishers during power operations, and a listing in the SLC 16.9-4 table to include the various specific locations where extinguishers are required.

### SAFETY EVALUATION SUMMARY

These fire extinguisher locations are already existing in NRC commitment letters, the Fire Protection DBD, and maintenance inspection procedures. Placing these requirements of availability in the SLCs makes them readily available for all personnel. During periods of normal operation fire extinguishes are removed from the reactor building to prevent exposure to excessive heat and potential damage from environment pressures which could cause the extinguishes to partially relieve due to excessive internally generated pressures. During refueling outages the reactor building fire extinguishers are installed for the duration of the outage to ensure accessibility and the increased potential of ignition sources. Fire extinguisher(s) installation requirements are evaluated for maintenance outages depending on outage scope and the introduction of ignition sources to ensure availability for the fire brigade and other qualified personnel. The revision to these SLCs did not result in any plant modifications, procedure changes, or other activities, which involved an unreviewed safety question. This activity does not in any way increase the likelihood of initiation, or adversely affect the mitigation of, any SAR described accidents. 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. No new radiological release pathways or failure modes are created. No SSCs are degraded. There is no effect on reactivity. There is no change to plant setpoints, safety limits or design parameters. This activity also has no effect on any margins of safety as previously evaluated in the SAR. No Technical Specification changes were required. The subject SLCs are part of the SAR (specifically Chapter 16 of the UFSAR) and were revised accordingly.

## SELECTED LICENSEE COMMITMENTS

### DESCRIPTION

#### SYSTEM: Fire Protection

This safety evaluation supports revision to Selected Licensee Commitment Manual Section 16.9-5. This administrative change clarifies the fire watch patrol requirements to ensure that the correct fire watch patrol frequency is selected based on the fire barrier inoperability location and the availability and operability of the area(s) fire detection instrumentation. Therefore, either by remote indication from the fire alarm panel located in the control rooms or by observation from the assigned fire watch patrol, the appropriate personnel as expected can mitigate early indications of fire development.

### SAFETY EVALUATION SUMMARY

Clarification of the administrative requirements for compensatory actions when a fire barrier is declared inoperable ensures that fire detection instrumentation is in place and operable or surveillances from personnel are being performed. These compensatory actions simply provide early indications of fire initiation and fire brigade notification such that fire brigade mitigation strategies can be successful. The revision to these SLCs did not result in any plant modifications, procedure changes, or other activities, which involved an unreviewed safety question. This activity does not in any way increase the likelihood of initiation, or adversely affect the mitigation of, any SAR described accidents. 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. No new radiological release pathways or failure modes are created. No SSCs are degraded. There is no effect on reactivity. There is no change to plant setpoints, safety limits or design parameters. This activity also has no effect on any margins of safety as previously evaluated in the SAR. No Technical Specification changes were required. The subject SLCs are part of the SAR (specifically Chapter 16 of the UFSAR) and were revised accordingly.

## SELECTED LICENSEE COMMITMENTS

### DESCRIPTION

#### SYSTEM: High Pressure Service Water

The primary purpose of this revision to SLCs 16.9.7 and 16.9.8 is to incorporate changes that result from the Oconee Service Water (OSW) System Upgrade modifications. The equipment installed by OSW project modifications was placed in service for Units 1 & 3. A Technical Specification amendment was reviewed and approved by the NRC staff and was implemented prior to placing the upgraded Service Water System equipment in service. These revised SLCs were implemented simultaneously with the approved Technical Specification amendment. SLC 16.9.7 was revised to reflect the new licensing basis for the Units 1 & 3 Service Water Systems. In addition, for human performance improvements, SLC 16.9.7 was converted into the NUREG-1430 Improved Standardized Technical Specification format, and the Bases were clarified and better organized. SLC 16.9.8 was also revised to exclude consideration of Units 1 & 3, since the High Pressure Service Water (HPSW) System was no longer credited for the safe shutdown function support for the upgraded Service Water System.

### SAFETY EVALUATION SUMMARY

The revisions to SLCs 16.9.7 and 16.9.8 were; 1) editorial changes, 2) clarifications to the Bases which enhance an understanding of the existing licensing basis, 3) format conversion in accordance with the guidance of NUREG-1430 which does not change the technical intent, or 4) technical changes which have already been evaluated by the NRC. All changes in design and construction (via modifications), and operation (via procedural changes) were evaluated under separate 50.59 evaluations, or were evaluated by the NRC. Therefore, the revisions to these SLCs constituted a documentation activity which did not affect operation, testing, or design of the plant beyond that which was already evaluated under other 50.59 evaluations or by the NRC staff's review. This documentation activity did not change existing system design, construction, or operation. The revision to these SLCs did not result in any plant modifications, procedure changes, or other activities, which could have resulted in an unreviewed safety question. Technical Specification changes were required, and the NRC staff review of these changes was completed prior to implementation of this SLC. The subject SLCs are part of the SAR (specifically Chapter 16 of the UFSAR) and were revised accordingly.

## SELECTED LICENSEE COMMITMENTS

### DESCRIPTION

#### SYSTEM: Condenser Circulating Water (CCW)

The purpose of this revision to SLC 16.9.11, Turbine Building Protection is document the acceptability of the CCW pump discharge valves being incapable of remote closure as long as the breaker is open and the valve handwheel locked in the closed position. Also, commitment 4 was clarified as being not applicable to the HPSW piping. The largest HPSW piping in the turbine building is 20" diameter.

### SAFETY EVALUATION SUMMARY

These SLC changes do not change existing system design, construction, or operation. This activity does not in any way increase the likelihood of initiation, or adversely affect 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. No SSCs are degraded. There is no effect on reactivity. There is no change to plant setpoints, safety limits or design parameters. This activity also has no effect on any margins of safety as previously evaluated in the SAR. The revision to these SLCs did not result in any plant modifications or other activities that could have resulted in an unreviewed safety question. No Technical Specification changes were required. The subject SLC is part of the SAR (specifically Chapter 16 of the UFSAR) and was revised accordingly.

## SELECTED LICENSEE COMMITMENTS

### DESCRIPTION

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

This safety evaluation supports addition of SLC 16.9.12, "Additional LPSW Operability Requirements". The new SLC ensures adequate LPSW pump NPSH and sufficient flow to safety related heat exchangers. It specifically addresses requirements for valves LPSW-4, 5, 139, LPI cooler flow indication, and LPSW pump minimum recirc lines.

### SAFETY EVALUATION SUMMARY

The new SLC does not change the existing LPSW system design or construction. It simply ensures adequate LPSW pump NPSH and sufficient flow to safety related heat exchangers is maintained. This conservative activity does not in any way increase the likelihood of initiation, or adversely affect 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. No SSCs are degraded. There is no effect on reactivity. There is no change to plant setpoints, safety limits or design parameters. This activity also has no effect on any margins of safety as previously evaluated in the SAR. The revision to these SLCs did not result in any plant modifications or other activities that could have resulted in an unreviewed safety question. No Technical Specification changes were required. The subject SLC was added as part of the SAR (specifically Chapter 16 of the UFSAR).

## SELECTED LICENSEE COMMITMENTS

### DESCRIPTION

SYSTEM: Low Pressure Service Water (LPSW)

This safety evaluation supports a change to SLC 16.9.12, "Additional LPSW Operability Requirements". The change clarifies that inoperability of (Low Pressure Injection) LPI cooler outlet valves LPSW-4 or 5 results in an inoperability of the affected LPI train, not LPSW.

### SAFETY EVALUATION SUMMARY

This SLC change simply provides enhanced clarity. It does not change the existing LPSW or LPI system design, construction, or operation. This conservative activity does not in any way increase the likelihood of initiation, or adversely affect 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. No SSCs are degraded. There is no effect on reactivity. There is no change to plant setpoints, safety limits or design parameters. This activity also has no effect on any margins of safety as previously evaluated in the SAR. The revision to these SLCs did not result in any plant modifications or other activities that could have resulted in an unreviewed safety question. No Technical Specification changes were required. The subject SLC is part of the SAR (specifically Chapter 16 of the UFSAR) and was revised accordingly.

## SELECTED LICENSEE COMMITMENTS

### DESCRIPTION

#### SYSTEM: Chemical Treatment

This safety evaluation supports revision to Selected Licensee Commitment Manual Table 16.11-3 to incorporate sampling requirements per NUREG-1301 Offsite Dose Calculation Manual Guidance: Standard Radiological Effluent Controls for Pressurized Water Reactors. This change requires a weekly composite sample be analyzed for the principal gamma emitters, which does not include the dissolved and entrained gases, and a monthly grab sample, which does include dissolved and entrained gases. Gross Alpha, tritium and Sr-89 & 90 continues to be monitored per current requirements in UFSAR Section 16 Table 16.11-3 which is also in agreement with NUREG-1301 and Regulatory Guide 1.21 Measuring, Evaluating, and Reporting Radioactivity in Solid Wastes and Releases of Radioactive Materials in Liquid and Gaseous Effluents from Light Water Cooled Nuclear Power Plants.

### SAFETY EVALUATION SUMMARY

Chemical Treatment Pond # 3 discharges water from the Conventional Wastewater Treatment System, the Sewage Treatment System, yard drains, the Intake Dam Underdrains System, Oil and Chemical Product Unloading/Storage Areas, Turbine Building Sumps, chemical metals cleaning waste, CCW gravity drain tests, condenser unwatering, decant monitoring tanks from Radwaste Facility, and several indigenous springs. Discharge is to the Keowee River downstream of the Keowee Dam. Chemical Treatment Pond # 3 is not a safety related system. This update to incorporate NUREG Guide 1301 sampling requirements does not affect the ability of Chemical Treatment Pond # 3 to perform its design function. The revision did not result in any plant modifications, procedure changes, or other activities, which involved an unreviewed safety question. This activity does not in any way increase the likelihood of initiation, or adversely affect 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. No SSCs are degraded. There is no effect on reactivity. There is no change to plant setpoints, safety limits or design parameters. This activity also has no effect on any margins of safety as previously evaluated in the SAR. No Technical Specification changes were required. The subject SLC is part of the SAR (specifically Chapter 16 of the UFSAR) and was revised accordingly.

## SELECTED LICENSEE COMMITMENTS

### DESCRIPTION

#### SYSTEM: RIAs

This safety evaluation supports revision to the Selected Licensing Commitment Tables located in Section 16-11, "Radiological Effluents Control." Changes made by this activity include:

- (1) Additional component identification descriptions specific to Radiological Effluents Control, Section 16-11, transposed from Site Directive 1.1.7 (prior to the deletion of this SD).
- (2) Table 16.11-4, Channel Functional Test surveillance requirement for Low Pressure Service Water Effluent Line Monitor RIA-35 quarterly functional test. The notation was changed from (1) to (2), which refers to a requirement to perform demonstration of alarm annunciation (upon receipt of an upscale condition above alarm setpoint and/or downscale condition such as circuit failure) instead of requiring demonstration of an automatic isolation (upon receipt of an upscale or downscale condition. This device does not have an automatic isolation associated with this device.

### SAFETY EVALUATION SUMMARY

The revision did not result in any plant modifications, procedure changes, or other activities, which involved an unreviewed safety question. This activity does not in any way increase the likelihood of initiation, or adversely affect 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. No SSCs are degraded. There is no effect on reactivity. There is no change to plant setpoints, safety limits or design parameters. This activity also has no effect on any margins of safety as previously evaluated in the SAR. No Technical Specification changes were required. UFSAR Chapter 16, SLC Tables 16.11-1 through 16.11-4 was revised accordingly.



## VII. UFSAR CHANGES (Pkg 97-165)

### DESCRIPTION

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

The activity is provided as part of the UFSAR Accuracy Review to document, in UFSAR Sections 9.2.2.2.3 and 9.2.5, Duke's response to IE Bulletin 88-04 issues to minimize the potential for deadheading of the LPSW pumps. It also provides descriptive information contained in the NRC Safety Evaluation of Oconee License Amendment 217/217/214 dated August 18, 1996 as it relates to the LPSW pump minimum flow protection.

### SAFETY EVALUATION SUMMARY

Adding appropriate information and clarification to the applicable statements in UFSAR Sections 9.2.2.2.3 and 9.2.5 to more accurately reflect the minimum flow protection features associated with the LPSW pumps does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There is no physical change to the plant or procedures. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Sections 9.2.2.2.3 and 9.2.5 were revised accordingly.

## UFSAR CHANGES (Pkg 97-186)

### DESCRIPTION

#### SYSTEM: Spent Fuel Cooling

The activity is provided as part of the UFSAR Accuracy Review to correct discrepancies in UFSAR Tables 9-1 & 9-2. This change updates the Spent Fuel Cooling System Data to reflect the as-built plant and currently authorized design basis.

### SAFETY EVALUATION SUMMARY

These changes have no impact on the Spent Fuel Cooling System analysis, design, function, operation, or performance as previously evaluated in the SAR. Correcting the related information to more accurately reflect the equipment design and licensing basis does not adversely affect the integrity, operation or function of any systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There is no physical change to the plant or procedures. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Tables 9-1 and 9-2 were updated accordingly.

## UFSAR CHANGES (Pkg 97-191)

### DESCRIPTION

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

The activity is provided as part of the UFSAR Accuracy Review to include a brief summary of the Oconee GL 89-13 responses on the Oconee licensing docket in UFSAR Section 9.2.2.1 for completeness/content adequacy. References were also added to 9.2.5.

### SAFETY EVALUATION SUMMARY

This information addition to the UFSAR has no impact on the LPSW or CCW Systems' analysis, design, function, operation, or performance as previously evaluated in the SAR. Enhancing the UFSAR content to more accurately reflect the plant licensing basis does not adversely affect the integrity, operation or function of any systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There is no physical change to the plant or procedures. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Sections 9.2.2.1 and 9.2.5 were updated accordingly.

## UFSAR CHANGES (Pkg 97-213)

### DESCRIPTION

SYSTEM: Building Spray, Core Flood, and RB Cooling

The purpose of this 10 CFR 50.59 evaluation was to determine if any unreviewed safety questions (USQs) were involved with revision to UFSAR Sections 6.1, 6.2, 6.3, and Figure 6-5. These UFSAR sections were updated to clarify/correct: (1) the BS system role in mitigation of secondary line breaks, (2) the interdependence of the BS and RBC systems, (3) inapplicability of single failure assumption to the CF system, and (4) that BS system injection valves are tested electrically, not manually.

### SAFETY EVALUATION SUMMARY

The revision of this information in the UFSAR is to reflect the accurate as-built plant SSC descriptions and correct licensing bases for the Building Spray, Core Flood, and RB Cooling systems. The revisions not result in any plant modifications, procedure changes, or other activities that could result in an unreviewed safety question. This change does not in any way increase the likelihood of initiation, or adversely affect the mitigation of, any SAR described accidents. 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. No new radiological release pathways or failure modes are created. No SSCs are degraded. There is no affect on reactivity. This activity also has no effect on any margins of safety as previously evaluated in the SAR. No Technical Specification changes are required. There are no unreviewed safety questions or safety concerns. No Selected Licensee Commitment changes were required. Sections 6.1, 6.2, 6.3, and Figure 6-5 of the Oconee UFSAR were updated accordingly.

## UFSAR CHANGE (Pkgs 98-01)

### DESCRIPTION

SYSTEM: N/A

This safety evaluation supports changes to UFSAR Sections 3.1.2, 3.2.2 and 3.3.2.3. This activity clarifies the Oconee licensing basis for Tornado with respect to the equipment that is credited for event mitigation.

### SAFETY EVALUATION SUMMARY

These changes were verified, via extensive licensing research, to be acceptable and consistent with the existing Oconee Licensing Basis as already reviewed by NRC staff. This change does not affect the design, function, or operation of plant equipment or systems. The plant SSCs as evaluated in the SAR are not adversely affected by this activity, which provides an enhanced description for the tornado event mitigation strategy. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. There is no change to plant setpoints, safety limits or design parameters. This activity has no effect on any margins of safety as previously evaluated in the SAR. There are no unreviewed safety questions or safety concerns. No Selected Licensee Commitment changes were required. UFSAR Sections 3.1.2, 3.2.2 and 3.3.2.3 were revised accordingly.

## UFSAR CHANGES (Pkg 98-02)

### DESCRIPTION

#### SYSTEM: Component Cooling (CC)

This safety evaluation supports changes to UFSAR Section 9.2.1.7. The section describes the leakage considerations for the Component Cooling (CC) System. In this section the UFSAR previously stated "In-leakage of reactor coolant to the system is detected by a radiation monitor (RIA-50) located in the recirculation line from the pumps to the surge tank and is also indicated by an increase in surge tank level." This statement was re-worded to agree with the as-built configuration as shown on the CC flow diagram (OFD-144A series), which shows radiation monitor RIA-50 is located on the recirc line back to the suction of the CC pumps. No radiation monitor exists on the separate recirc line back to the surge tank.

### SAFETY EVALUATION SUMMARY

This change does not affect the design, function, or operation of plant equipment or systems. The CC system, as evaluated in the SAR, is not adversely affected by this activity, which simply provides a correction. It does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. There is no change to plant setpoints, safety limits or design parameters. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Section 9.2.1.7 was revised accordingly.

## UFSAR CHANGES (Pkg 98-03)

### DESCRIPTION

#### SYSTEM: Condensate

This safety evaluation revised UFSAR Section 10.4.1.4. The "Tests and Inspections" section previously stated that pH of the condensate leaving the hotwell is continuously monitored. ONS does not, and has never had, in-line continuous pH monitoring of Condensate. The UFSAR was revised to reflect that pH is not continuously monitored in accordance with current Chemistry secondary procedures. Secondary chemistry specifications in Chemistry Section Manual 3.8 is in compliance with EPRI guidelines except where specifically documented due to differences in Plant design and operation.

### SAFETY EVALUATION SUMMARY

The operation/function of the hotwell or condensate, as evaluated in the SAR, is not adversely affected by this activity, which simply corrects to reflect the present chemistry monitoring practices. UFSAR Section 9.3.1 states that "guidelines for maintaining FFW...are derived from vendor recommendations and the current revision of the EPRI PWR Secondary Chemistry Guidelines". Continuous monitor of Hotwell pH is not recommended in these guidelines and does not increase the probability of a condenser tube leak. Monitoring of Hotwell pH is not related to the ability of the Hotwell to function under Main Steam Line Break or condenser tube leak conditions. The change does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. This activity has no effect on any margins of safety as previously evaluated in the SAR. This change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Section 10.4.1.4 was revised accordingly.

## UFSAR CHANGES (Pkg 98-06)

### DESCRIPTION

#### SYSTEM: Reactor Building Cooling Units

This safety evaluation revised UFSAR Figure 6-3, RBCU schematic, to correctly reflect the current as-built plant configuration. Figure 9-29, which was a duplicate of 6-3, was deleted.

### SAFETY EVALUATION SUMMARY

The revision of these figures in the UFSAR is to reflect the accurate as-built plant SSC descriptions of RB Cooling system. The revision does not result in any plant modifications, procedure changes, or other activities that could involve an unreviewed safety question. This change does not in any way increase the likelihood of initiation, or adversely affect the mitigation of, any SAR described accidents. 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. No new radiological release pathways or failure modes are created. No SSCs are degraded. There is no affect on reactivity. This activity also has no effect on any margins of safety as previously evaluated in the SAR. No Technical Specification changes are required. There are no unreviewed safety questions or safety concerns. No Selected Licensee Commitment changes were required. UFSAR figure 6-3 was revised accordingly. Figure 9-29 was deleted.



## UFSAR CHANGES (Pkg 98-07)

### DESCRIPTION

#### SYSTEM: Communications

This safety evaluation supports a change to UFSAR Sections 7.7.4.1 and 9.5.1.4.5. The change corrects the description of the non-supported function of the sound powered telephone system and exchanges the order of importance between radio communications and sound powered telephones. The description of radio communications is enhanced to more adequately describe the capability of the system. These changes are all non-technical in nature.

### SAFETY EVALUATION SUMMARY

This change does not affect the design, function, or operation of the plant SSCs. The plant communications network, as evaluated in the SAR, is not adversely affected by this activity which simply provides for enhanced accuracy. It does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. There is no change to plant setpoints, safety limits or design parameters. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Sections 7.7.4.1 and 9.5.1.4.5 were revised accordingly.

## UFSAR CHANGES (Pkg 98-08)

### DESCRIPTION

#### SYSTEM: Reactor Coolant (RCS)

This safety evaluation revised UFSAR Section 5.4.1.2 and Table 5-16. The RC pump seal description was updated, the stress analyses were corrected to reflect the proper Codes, and the RCP height and weights were also corrected. This revision is to reflect the most accurate RCP information available.

### SAFETY EVALUATION SUMMARY

This change does not in any way increase the likelihood of initiation, or adversely affect 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. No SSCs are degraded. There is no affect on reactivity. There is no change to plant setpoints, safety limits or design parameters. This activity also has no effect on any margins of safety as previously evaluated in the SAR. The revision does not result in any plant modifications, procedure changes, or other activities that could involve an unreviewed safety question. There are no safety concerns. No Technical Specification changes are required. No Selected Licensee Commitment changes were required. Section 5.4.1.2 and Table 5-16 of the UFSAR were revised accordingly.

## UFSAR CHANGES (Pkg 98-09)

### DESCRIPTION

#### SYSTEM: Reactor Coolant (RCS)

This safety evaluation revised UFSAR Table 5-2. The Allowable Operating Transient Cycle (AOTC) information was updated to reflect the correct number of transients that certain welds associated with the High Pressure Injection (HPI) system and RCS connections are qualified for.

### SAFETY EVALUATION SUMMARY

This change conservatively limits the number of AOTCs for certain RCS components. This change does not in any way increase the likelihood of initiation, or adversely affect 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. No SSCs are degraded. There is no affect on reactivity. There is no change to plant setpoints, safety limits or design parameters. This activity also has no effect on any margins of safety as previously evaluated in the SAR. The revision does not result in any plant modifications, procedure changes, or other activities that could involve an unreviewed safety question. There are no safety concerns. No Technical Specification changes are required. No Selected Licensee Commitment changes were required. Table 5-2 of the UFSAR was revised accordingly.

## UFSAR CHANGES (Pkg 98-12)

### DESCRIPTION

SYSTEM: Radiation Indication Alarms (RIAs)

This safety evaluation supports a change to UFSAR Table 11-7. Selected RIA ranges and sensitivities were updated to reflect the current capabilities.

### SAFETY EVALUATION SUMMARY

This change does not affect the design, function, or operation of the plant SSCs. The Radiation Monitors associated with this activity are non-safety-related. The plant RIAs as evaluated in the SAR are not adversely affected by this activity which simply provides for enhanced accuracy. It does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. There is no change to plant setpoints, safety limits or design parameters. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Table 11-7 was revised accordingly.

## UFSAR CHANGES (Pkg 98-13)

### DESCRIPTION

#### SYSTEM: Post-Accident Containment Air Sampling

This summary is applicable to the 10 CFR 50.59 USQ performed on the change to the Oconee USFAR 9.3.6.2.3 Rev. 12/31/97, Mode of Operation (Post-Accident Containment Air Sampling System). The section previously described the Post-Accident Containment Air Sampling System sampling media as a thiosulfate solution. The description was changed from a thiosulfate solution to a particulate air filter and an activated charcoal cartridge. Sodium thiosulfate use in this sampling system was discontinued as a result of INPO findings at the McGuire station.

### SAFETY EVALUATION SUMMARY

The Post-Accident Containment Air Sampling System does not perform a safety function and has no impact on any safety related system component or structure. The system is not identified as part of an initiating condition or as necessary for any mitigating action in any design basis accident. The particulate air filter and activated charcoal cartridge are used in line with the Gas Sampler. No physical modification to the Post-Accident Containment Air Sampling System was necessary to replace the sodium thiosulfate solution with a particulate air filter and activated charcoal cartridge. Therefore, no new or different failure modes were created as a result of changing the sampling media. This change does not affect the performance characteristics or operability of the Post-Accident Sampling System and does not affect interaction with other systems. This change does not affect the design, function, or operation of any other plant SSCs. No new radiological release pathways are created. There is no increase in the consequences of any SAR described accident. There is no increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no change to plant setpoints, safety limits or design parameters. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Sections 9.3.6.2.3 was revised accordingly.

## UFSAR CHANGES (Pkg 98-14)

### DESCRIPTION

#### SYSTEM: Condenser Circulating Water (CCW)

This safety evaluation supports a change to UFSAR Section 9.2.2.2.1 performed via ONOE-12284. The section was corrected to reflect that the CCW load shed signal DOES NOT come from Engineered Safeguards (ES).

### SAFETY EVALUATION SUMMARY

This correction to the UFSAR has no impact on the CCW or ES Systems' analysis, design, function, operation, or performance as previously evaluated in the SAR. Enhancing the UFSAR content to more accurately reflect the as-built plant does not adversely affect the integrity, operation or function of any systems, structures and components. This minor change does not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There is no physical change to the plant or procedures. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Section 9.2.2.2.1 was updated accordingly.

UFSAR CHANGES (Pkgs 98-16, 25, 81, 90, 100, 121, and 146, 161)

DESCRIPTION

SYSTEM: N/A

This activity simply encompasses the following editorial changes to UFSAR Sections 3.2.2.2, Table 3-68, 4.3, Table 8-4, 9.5.1.6.2, 16.0, 9.3.2.2.2, and Figures 9-30 and 34 performed under the generic 50.59 evaluation for editorial changes included in NSD-220. These changes include

- (1) Clarify Duke piping specifications should be used to determine applicable codes,
- (2) Add a Qualification Report reference,
- (3) Add new ITS reference sections,
- (4) Typo-change Auxiliary Switchgear bus from 4160 kV to 4160V,
- (5) Correct reference to section 9.5.1.4.3,
- (6) Clarify SLCs are maintained in a separate hard copy manual,
- (7) Reword to say one of two let down filters IS normally in use while one is a spare,
- (8) Replace illegible figures, and
- (9) Miscellaneous spelling, grammar, and format corrections

SAFETY EVALUATION SUMMARY

No Technical changes were made. No Technical Specification changes are required. There are no unreviewed safety questions or safety concerns. No Selected Licensee Commitment changes were required. UFSAR Sections 3.2.2.2, 4.3, 9.3.2.2.2, 9.5.1.6.2, 16.0, Tables 3-68, 8-4, and Figures 9-30 and 34 were updated accordingly.

## UFSAR CHANGES (Pkg 98-17)

### DESCRIPTION

#### SYSTEM: Spent Fuel Pool

This safety evaluation supports a change to UFSAR Section 9.1.4.1.3 to clarify and enhance accuracy. The section previously stated: "Each pool is sized to accommodate a full core of irradiated fuel assemblies in addition to the current storage of the largest quantity of new and spent fuel assemblies predicted by the fuel management program. Control rod assemblies requiring removal from the reactors are stored in the spent fuel assemblies, or in brackets suspended from the top of the fuel racks." The first sentence is ambiguous and was changed to state the actual number of fuel assemblies that can be stored in the spent fuel pools. The second sentence was changed to allow all components to be stored in spent fuel pool racks as well as spent fuel assemblies. The wording was changed to: "The unit 1 and 2 spent fuel pool will hold 1312 fuel assemblies. The unit 3 spent fuel pool will hold 822 assemblies plus 3 spaces for failed fuel canisters. Fuel Components (such as control rods, BP's, or APSRs) requiring removal from the reactors are stored in the spent fuel assemblies or in brackets suspended from the top of the fuel racks."

### SAFETY EVALUATION SUMMARY

This change does not affect the design, function, or operation of the plant SSCs. The SFPs and supporting systems, as evaluated in the SAR, are not adversely affected by this activity which simply provides for enhanced accuracy and description. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. There is no change to plant setpoints, safety limits or design parameters. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Section 9.1.4.1.3 was revised accordingly.



## UFSAR CHANGES (Pkg 98-18)

### DESCRIPTION

#### SYSTEM: Concentrated Boric Acid Tank (CBAST)

This safety evaluation supports a change to UFSAR Section 9.3.1.2.7 to clarify and enhance accuracy by removing extraneous wording. The aforementioned section previously stated: "The boric acid mix tank solution is to be maintained above an average temperature of 105°F in order to maintain boric acid in solution at a concentration of 7 percent by weight. The capacity of the boric acid mix tank is 500 cubic feet. Approximately 216 cubic feet is required to borate the Reactor Coolant System for cold shutdown near the end of core life." The boric acid mix tank feeds the Concentrated Boric Acid Tank (CBAST). The Tech Spec and COLR requirements are for the CBAST. These requirements are for 1% shutdown margin at 70 degrees F, at the worst point in core life. The actual boron requirements are cycle specific depending on design EFPD, enrichment, etc. Therefore, the statement that; approximately 216 cubic feet is required to borate the Reactor Coolant System for cold shutdown near the end of core life, was deleted.

### SAFETY EVALUATION SUMMARY

This change does not affect the design, function, or operation of the plant SSCs. The RCS chemical addition and volume control systems, as evaluated in the SAR are not adversely affected by this activity which simply provides for enhanced accuracy. It does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. There is no change to plant setpoints, safety limits or design parameters. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Section 9.3.1.2.7 was revised accordingly.

## UFSAR CHANGES (Pkg 98-19)

### DESCRIPTION

SYSTEM: Power Battery Chargers

This safety evaluation supports changes to UFSAR Table 3-68. The table was revised to show that all EXIDE battery chargers have been changed out (Ref NSM-x2881 and PIP 98-3169).

### SAFETY EVALUATION SUMMARY

This change does not affect the design, function, or operation of the Emergency Power Systems. The battery chargers, as evaluated in the SAR, are not adversely affected by this activity, which simply reflects the as-built plant installed equipment. It does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. There is no change to plant setpoints, safety limits or design parameters. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Table 3-68 was revised accordingly.

## UFSAR CHANGES (Pkg 98-20)

### DESCRIPTION

#### SYSTEM: Main Turbine

This safety evaluation supports changes to UFSAR Section 10.3.4. This activity changed the description of one of the main steam/turbine stop valves. As previously described in the subject UFSAR Section, these valves are described as having two positions, however, vendor information showed that one of the valves can be continuously positioned. This change created consistency in the main steam/turbine stop valves description with the as built configuration as described in vendor documentation.

### SAFETY EVALUATION SUMMARY

This change to UFSAR Section 10.3.4 does not affect the design, function, or operation of plant secondary equipment or systems. The Main Turbine system, as evaluated in the SAR, is not adversely affected by this activity which simply provides for enhanced accuracy. It does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Section 10.3.4 was revised accordingly.

## UFSAR CHANGES (Pkg 98-21)

### DESCRIPTION

#### SYSTEM: Main Steam

This safety evaluation supports a change to UFSAR Section 10.1. This activity provides a minor rewording. This change provides for consistency in the SPCS (steam power conversion systems) and the Main Steam Line Break (MSLB) circuitry descriptions utilizing the as-built information contained in docketed correspondence and nuclear station modifications. This change clarifies that the MSLB circuitry, which was installed as part of the station's response to IE Bulletin 80-04, is installed on all three units.

### SAFETY EVALUATION SUMMARY

This change to UFSAR Section 10.1 does not affect the design, function, or operation of plants secondary equipment or systems. The Main Steam system and associated circuitry, as evaluated in the SAR, is not adversely affected by this activity which simply provides for enhanced accuracy. It does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Section 10.1 was revised accordingly.

## UFSAR CHANGES (Pkg 98-22)

### DESCRIPTION

#### SYSTEM: Turbine Generator

This safety evaluation supports a change to UFSAR Section 10.2.2. The activity changed the turbine generator rating from 22,000 volts to 19,000 volts. This change provides consistency between the UFSAR turbine generator description and the as-built information contained in the controlled electrical one drawings and vendor documentation.

### SAFETY EVALUATION SUMMARY

This change to UFSAR Section 10.2.2 does not affect the design, function, or operation of the plant turbine generator or other secondary equipment or systems. The generator and associated systems, as evaluated in the SAR, are not adversely affected by this activity which simply provides a necessary correction. It does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Section 10.2.2 was revised accordingly.

## UFSAR CHANGES (Pkg 98-23)

### DESCRIPTION

#### SYSTEM: Turbine Generator

This safety evaluation supports a change to UFSAR Section 10.2.4, which describes the design, function, and operation of the turbine generator. The existing UFSAR information in Section 10.2.4 is a compilation of design and licensing basis information regarding the requirements associated with the turbine generator. The change associated with this activity resolved an inaccuracy in the load follow description. This corrected wording is:

"This unit automatically follows the core thermal power demand (CTPD) requirements in order to meet the unit power demand, See Section 7.6.1.2 Integrated Control System."

### SAFETY EVALUATION SUMMARY

This change to UFSAR Section 10.2.4 does not affect the design, function, or operation of the plant turbine generator, ICS, or other secondary equipment or systems. The generator and associated systems, as evaluated in the SAR, are not adversely affected by this activity which simply provides a correction to the normal operating description. It does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Section 10.2.4 was revised accordingly.

## UFSAR CHANGES (Pkg 98-24)

### DESCRIPTION

#### SYSTEM: Main Condenser

This safety evaluation supports a change to UFSAR Section 10.2.4 to clarify that the main condenser can handle "approximately" 25% of rated main steam flow.

### SAFETY EVALUATION SUMMARY

This change does not affect the design, function, or operation of plants main condenser or secondary systems. The condenser, as evaluated in the SAR, is not adversely affected by this activity which simply provides for enhanced accuracy. It does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. There is no change to plant setpoints, safety limits or design parameters. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Section 10.2.4 was revised accordingly.

## UFSAR CHANGES (Pkg 98-27)

### DESCRIPTION

#### SYSTEM: Radwaste Facility, Fire Protection

This safety evaluation supports change the wording of UFSAR Section 9.5.1.5.3 Bullet Item #6 to indicate that the automatic foam fire suppression system over the Radwaste polymer fill station has been abandoned.

### SAFETY EVALUATION SUMMARY

The polymer fill station at the Radwaste facility is not in use and the machinery is de-energized and abandoned; therefore the fire suppression system has been isolated because there is no hazard present. This change does not affect the design, function, or operation of plants main condenser or secondary systems. Fire protection, as evaluated in the SAR, is not adversely affected by this activity which simply provides for enhanced accuracy. It does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. There is no change to plant setpoints, safety limits or design parameters. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Section 9.5.1.5.3 was revised accordingly.



## UFSAR CHANGES (Pkg 98-28)

### DESCRIPTION

#### SYSTEM: Chemical Addition

This safety evaluation supports a change to UFSAR Table 9-5 to correct the information about the LiOH pumps. Manufacturer information, OM-201-2202, specifies the design pressure for the LiOH pumps as 250 psig. Table 9.T9-05 was revised to reflect the actual pumps' design pressure.

### SAFETY EVALUATION SUMMARY

This change does not affect the design, function, or operation of the plant SSCs. The RCS chemical addition and volume control systems as evaluated in the SAR are not adversely affected by this activity which simply corrects the descriptions to reflect the actual as-built plant. It does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. There is no change to plant setpoints, safety limits or design parameters. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Table 9-5 was revised accordingly.

## UFSAR CHANGES (Pkg 98-29)

### DESCRIPTION

#### SYSTEM: Spent Fuel Pool

This safety evaluation supports changes to UFSAR Sections 9.1.2.1.2 and 9.1.2.2 to clarify and enhance accuracy of the SFP racks description. The Spent Fuel Storage rack assembly dimensions and/or weights were corrected to match the controlled design drawings and the actual as-built plant.

### SAFETY EVALUATION SUMMARY

This change does not affect the design, function, or operation of the plant SSCs. The SFP racks, as evaluated in the SAR, are not adversely affected by this activity which simply provides for enhanced accuracy and description. The actual rack weights are less than was stated in the UFSAR and less than was assumed in the structural analysis of the racks and the spent fuel pools. The dimensional discrepancies are minor and within the range of accuracy normally considered acceptable for structural and hydraulic analyses. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. There is no change to plant setpoints, safety limits or design parameters. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Sections 9.1.2.1.2 and 9.1.2.2 were revised accordingly.

## UFSAR CHANGES (Pkg 98-31)

### DESCRIPTION

#### SYSTEM: Spent Fuel Pool

This safety evaluation supports changes to UFSAR Section 9.1.2.3.1 to clarify and enhance accuracy of the SFP racks description. This section previously contained incorrect statements regarding the code of reference used in designing the Spent Fuel Racks. The section was revised to reflect the actual code of reference used, which was ASME Code III, Subsection NF.

### SAFETY EVALUATION SUMMARY

This change does not affect the design, function, or operation of the plant SSCs. The SFP racks, as evaluated in the SAR, are not adversely affected by this activity which simply provides for enhanced accuracy and description. ASME Code III, Subsection NF is equally acceptable as the AISC Code. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. There is no change to plant setpoints, safety limits or design parameters. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Section 9.1.2.3.1 was revised accordingly.

## UFSAR CHANGES (Pkg 98-33)

### DESCRIPTION

#### SYSTEM: Main Condenser

This safety evaluation supports a change to UFSAR Section 10.4.1.4 "Main Condenser Tests and Inspections" for the purpose of clarity, content and correctness. The purpose of Main Condenser Tests, Inspections, Monitoring and Trending activities are to ensure optimized Steam Turbine performance. These activities do not affect nuclear safety

### SAFETY EVALUATION SUMMARY

This change does not affect the design, function, or operation of plants main condenser or secondary systems. The condenser, as evaluated in the SAR, is not adversely affected by this activity which simply provides for enhanced accuracy. It does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. There is no change to plant setpoints, safety limits or design parameters. This activity has no effect on any margins of safety as previously evaluated in the SAR. The Main Condenser is not assigned a safety class because it is not required for safe reactor shutdown. As such, this change does not present an unreviewed safety question. There are no related Technical Specifications, and thus No Technical Specification changes are required. UFSAR Section 10.4.1.4 was revised accordingly.

## UFSAR CHANGES (Pkg 98-34)

### DESCRIPTION

SYSTEM: Containment, Main Steam Line Break Circuitry

This safety evaluation (OSC-5233) supports changes to UFSAR Figures 6-42 and 43. These changes are due to revised MSLB containment response analyses with new assumptions for EFW flowrate and MFW control valve stroke times.

### SAFETY EVALUATION SUMMARY

The updated Duke analyses utilize the NRC approved methodology of DPC-NE-3003-PA, which shows containment pressure remains below the design criterion of 59 psig and that environmental qualification (EQ) limits are met. This activity does not affect the design, function, or operation of plants secondary equipment or systems. The new analysis assumptions are consistent with the design basis and operational limits of the Reactor Building and the associated cooling systems. It does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Figures 6-42 and 6-43 were revised accordingly.

## UFSAR CHANGES (Pkg 98-35)

### DESCRIPTION

#### SYSTEM: Reactor Vessel (RV)

This safety evaluation revised UFSAR Section 5.2 and Tables 5-12, 13, and 14. The reactor vessel fluence and PTS values for all three units were updated to reflect information contained in the new Framatome Technologies (FTI) documents. The tables were revised to reflect information contained in the original material analysis reports.

### SAFETY EVALUATION SUMMARY

This revision is to reflect the most accurate RV material and fluence data available. This change does not in any way increase the likelihood of initiation, or adversely affect 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. No SSCs are degraded. There is no affect on reactivity. There is no change to plant setpoints, safety limits or design parameters. This activity also has no effect on any margins of safety as previously evaluated in the SAR. The revision does not result in any plant modifications, procedure changes, or other activities that could involve an unreviewed safety question. There are no safety concerns. No Technical Specification changes are required. No Selected Licensee Commitment changes were required. Section 5.2 and Tables 5-12, 13, and 14 of the UFSAR were revised accordingly.

## UFSAR CHANGES (Pkg 98-36)

### DESCRIPTION

#### SYSTEM: Emergency Feedwater

This safety evaluation revised UFSAR Section 10.4.7.2 to include 5 alarms associated with the Turbine Driven Emergency Feedwater Pumps. The alarms are TDEFW pump tripped, turbine lube oil low pressure, oil temperature high, hydraulic oil pressure low, and auxiliary oil pump overload.

### SAFETY EVALUATION SUMMARY

The operation and function of the EFW system, as evaluated in the SAR, is not adversely affected by this activity, which simply adds a description of existing TDEFWP alarm for UFSAR completeness. The descriptions are enhanced. It does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. There is no change to plant setpoints, safety limits or design parameters. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Section 10.4.7.2 was revised accordingly.

## UFSAR CHANGES (Pkg 98-39)

### DESCRIPTION

#### SYSTEM: Reactor Building Cooling Units

This safety evaluation revised UFSAR Section 6.2.2.2.1 to better reflect the current as-built plant configuration. The subject section describes the performance monitoring instrumentation for the Reactor Building Cooling (RBC) System. The information was updated to reflect that system performance is measured by the flow instrumentation and thermocouples in the LPSW supply and return lines as well as by temperature and relative humidity transmitters in the Reactor Building Cooling Unit (RBCU) ductwork.

### SAFETY EVALUATION SUMMARY

The revision of this information in the UFSAR is to reflect the accurate as-built plant SSC descriptions of RB Cooling system. The revision does not result in any plant modifications, procedure changes, or other activities that could involve an unreviewed safety question. This change does not in any way increase the likelihood of initiation, or adversely affect the mitigation of, any SAR described accidents. 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. No new radiological release pathways or failure modes are created. No SSCs are degraded. There is no affect on reactivity. This activity also has no effect on any margins of safety as previously evaluated in the SAR. No Technical Specification changes are required. There are no unreviewed safety questions or safety concerns. No Selected Licensee Commitment changes were required. Section 6.2.2.2.1 of the Oconee UFSAR was revised accordingly.



## UFSAR CHANGES (Pkg 98-40)

### DESCRIPTION

#### SYSTEM: Control Room Ventilation (CRVS)

This safety evaluation supports addition of clarifying information in UFSAR Sections 9.4.1.2.1 and 9.4.1.2.2 regarding single failure requirements for the Control Room Ventilation System pressurization. UFSAR Sections 9.4.1.2.1, 9.4.1.3, 6.4.2.3 and 3.11.4 state that there are two 50 % filter trains that supply outside air to the control room. The purpose of the outside air is to provide filtered pressurization air to assure out-leakage from the control room zone rather than in-leakage into the control room zone. Per section 6.4.2.3, "Two 50% capacity outside air filter trains can maintain their respective control room zones at a positive pressure to prevent uncontrolled infiltration into the control room zones." Even though each of these sections identifies that the filter trains are 50% capacity, it is not explicitly stated that the pressurization function is not single failure proof. This change to the UFSAR adds wording to clearly state that the CRVS was not designed or licensed to maintain a positive pressure in the control room assuming a single failure. The design of the system is clearly to have 50% capacity trains.

### SAFETY EVALUATION SUMMARY

The revision of these sections is to reflect the current as-built plant configuration and licensing basis of the CRVS. Technical Specifications do not and have not required the system to pressurize the control room with a single fan. Testing, per Technical Specifications, requires the system to pressurize the control room with both outside air booster fans operating. In addition, a docketed letter was submitted to the NRC that provided a detailed historical perspective of CRVS licensing and design. That document concluded that the CRVS was not designed or licensed to maintain a positive pressure in the control room assuming a single failure. There is no physical change to the plant or procedures. 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. No new radiological release pathways or failure modes are created. No SSCs are degraded. There is no affect on reactivity. This activity also has no effect on any margins of safety as previously evaluated in the SAR. No Technical Specification changes are required. There are no unreviewed safety questions or safety concerns. No Selected Licensee Commitment changes were required. UFSAR Sections 9.4.1.2.1 and 9.4.1.2.2 were revised accordingly.

## UFSAR CHANGES (Pkg 98-48)

### DESCRIPTION

#### SYSTEM: Emergency Feedwater

The discussion in UFSAR Section 7.4.3, "Emergency Feedwater Controls," originally contained too broad of a discussion and extraneous information about the Emergency Feedwater (EFW) System. The descriptions and relative information were revised via this safety evaluation to concentrate on EFW instrumentation and control topics, and not information on system design, function and operation that is appropriately addressed in other UFSAR sections. Section 7.4.3 was rewritten to remove duplicative information and correct discrepancies. This activity accomplished the following:

- EFW design/system function information already addressed or bounded by UFSAR Section 10.4.7 was removed with the remaining information slightly reworded and better organized.
- A cross-reference to Section 7.8's discussion of EFW auto start as part of the ATWS Mitigation System Actuation Circuitry was included.
- Minor additional detail regarding the Steam Generator Level Control System's role in initiation and control of the EFW System was included. Also, the discussion of the components that make up the Steam Generator Level Control System and the signal deviation check performed for steam generator level was revised to be less specific.
- Specific setpoint numbers used throughout the Section 7.4.3 discussion were removed.

### SAFETY EVALUATION SUMMARY

The operation and function of the EFW system, as evaluated in the SAR, is not adversely affected by this activity, which provides clarification/ correction to reflect the as-built plant and to concentrate on electrical and control aspects. The descriptions are enhanced. It does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Section 7.4.3 was revised accordingly.

## UFSAR CHANGES (Pkg 98-49)

### DESCRIPTION

#### SYSTEM: Main Feedwater, Condensate

This safety evaluation revised UFSAR Figures 10-6 and 10-7. This activity modified UFSAR Figure 10-6 to correct several minor discrepancies (labeling, flowpath, etc.) with the figure regarding its description of the Condensate System. The changes make it more consistent with the actual as-built configuration of the Condensate System as shown on the controlled Oconee flow diagrams. This activity also modified UFSAR Figure 10-7 to correct several minor discrepancies with regarding its description of the Main Feedwater System. Revising this figure will makes it more consistent with the actual as-built configuration of the Main Feedwater System as shown on Oconee flow diagrams

### SAFETY EVALUATION SUMMARY

The operation and function of the MFW or Condensate systems, as evaluated in the SAR, are not adversely affected by this activity, which simply provides clarification/ correction to reflect the as-built plant on the respective figures. The changes do not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Figures 10-6 and 10-7 were revised accordingly.

## UFSAR CHANGES (Pkgs 98-50, 118)

### DESCRIPTION

SYSTEM: Main Steam, Main Vacuum

This safety evaluation revised the following UFSAR Figures. Figures 10-1, 10-2, 10-3, and 10-4 were changed to correct several minor discrepancies (labeling, valve numbering, flowpath, instrumentation locations, etc.) regarding their descriptions of the Steam and Power Conversion System. Revising these figures makes them more consistent with the actual as-built configuration of the Steam and Power Conversion System as shown on the controlled Oconee flow diagrams. This activity also modified UFSAR Figure 10-5 to correct a minor discrepancy regarding its depiction of the Vacuum System. Revising the figure makes it more consistent with the actual as-built configuration of the Vacuum System as shown on Oconee flow diagrams.

### SAFETY EVALUATION SUMMARY

The operation and function of the Steam and Power Conversion and vacuum systems, as evaluated in the SAR, are not adversely affected by this activity, which simply provides correction and enhancement to reflect the as-built plant on the respective figures. The changes do not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Figures 10-1, 2, 3, 4, and 10-5 were revised accordingly.

## UFSAR CHANGES (Pkg 98-52B)

### DESCRIPTION

SYSTEM: Emergency Feedwater (EFW)

This safety evaluation supports changes to UFSAR Section 10.4.7.2. The description was corrected to state that ONLY the motor driven EFW pumps continue to operate once automatically started.

### SAFETY EVALUATION SUMMARY

In the event of a main steam line break (MSLB), the associated circuitry automatically secures the turbine driven EFW pump. This change simply provides a correction to reflect the as-built plant. The change does not affect the design, function, or operation of EFW System. The EFW system as evaluated in the SAR is not adversely affected by this activity. It does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR section 10.4.7.2 was revised accordingly.

## UFSAR CHANGES (Pkg 98-56)

### DESCRIPTION

#### SYSTEM: Control Room Ventilation (CRVS)

UFSAR Figure 9-24 is a detailed diagram of the Control Room Ventilation and Air Conditioning Systems. This figure required multiple changes per PIP 98-1165 (single failure vulnerability) and in conjunction with NSMs-2324 and 53046. This change reflects the proper ventilation flow paths for the Control Area Cooling. AHUs 34 and 35 were added to the Cable Room so that the Unit 1 and 2 Cable Rooms could be cooled independently from the Control and Equipment Rooms. This change also incorporated the addition of isolation dampers installed per NSM ON-2324. The dampers were added to increase the pressurization capability of the control room to meet the requirements of NUREG-0737. The figure was also modified to show that Unit 3 Outside Air Booster Fans do not supply air to the Unit 3 Cable and Equipment Rooms. The Unit 3 Control Room Ventilation is separate from the Unit 3 Cable and Equipment Rooms. Air Handling Unit OAC 3-1 was added to Figure 9-24 and information regarding the Administration Building Air Conditioning System was removed. Finally, equipment design information (temperatures/flows) has been removed from the body of the figure for clarity and a table was added to tabulate equipment specification information.

### SAFETY EVALUATION SUMMARY

The revision of this figure is to reflect the current as-built plant configuration of the CRVS. This revision is the result of previous and recent plant modifications and the subsequent resolution of inaccuracies. Correcting the UFSAR figure does not in any way increase the likelihood of initiation, or adversely affect the mitigation of, any SAR described accidents. Redundant air conditioning and ventilation equipment is provided to assure that no single failure of an active component within these systems will prevent proper control area environmental control. The facility is provided with a control room from which actions to maintain safe operational status of the plant can be controlled. Adequate radiation protection is provided to permit access, even under accident conditions, to equipment in the control room or other areas as necessary to shut down and maintain safe control of the facility without radiation exposures of personnel in excess of 10CFR20 limits. The Oconee 1 and 2, and Oconee 3 Control Room Ventilation Systems are designed as independent ventilation systems; two 50% capacity outside air filter trains can maintain their respective control room zones at a positive pressure to prevent uncontrolled infiltration in the control room zones. The control room zone is comprised of the control room, offices, computer rooms, Operator's break area, and Operator's toilet area. The existing control room ventilation system was designed and installed in accordance with HVAC Industry Standards and practices for commercial and industrial systems. 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. No new radiological release pathways or failure modes are created. No SSCs are degraded. There is no affect on reactivity. This activity also has no effect on any margins of safety as previously evaluated in the SAR. No Technical Specification changes are required. There are no unreviewed safety questions or safety concerns. No Selected Licensee Commitment changes were required. Figure 9-24 was revised accordingly.

## UFSAR CHANGES (Pkg 98-58)

### DESCRIPTION

#### SYSTEM: Communications

This safety evaluation supports a change to UFSAR Section 7.7.4. The activity changes the UFSAR description concerning the use of radio communications and the exclusion area control at Oconee. The description of radio communications is enhanced to adequately describe the capability of the system in section 7.7.4.1. Section 7.7.4.3 was deleted to indicate the change in responsibility for the Emergency Plan. These changes are all non-technical in nature.

### SAFETY EVALUATION SUMMARY

This change does not affect the design, function, or operation of the plant SSCs. Neither the plant communications network nor the Emergency Plan, as evaluated in the SAR, is adversely affected by this activity which simply provides for enhanced accuracy. It does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. There is no change to plant setpoints, safety limits or design parameters. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Section 7.7.4 was revised accordingly.

## UFSAR CHANGES (Pkg 98-59)

### DESCRIPTION

#### SYSTEM: Containment Building

This safety evaluation supports a change to UFSAR Section 3.8.1 to clarify that the Reactor buildings are not actually free-standing structures, but are conservatively analyzed as free-standing structures.

### SAFETY EVALUATION SUMMARY

The Containment Buildings are obviously connected to the auxiliary buildings. But, for civil analysis purposes, they are considered free-standing structures. The Containment Buildings as evaluated in the SAR are not adversely affected by this activity which provides for enhanced accuracy and description. This change does not affect the design, function, or operation of the plant SSCs. These changes do not increase the likelihood of initiation, or adversely affect 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 UFSAR accident. There is no increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. There is no change to plant setpoints, safety limits or design parameters. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Section 3.8.1 was revised accordingly.



## UFSAR CHANGES (Pkg 98-61)

### DESCRIPTION

#### SYSTEM: Keowee Hydro Station 125V DC Electrical

This safety evaluation supports changes to UFSAR Section 8.3.2.1.3. This activity revised the section to clarify the description of the physical arrangement of the Keowee Hydro Station 125V DC components. The change removes an ambiguity involving the physical separation of the two Keowee units' battery systems by stating that the two systems are contained within a common battery room, but that the two units' battery systems are physically separated within that same room.

### SAFETY EVALUATION SUMMARY

This change to UFSAR Section 8.3.2.1.3 does not affect the design, function, or operation of Keowee Hydro or Oconee plant equipment or systems. The system, as evaluated in the SAR, is not adversely affected by this activity, which provides enhanced clarity. It does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Section 8.3.2.1.3 was revised accordingly.

## UFSAR CHANGES (Pkg 98-62)

### DESCRIPTION

#### SYSTEM: Emergency Power

This safety evaluation supports changes to UFSAR Section 8.3.2.2.4. This activity revises UFSAR Section 8.3.2.2.4 to reflect that operator actions, outside the Control Room, are required during the recovery from a Station Black Out (SBO) event. This clarification provides consistency between the UFSAR and approved station abnormal operating procedures.

### SAFETY EVALUATION SUMMARY

This change to UFSAR Section 8.3.2.2.4 does not affect the design, function, or operation of Emergency Power Systems. The system, as evaluated in the SAR, is not adversely affected by this activity, which provides consistency and enhanced clarity. It does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Section 8.3.2.2.4 was revised accordingly.

## UFSAR CHANGES (Pkg 98-63)

### DESCRIPTION

#### SYSTEM: Emergency Feedwater

This safety evaluation supports changes to UFSAR Section 8.3.2.2.4. This activity changed the section such that design information related to the turbine driven emergency feedwater pump (TDEFWP) is presented more clearly, ensuring that an incorrect conclusion is not drawn concerning its function during the station blackout coping period. Specifically, the updated text explains that the TDEFWP is not operable after 2 hours and not credited for the SBO coping period.

### SAFETY EVALUATION SUMMARY

The TDEFWP is not required for the 4 hour coping period since the SSF Auxiliary Service Water (ASW) system is the licensing and design basis commitment for decay heat removal during the SBO event. This change to UFSAR Section 8.3.2.2.4 does not affect the design, function, or operation of Emergency Power Systems. The system, as evaluated in the SAR, is not adversely affected by this activity, which provides consistency and enhanced clarity. It does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Section 8.3.2.2.4 was revised accordingly.

## UFSAR CHANGES (Pkg 98-65)

### DESCRIPTION

#### SYSTEM: Reactor Building Cooling Units

This activity provides consistency between UFSAR Sections 6.2.2.4 and 9.4.6.4, which address Reactor Building Cooling (RBC) System. The subject revisions clarify that "Operational tests and inspections are performed after each refueling outage" and "the fans will be started and inspected for proper operation," respectively. The revision reflects the actual plant testing and operation.

### SAFETY EVALUATION SUMMARY

The revision of this information in the UFSAR is to reflect the current operation and testing practices associated with the RB Cooling system. The revision does not result in any plant modifications, procedure changes, or other activities that could involve an unreviewed safety question. This change does not in any way increase the likelihood of initiation, or adversely affect the mitigation of, any SAR described accidents. 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. No new radiological release pathways or failure modes are created. No SSCs are degraded. There is no affect on reactivity. This activity also has no effect on any margins of safety as previously evaluated in the SAR. No Technical Specification changes are required. There are no unreviewed safety questions or safety concerns. No Selected Licensee Commitment changes were required. Section 6.2.2.4 of the Oconee UFSAR was revised accordingly.

## UFSAR CHANGES (Pkg 98-66)

### DESCRIPTION

SYSTEM: N/A

This activity simply encompasses all editorial changes to UFSAR Chapter 8, performed under the generic 50.59 evaluation included in NSD-220. These changes include only grammatical, format, spelling, etc. type items.

### SAFETY EVALUATION SUMMARY

No Technical changes were made. No Technical Specification changes are required. There are no unreviewed safety questions or safety concerns. No Selected Licensee Commitment changes were required. Chapter 8 of the UFSAR was updated accordingly.

## UFSAR CHANGES (Pkg 98-67)

### DESCRIPTION

#### SYSTEM: Emergency Power

This safety evaluation supports changes to UFSAR Section 8.2.1.4 to add a description of the degraded voltage protection for the 100 kV supply from Lee Steam Station via transformer CT-5. The original degraded voltage protection modification installed logic and relaying to alert the operator via an annunciator any time the secondary voltage of transformer CT-5 decreases to a low value such that, if it was the power supply to the main feeder buses and a LOCA/LOOP occurred, proper equipment operation could not be assured. This logic and relaying also "arms" the supply breakers from transformer CT-5 to 4160V Standby Buses # 1 & 2 after a time delay. Logic and relaying was also provided which automatically trips the supply breakers from transformer CT-5 to 4160V Standby Buses # 1 & 2 if the breakers have previously been armed and the voltage decreases to the trip setpoint. This activity only updates UFSAR Section 8.2.1.4 to match the current, previously reviewed and approved as-built actual plant configuration.

### SAFETY EVALUATION SUMMARY

This UFSAR change does not affect the design, function, or operation of Emergency Power Systems. The system, as evaluated in the SAR, is not adversely affected by this activity, which provides consistency and enhanced clarity. It does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. There is no change to plant setpoints, safety limits or design parameters. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Section 8.2.1.4 was revised accordingly.

## UFSAR CHANGES (Pkg 98-68)

### DESCRIPTION

SYSTEM: Reactor Coolant System (RCS)

This safety evaluation supports a change to UFSAR Section 5.2.2.2. The section was clarified to denote the pressurizer surge line was re-analyzed to the 1986 ASME Code per NRC Bulletin 88-11.

### SAFETY EVALUATION SUMMARY

This change simply provides the most current information about the pressurizer surge line analysis. This change does not in any way increase the likelihood of initiation, or adversely affect 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. No SSCs are degraded. There is no affect on reactivity. There is no change to plant setpoints, safety limits or design parameters. This activity also has no effect on any margins of safety as previously evaluated in the SAR. The revision does not result in any plant modifications, procedure changes, or other activities that could involve an unreviewed safety question. There are no safety concerns. No Technical Specification changes are required. No Selected Licensee Commitment changes were required. Section 5.2.2.2 of the UFSAR was revised accordingly.

## UFSAR CHANGES (Pkg 98-70)

### DESCRIPTION

SYSTEM: Reactor Building Cooling Units, LPSW

UFSAR Figure 6-3 is a simplified diagram of the Reactor Building Cooling (RBC) System that shows the fans, the coils, the fusible drop-out plates, the dampers, the ductwork, the Engineered Safeguards signals, and the Low Pressure Service Water (LPSW) cooling water lines and valves. This activity simply enhances the figure to include the Engineered Safeguard (ES) signals on valves LPSW-565 and 566. The controlled LPSW flow diagrams show both the valves and the associated ES signals.

### SAFETY EVALUATION SUMMARY

The revision of this figure in the UFSAR is to reflect the as-built plant configuration of LPSW cooling water valves associated with the RB Cooling system. The revision does not result in any plant modifications, procedure changes, or other activities that could involve an unreviewed safety question. This change does not in any way increase the likelihood of initiation, or adversely affect the mitigation of, any SAR described accidents. 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. No new radiological release pathways or failure modes are created. No SSCs are degraded. There is no affect on reactivity. This activity also has no effect on any margins of safety as previously evaluated in the SAR. No Technical Specification changes are required. There are no unreviewed safety questions or safety concerns. No Selected Licensee Commitment changes were required. Figure 6-3 of the Oconee UFSAR was revised accordingly.



## UFSAR CHANGES (Pkg 98-71)

### DESCRIPTION

SYSTEM: N/A

This activity simply encompasses all editorial changes to UFSAR Chapter 6, performed under the generic 50.59 evaluation included in NSD-220. These changes include only grammatical, format, spelling, etc. type items.

### SAFETY EVALUATION SUMMARY

No Technical changes were made. No Technical Specification changes are required. There are no unreviewed safety questions or safety concerns. No Selected Licensee Commitment changes were required. Chapter 6 of the UFSAR was updated accordingly.

## UFSAR CHANGES (Pkg 98-72)

### DESCRIPTION

#### SYSTEM: Chemical Volume Control

This safety evaluation supports changes to UFSAR Table 9-10 and Section 9.3.4.1 to correct, clarify and enhance the information. OM-201-2330 (vendor manual) and OM-201-123 give the correct dimensions for the deborating demineralizer. The component has a depth of five feet and a diameter of four feet, which results in an actual volume of 62.8 ft<sup>3</sup>. Table 9-10 of the UFSAR was revised to reflect 62.8 ft<sup>3</sup> as the resin volume for the deborating demineralizer.

Section 9.3.4.1 was revised for clarity in an editorial nature. The UFSAR previously stated that "Earlier in core life the bleed quantity would be less." The unclear statement was revised to read "Earlier in core life, coolant is removed in smaller quantities to reduce boric acid concentrations."

### SAFETY EVALUATION SUMMARY

This change does not affect the design, function, or operation of the plant SSCs. The RCS chemical addition and volume control systems, as evaluated in the SAR are not adversely affected by this activity which simply provides for enhanced accuracy in descriptions. The descriptions now reflect the as-built plant. It does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. There is no change to plant setpoints, safety limits or design parameters. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Section 9.3.4.1 and Table 9-10 were revised accordingly.

## UFSAR CHANGES (Pkg 98-76)

### DESCRIPTION

#### SYSTEM: Core Flood

This safety evaluation is for a clarification UFSAR Section 7.5.2.27 to consistently reflect the 22-83 percentage of Core Flood Tank volume that corresponds to an instrument range of 1.5 to 14 feet for Units 1, 2 and 3. The first paragraph of 7.5.2.27 was revised to state:

"Oconee has two channels of tank level instrumentation on each of the two core flood tanks per Unit. Power for these channels is provided by highly reliable battery backed buses. The indicated range for Units 1, 2 and 3 is 1.5 to 14 feet, which corresponds to approximately 22% to 83% of the core flood tank volume."

### SAFETY EVALUATION SUMMARY

The revised range, which is the key parameter, was determined not to affect the safety or function of the CF system since the indication would go to 1.5 feet or off the scale low instead of to 0 feet when the CFT discharges into the RCS piping. Therefore, the safety and function of the CF system, as previously evaluated in the SAR, is not adversely affected by this activity, which provides only an editorial clarification to consistently reflect approximate percentages for the specified range of 1.5-14 feet for all three ONS units. Adding appropriate information and clarification to the UFSAR does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There is no physical change to the plant or procedures. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. The first paragraph of 7.5.2.27 was revised accordingly.

## UFSAR CHANGES (Pkg 98-77)

### DESCRIPTION

#### SYSTEM: Radiation Indication Alarms (RIAs)

This safety evaluation supports a change to UFSAR Section 7.5.2.52. The exception statement that Unit 2 high-high range channel (2RIA-56) is powered from a highly reliable battery backed bus is deleted. The stated indicated range for both the normal (RIA-45) and high range (RIA-46) channels is changed to "10 to 1E7 cpm". The reference to the approximate Xe-133 equivalence corresponding to the normal and high range channels (RIA-45 & 46) is also deleted. A statement is added that the combined ranges of these monitors meet the requirements of Regulatory Guide 1.97, Rev.2.

### SAFETY EVALUATION SUMMARY

This change does not affect the design, function, or operation of the plant SSCs. The Unit Vent Radiation Monitors associated with this activity are non-safety related. The plant RIAs, as evaluated in the SAR, are not adversely affected by this activity which simply provides for enhanced accuracy. It does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. There is no change to plant setpoints, safety limits or design parameters. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Section 7.5.2.52 was revised accordingly.

## UFSAR CHANGES (Pkg 98-80)

### DESCRIPTION

#### SYSTEM: Building Spray and RB Cooling

The purpose of this 10 CFR 50.59 evaluation was to determine if any unreviewed safety questions (USQs) were involved with revision to UFSAR Section 6.2.2.3. This section was updated to clarify/correct that the RBS and the RBC systems are required to meet criterion 52 in section 3.1.52. The criterion requires either system acting in full capacity to keep RB pressure below the design limit during accident conditions.

### SAFETY EVALUATION SUMMARY

The revision of this information in the UFSAR is to reflect the accurate as-built plant and system design basis capabilities. The revision does not result in any plant modifications, procedure changes, or other activities that could result in an unreviewed safety question. This change does not in any way increase the likelihood of initiation, or adversely affect the mitigation of, any SAR described accidents. 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. No new radiological release pathways or failure modes are created. No SSCs are degraded. There is no affect on reactivity. There is no change to plant setpoints, safety limits or design parameters. This activity also has no effect on any margins of safety as previously evaluated in the SAR. No Technical Specification changes are required. There are no unreviewed safety questions or safety concerns. No Selected Licensee Commitment changes were required. Section 6.2.2.3 was revised accordingly.

## UFSAR CHANGES (Pkg 98-82)

### DESCRIPTION

#### SYSTEM: Independent Spent Fuel Storage Installation

This safety evaluation revised UFSAR Section 15.11.3. NSM-52959 added the third phase of horizontal storage modules (HSMs) to provide for continued dry storage of spent fuel discharged from the Oconee reactors at the onsite Independent Spent Fuel Storage Installation (ISFSI). The scope of this NSM covers receipt, placement, and alignment of twenty horizontal storage modules (HSMs) of the NRC approved VECTRA General License (GL) "Standardized" NUHOMS 24-P design. This evaluation addresses loading the first eight Phase III HSM modules.

### SAFETY EVALUATION SUMMARY

The new GL dry storage system is similar to the Oconee site specific system (License SNM-2503), and can utilize the existing fuel handling equipment, dry storage canisters (DSC) design, transport/loading equipment, and site location. For the Phase III GL design, Duke utilizes its QA-4 designation for the HSMs. Although some of the license conditions may differ between the existing site specific and General License systems, there is no conflict since each system will be treated as a separate entity, both procedurally and in licensing space. The operation/function of plant SSCs, as evaluated in the SAR is not adversely affected by this activity. The change does not adversely affect the design, integrity, operation or function of SSCs. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. There is no change to plant setpoints, safety limits or design parameters. This activity was also evaluated under 10CFR72.212 and communicated to the NRC. No USQs are involved with loading Phase III HSMs. This activity has no effect on any margins of safety as previously evaluated in the SAR. No Technical Specification changes are required. The plant UFSAR section 15.11.3 was revised accordingly.

## UFSAR CHANGES (Pkg 98-89)

### DESCRIPTION

SYSTEM: RBCU, HVAC, Low Pressure Service Water

This safety evaluation supports a change to UFSAR sections 3.11.4, 6.2.2.2.7, and Figure 9-24 as follows:

1. Add the chilled water pumps and condenser service water pumps to the list of redundant HVAC equipment,
2. That containment heat removal requirements can still be met with LPSW flows to the RBCUs below the 1400 gpm design flowrate, and
3. Indicate that the discharge of the chiller condenser service water pumps is to the Condensate Cooler discharge piping.

### SAFETY EVALUATION SUMMARY

The safety and function of the LPSW, RBC, and HVAC are not adversely affected by this activity, which provides corrections to reflect the as-built plant configuration and actual engineering design calculation results. It does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. There is no change to plant setpoints, safety limits or design parameters. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. to UFSAR sections 3.11.4, 6.2.2.2.7, and Figure 9-24 were revised accordingly.

## UFSAR CHANGES (Pkg 98-91-01)

### DESCRIPTION

SYSTEM: Containment, Main Steam Line Break Circuitry

This safety evaluation supports changes to UFSAR Section 6.2.1.1.3, Tables 6-25, 27, 32, and Figures 6-36, 37, 38, 40, 42. These changes are due to revised LOCA and SLB containment response analyses. The updated Duke analyses, which are based on NRC approved methods, employ revised containment initial condition and containment cooling assumptions. The accident responses were updated to reflect.

### SAFETY EVALUATION SUMMARY

This activity does not affect the design, function, or operation of plants secondary equipment or systems. The new analysis assumptions are consistent with the design basis and operational limits of the Reactor Building and the associated cooling systems. In addition, a modified environmental qualification (EQ) envelope was used as an acceptance criterion. With the exception of the short-lived violation that was previously determined to be acceptable, this EQ limit is not exceeded for any case analyzed, regardless of the containment cooling assumptions; nor is the design limit for Reactor Building pressure exceeded for any analyzed case. It does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Section 6.2.1.1.3, Tables 6-25, 27, 32, and Figures 6-36, 37, 38, 40, 42 were revised accordingly.



## UFSAR CHANGES (Pkg 98-91-02)

### DESCRIPTION

SYSTEM: Emergency Feedwater (EFW)

This safety evaluation supports changes to UFSAR Sections 10.4.7, 8. The EFW flow rate assumption in the licensing-basis small-break LOCA peak clad temperature (PCT) analysis was increased from 300 gpm to 400 gpm.

### SAFETY EVALUATION SUMMARY

This flowrate is still well within the design capacity of a single EFW pump, and the updated SBLOCA analysis continues to meet all applicable acceptance criteria. This activity does not affect the design, function, or operation of plants secondary equipment or systems. It does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Sections 10.4.7 and 8 were revised accordingly.

## UFSAR CHANGES (Pkg 98-91-03)

### DESCRIPTION

SYSTEM: N/A

This safety evaluation supports changes to UFSAR Section 15.2, Tables 15-32 through 36, and Figures 15-1 through 10. These changes were made to replace the B&W analysis of the Startup Accident with a Duke analysis based on NRC approved methods. As a result of replacing the B&W analysis with a Duke analysis, several input assumptions as well as the sequence of events and results figures were changed. For clarity and completeness, the section was replaced entirely with new text describing the Duke analysis.

### SAFETY EVALUATION SUMMARY

The revised analysis meets all applicable acceptance criteria. This activity does not affect the design, function, or operation of plants secondary equipment or systems. It does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Section 15.2, Tables 15-32 through 36, and Figures 15-1 through 10 were revised accordingly.

## UFSAR CHANGES (Pkg 98-94)

### DESCRIPTION

#### SYSTEM: Condensate

This safety evaluation revised UFSAR Sections 10.4.6.1, 10.4.6.2 and 10.4.7.3. The Hotwell Pump plus Condensate Booster Pump discharge shutoff head value was revised slightly to reflect actual values from manufacturer's pump curves. Redundant information in 10.4.6.1 was removed and the same information contained in the "Turbine-Generator, Design Bases" section was referenced.

### SAFETY EVALUATION SUMMARY

The operation/function of the hotwell or condensate systems, as evaluated in the SAR is not adversely affected by this activity which simply provides for enhanced accuracy and clarity. The change does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. There is no change to plant setpoints, safety limits or design parameters. This activity has no effect on any margins of safety as previously evaluated in the SAR. This change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Sections 10.4.6.1, 10.4.6.2, and 10.4.7.3 were revised accordingly.

## UFSAR CHANGES (Pkgs 98-98)

### DESCRIPTION

SYSTEM: N/A

This activity makes largely editorial changes to UFSAR Section 13 to update the titles, roles, responsibilities, and organizational information. These administrative type changes include:

- (1) Clarify the dual SRO/STA role at Oconee,
- (2) Clarify the responsibilities of the Site Vice President and Station Manager,
- (3) Correct personnel titles: Operations Shift Manager, Non-Licensed Operator, etc.
- (4) Clarify that Duke Power Company is a division of Duke Energy Corporation,
- (5) Replace reference to "Performance Testing" with "Operations Testing",
- (6) Clarify Operations Shift composition, and
- (7) Correct miscellaneous grammar, spelling, etc. errors

### SAFETY EVALUATION SUMMARY

No Technical changes were made. The operation and function of the facility as evaluated in the SAR is not affected by this activity which simply provides for enhanced accuracy and clarity in the administrative area. There is no physical change to the plant or procedures. No Technical Specification changes are required. There are no unreviewed safety questions or safety concerns. No Selected Licensee Commitment changes were required. UFSAR Section 13 was updated accordingly.

## UFSAR CHANGES (Pkg 98-99)

### DESCRIPTION

SYSTEM: Reactor Vessel (RV)

This safety evaluation revised UFSAR Figures 5-14, 15, and 16. The described reactor vessel construction materials were corrected. The RV figures were also redone for improved legibility.

### SAFETY EVALUATION SUMMARY

This revision is to reflect the most accurate RV material data available and to improve readability of the figures. This change does not in any way increase the likelihood of initiation, or adversely affect 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. No SSCs are degraded. There is no affect on reactivity. There is no change to plant setpoints, safety limits or design parameters. This activity also has no effect on any margins of safety as previously evaluated in the SAR. The revision does not result in any plant modifications, procedure changes, or other activities that could involve an unreviewed safety question. There are no safety concerns. No Technical Specification changes are required. No Selected Licensee Commitment changes were required. Tables 5-14, 15, and 16 of the UFSAR were revised accordingly.

## UFSAR CHANGES (Pkg 98-101)

### DESCRIPTION

#### SYSTEM: Emergency Core Cooling (ECCS)

This safety evaluation supports a revision to UFSAR section 3.1.47. The statement concerning cycling ALL valves in the ECCS was reworded to clarify that ALL valves required to ensure flow delivery capability would be cycled periodically to ensure operability.

### SAFETY EVALUATION SUMMARY

There is no value in cycling all valves (i.e. vents, drains, etc.) in the ECCS. Cycling all ECCS valves required to ensure flow delivery capability is what is necessary to ensure operability. This activity does not increase the likelihood of initiation or adversely affect the mitigation of any SAR described accidents. There is no adverse affect on any SSC, and no increase in the probability of a malfunction of equipment important to safety. No new radiological release pathways or failure modes are created. This change does not increase the possibility or consequences of any SAR evaluated accidents or create any new accidents or failure modes. There is no effect on reactivity. There is no change to plant setpoints, safety limits or design parameters. There are no USQs or safety concerns. No Technical Specification changes are required. UFSAR section 3.1.47 was revised accordingly.

## UFSAR CHANGES (Pkg 98-102)

### DESCRIPTION

#### SYSTEM: Low Pressure Service Water

This safety evaluation is for a correction to UFSAR Table 7-3, which shows the components in the plant that are actuated from an Engineered Safeguards (ES) signal. However, applicable design drawings show that LPSW Pump 3A is actuated from Channel 3 and LPSW Pump 3B is actuated from Channel 4. This activity revised Table 7-3 to include LPSW Pump 3A in the listing of ES Channel 3 actuated components and to include LPSW Pump 3B in the listing of ES Channel 4 actuated components.

### SAFETY EVALUATION SUMMARY

The safety and function of the LPSW system, as previously evaluated in the SAR, is not adversely affected by this activity, which provides a correction to LPSW Engineered Safeguards (ES) signal circuitry UFSAR description. It does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. Table 7-3 was revised accordingly.

## UFSAR CHANGES (Pkg 98-103)

### DESCRIPTION

SYSTEM: Main Feedwater, Condensate, and Main Steam

This safety evaluation supports a UFSAR revision to remove redundant information in section 10.4.6.3 and relocate information from 10.4.6.3 to 10.4.7.3. Section 10.4.6 is "Condensate and Main Feedwater Systems". The information that was deleted is a listing of seismically designed portions of the Main Steam system that is repeated in section 10.3.1 ("Main Steam System"). The information relocated is a listing of seismically designed components more closely related to the Emergency Feedwater (EFW) system and was moved to section 10.4.7.3.

### SAFETY EVALUATION SUMMARY

The operation and function of the Main Feedwater, Steam, Condensate or EFW systems, as evaluated in the SAR, are not adversely affected by this activity, which simply provides enhanced clarity. The changes do not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. There is no change to plant setpoints, safety limits or design parameters. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Sections 10.4.6.3 and 10.4.7.3 were revised accordingly.



## UFSAR CHANGES (Pkg 98-104)

### DESCRIPTION

#### SYSTEM: Main Condenser

This safety evaluation supports a change to UFSAR Section 10.4.1.2. The section previously stated "The main condenser can accept a bypass steam flow of approximately 18 percent of rated main steam flow without exceeding the turbine high backpressure trip point with design inlet circulating water temperature. This bypass steam dump to the condenser is in addition to the normal duty expected." The second sentence meaning was not clear and was clarified to say that the bypass steam dump to the condenser function is in addition to the normal condenser functions expected.

### SAFETY EVALUATION SUMMARY

This change does not affect the design, function, or operation of plants main condenser or secondary systems. The condenser, as evaluated in the SAR, is not adversely affected by this activity which simply provides for enhanced accuracy. It does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. There is no change to plant setpoints, safety limits or design parameters. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Section 10.4.1.2 was revised accordingly.

## UFSAR CHANGES (Pkg 98-105)

### DESCRIPTION

SYSTEM: Standby Shutdown Facility Diesel Generator

This safety evaluation is for a correction to UFSAR Section 7.7.5.2, which provides a list of the Standby Shutdown Facility Diesel Generator, and station related controls and instrumentation. The list was amended to reflect that the Diesel Generator Recorder has been spared in place as shown on design drawing O-985-A.

### SAFETY EVALUATION SUMMARY

The safety and function of the SSF D/G, as evaluated in the SAR, is not adversely affected by this activity, which provides a correction to reflect the as-built plant. It does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Section 7.7.5.2 was revised accordingly.

## UFSAR CHANGES (Pkg 98-106)

### DESCRIPTION

#### SYSTEM: Penetration Room Ventilation System (PRVS)

This safety evaluation supports the change to UFSAR Section 6.5.1.2 to consistently reflect that all penetrations for lines not passing through the penetration room are welded to the liner plate and therefore not considered significant sources of leakage from the reactor building. This section also provides a discussion of the system design and operation of the Penetration Room Ventilation System (PRVS) including a listing of all penetrations, which do not pass through the Penetration Rooms. This clarification provides consistency with existing discussions in UFSAR Section 3.8.1.7.4, "Leakage Monitoring", original FSAR discussions, and the as-installed configuration depicted on drawing O-62C, Rev. 36, which provides the detail for all penetration liner plate welds.

### SAFETY EVALUATION SUMMARY

The design, function, performance or operation of the PRVS and components are not affected by this activity. The system, as evaluated in the SAR, is not adversely affected by this activity, which provides a correction to reflect the as-built plant. It does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Section 6.5.1.2 was revised accordingly.

## UFSAR CHANGES (Pkg 98-107)

### DESCRIPTION

#### SYSTEM: Emergency Feedwater (EFW)

This safety evaluation supports changes to UFSAR Table 10-2. This table contains a list of Parameter Indication Locations for the EFW System and is a compilation of design and licensing basis information regarding such. The table was amended to include an entry for Motor Driven EFW Pumps A&B Recirculation Flow, which was verified via controlled plant documents to have a local indication.

### SAFETY EVALUATION SUMMARY

This change to UFSAR Table 10-2 simply provides a correction to reflect the as-built plant. The change does not affect the design, function, or operation of EFW System. The system, as evaluated in the SAR, is not adversely affected by this activity, which provides consistency and enhanced clarity. It does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Table 10-2 was revised accordingly.

## UFSAR CHANGES (Pkg 98-108)

### DESCRIPTION

SYSTEM: Emergency 250 VDC Power

This safety evaluation supports a change to UFSAR Section 8.3.2.1.7.1. This activity revised the UFSAR to add Administrative and Service Building Lighting information to the Emergency 250 VDC Lighting System description.

### SAFETY EVALUATION SUMMARY

This change to UFSAR Section 8.3.2.1.7.1 does not affect the design, function, or operation of Emergency Power Systems. The system, as evaluated in the SAR, is not adversely affected by this activity, which provides consistency and enhanced clarity. It does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Section 8.3.2.1.7.1 was revised accordingly.

## UFSAR CHANGES (Pkg 98-109)

### DESCRIPTION

#### SYSTEM: 525 kV 125 VDC Power

This safety evaluation supports a change to UFSAR Sections 8.2.1.5 and 8.2.2, and Table 8-2. This activity revised the subject sections to include the 525kV switchyard 125V DC System in the description and analysis. The two switchyards, also called switching stations, are served by separate 125V DC systems that are very similar in design (see O-802 and O-812). Previously, only the 230kV switchyard 125V DC System was discussed in the UFSAR. The 525kV switchyard 125V DC System provides control power for operation and protective relaying for the 525kV switchyard, while the 230kV switchyard 125V DC System provides control power for operation and protective relaying for the 230kV switchyard. This revision provides a more complete description of the switchyards' 125V DC systems.

### SAFETY EVALUATION SUMMARY

This change to the UFSAR does not affect the design, function, or operation of the electrical power system. The system, as evaluated in the SAR, is not adversely affected by this activity, which provides consistency and enhanced clarity. It does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Sections 8.2.1.5 and 8.2.2, and Table 8-2 were revised accordingly.

## UFSAR CHANGES (Pkg 98-111)

### DESCRIPTION

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

This safety evaluation supports changes to UFSAR Sections 6.3.2.6.3 and 6.3.6. The UFSAR text specifically describes valves 3LP-17 and 3LP-18 as having Rotork operators. This level of detail is not required in section 6.3.2.6.3, since that information is provided in UFSAR Table 6-16. The amended discussion addresses the Limitorque and Rotork motor operator qualification, but will not require revision each time a Limitorque operator is replaced with a Rotork operator. The discussion now concentrates on the qualification of the types of motor operators installed. UFSAR Section 6.3.6 was updated to add Rotork qualification test report number 43979-1 as a reference.

### SAFETY EVALUATION SUMMARY

These changes to UFSAR Sections 6.3.2.6.3 and 6.3.6 do not affect the design, function, or operation of plant equipment or systems. The LPI system, as evaluated in the SAR, is not adversely affected by this activity, which provides enhanced clarity. It does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Sections 6.3.2.6.3 and 6.3.6 were revised accordingly.

## UFSAR CHANGES (Pkg 98-112)

### DESCRIPTION

SYSTEM: Main Turbine, Reactor Protection System (RPS)

This safety evaluation supports changes to UFSAR Section 10.4.6.5.1, which lists a description of the main turbine trips associated with the three units. The existing information is a compilation of design and licensing basis information regarding the main turbine trips. The list was revised to include the "loss of speed feedback" turbine trip that is verified on controlled electrical drawings OEE-121-02, OEE-221-01, and OEE-321-02. Addition of the description of the loss of speed feedback trip the list of turbine trips makes it consistent with the actual as-built plant configuration.

### SAFETY EVALUATION SUMMARY

This change to UFSAR Section 10.4.6.5.1 simply adds a previously omitted, but valid, turbine trip. It provides a correction to reflect the as-built plant. The change does not impact the design, function, or operation of Main Turbine, secondary, or RPS. These systems, as evaluated in the SAR, are not adversely affected by this activity, which provides consistency and enhanced clarity. It does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Section 10.4.6.5.1 was revised accordingly.



## UFSAR CHANGES (Pkg 98-113)

### DESCRIPTION

SYSTEM: Reactor Protection System (RPS)

UFSAR Table 7-1, Reactor Trip Summary, was revised to include an enhanced description of the "Trip Value or Condition for Trip" associated with the Reactor Protection System (RPS). This table was modified to indicate that the Main Turbine Trip and the Loss of Main Feedwater Trip are bypassed at specified low power setpoints.

### SAFETY EVALUATION SUMMARY

The function of the RPS, as evaluated in the SAR, is not adversely affected by this activity, which provides a correction to reflect the as-built plant circuitry. It does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Table 7-1 was revised accordingly.

## UFSAR CHANGES (Pkg 98-114)

### DESCRIPTION

#### SYSTEM: Main Feedwater

This safety evaluation supports a revision to UFSAR Section 10.4.6.3. This activity provided a minor change to the historical description. A sentence was reworded to state that the auxiliary header is "currently" installed, not "newly" installed. The change provides consistency between the auxiliary header description in the UFSAR and the actual as-built information contained in docketed correspondence. The Unit 3 header was modified consistent with Units' 1 and 2 headers in 1982.

### SAFETY EVALUATION SUMMARY

The operation and function of the MFW systems, as evaluated in the SAR, is not adversely affected by this activity, which simply provides clarification/correction to reflect the as-built plant configuration. The changes do not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Section 10.4.6.3 was revised accordingly.

## UFSAR CHANGES (Pkg 98-115)

### DESCRIPTION

SYSTEM: N/A

This activity simply encompasses all editorial changes to UFSAR Chapter 7, performed under the generic 50.59 evaluation included in NSD-220. These changes include only grammatical, format, spelling, etc. type items.

### SAFETY EVALUATION SUMMARY

No Technical changes were made. No Technical Specification changes are required. There are no unreviewed safety questions or safety concerns. No Selected Licensee Commitment changes were required. Chapter 7 of the UFSAR was updated accordingly.

## UFSAR CHANGES (Pkg 98-116)

### DESCRIPTION

#### SYSTEM: High Pressure Injection (HPI)

This safety evaluation supports changes to UFSAR Sections 6.3.3.3. This activity provides update to clarify that HPI valve opening times are sufficient such that required flow is delivered within 14 seconds for consistency with existing discussions in UFSAR section 6.3.3.1 and with stroke time calculation OSC-6560.

### SAFETY EVALUATION SUMMARY

These changes to UFSAR Section 6.3.3.3 do not affect the design, function, or operation of plant equipment or systems. The HPI system, as evaluated in the SAR, is not adversely affected by this activity, which provides enhanced clarity. It does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Section 6.3.3.3 was revised accordingly.

## UFSAR CHANGES (Pkg 98-122)

### DESCRIPTION

#### SYSTEM: Neutron Detectors

This safety evaluation supports a largely editorial change to UFSAR Section 7.4.1.2.1 to add references to Figures 7-9 and 10. These figures show the physical locations of the neutron detectors.

### SAFETY EVALUATION SUMMARY

This revision is editorial in nature to improve clarity and reference to the associated drawings. This change does not in any way increase the likelihood of initiation, or adversely affect 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. No SSCs are degraded. There is no affect on reactivity. There is no change to plant setpoints, safety limits or design parameters. This activity also has no effect on any margins of safety as previously evaluated in the SAR. The revision does not result in any plant modifications, procedure changes, or other activities that could involve an unreviewed safety question. There are no safety concerns. No Technical Specification changes are required. No Selected Licensee Commitment changes were required. UFSAR section 7.4.1.2.1 was revised accordingly.

## UFSAR CHANGES (Pkg 98-127)

### DESCRIPTION

#### SYSTEM: Main Steam

This safety evaluation supports a largely editorial type change to UFSAR Sections 10.3.2 and 10.4.8. The previous reference listed in 10.3.2 was not related to the paragraph. Section 10.3.2 paragraph four discusses a steam line break of the piping to the auxiliary steam header or the emergency feedwater pump turbine cross-connect and concerns about the motor operated valves that need to close to isolate the break. OSC-5060 analyzed a break in these two locations and determined that the scenario would be bounded by the consequences of the accident in Section 15.13. Therefore this USQ Evaluation was performed to verify acceptability to list the proper reference.

### SAFETY EVALUATION SUMMARY

This change to the UFSAR does not affect the design, function, or operation of the Main Steam or secondary systems. The system, as evaluated in the SAR, is not adversely affected by this activity which simply provides for enhanced accuracy. It does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 are no effects on reactivity. There is no physical change to the plant or procedures. There is no increase in the probability of a malfunction of equipment important to safety. There is no change to plant setpoints, safety limits or design parameters. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Sections 10.3.2 and 10.4.8 were revised accordingly.

## UFSAR CHANGES (Pkg 98-128)

### DESCRIPTION

#### SYSTEM: Spent Fuel Pool

This safety evaluation supports changes to UFSAR Sections 9.1.2.3.4 and 9.1.5 to clarify and enhance accuracy of the SFP racks description. The description regarding the calculated maximum and allowable stresses in the fuel pool liner plate and in welds between the liner plate and concrete embedments in the pool floor was corrected. An obsolete reference was also revised to refer to correct source documents. The Spent Fuel Storage rack assembly dimensions and/or weights were corrected to match the controlled design drawings and the actual as-built plant.

### SAFETY EVALUATION SUMMARY

This change does not affect the design, function, or operation of the plant SSCs. The SFP racks, as evaluated in the SAR, are not adversely affected by this activity which provides for enhanced accuracy and description. The seismic and seismic + thermal stresses in the liner and weld between the liner and embedments are greater than previously stated, but are less than allowed by applicable codes and less than the allowable stress reported to and reviewed by the NRC. There is no increase in the consequences of any UFSAR accident since the dropped cask accident analysis already assumes a breached liner plate, and this stress increase, while reducing the margin between actual and allowable stress, is not sufficient to cause a breach. The UFSAR analyzed accidents are not analyzed with loads from natural phenomena (Section 3.3, "POSTULATION OF CONCURRENT ACCIDENTS/EVENTS AND NATURAL PHENOMENA " of Ref 7). Therefore, seismic events need not be postulated concurrent with other Chapter 15 accidents. References to actual source documents rather than obsolete computer codes or reference documents has no safety significance. These changes do not increase the likelihood of initiation, or adversely affect the mitigation of any SAR described accidents. No new radiological release pathways or failure modes are created. There is no increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. There is no change to plant setpoints, safety limits or design parameters. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Sections 9.1.2.3.4 and 9.1.5 were revised accordingly.

## UFSAR CHANGES (Pkg 98-129)

### DESCRIPTION

#### SYSTEM: Standby Shutdown Facility

This safety evaluation is for a correction to UFSAR Section 9.6.3.1. It was revised to remove the statement "Damage to any other (outside of containment) equipment required to maneuver the plant to cold shutdown will need to be evaluated and repaired following Turbine Building Flooding." Section 9.6.5 of the UFSAR was revised to state that damage control measures will be taken, if necessary, ... to bring a RC System to a cold shutdown condition "following an Appendix R fire" instead of "following the initiating event".

### SAFETY EVALUATION SUMMARY

No physical change to ONS equipment or procedures was made as a result of this change. The SSF is designed to be capable of achieving and maintaining stable Mode 3 conditions with the RCS  $\geq 525$  °F for 72 hours following an Appendix R Fire, a Turbine Building Flood, or a Security Event. The only event where there is an NRC commitment to be capable of achieving cold shutdown conditions by the end of the 72 hour period is the Appendix R Fire. Therefore, revising the UFSAR as described does not affect any commitment or evaluated accident consequences. The safety and function of the SSF, as evaluated in the SAR, is not adversely affected by this activity, which provides enhanced clarity/correction. It does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Sections 9.6.3.1 and 9.6.5 were revised accordingly.



## UFSAR CHANGES (Pkg 98-131)

### DESCRIPTION

SYSTEM: Reactor Vessel (RV)

This safety evaluation revised UFSAR Table 5-11. The core flood and LPI injection nozzle ID was corrected from 14 to 12" to reflect the as-built plant.

### SAFETY EVALUATION SUMMARY

This revision is to reflect the actual CF and LPI injection nozzle dimensions. This change does not in any way increase the likelihood of initiation, or adversely affect 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. No SSCs are degraded. There is no affect on reactivity. There is no change to plant setpoints, safety limits or design parameters. This activity also has no effect on any margins of safety as previously evaluated in the SAR. The revision does not result in any plant modifications, procedure changes, or other activities that could involve an unreviewed safety question. There are no safety concerns. No Technical Specification changes are required. No Selected Licensee Commitment changes were required. Section 5.2 and Tables 5-12, 13, and 14 of the UFSAR were revised accordingly.

## UFSAR CHANGES (Pkg 98-133)

### DESCRIPTION

#### SYSTEM: Condensate

This safety evaluation removed redundant information regarding steam loss accidents in UFSAR Section 10.4.6.6 that is identical to information in section 10.3.3. The information being deleted is not pertinent to section 10.4.6 (Condensate and Feedwater) but is to 10.3 (Main Steam). This UFSAR revision also changed a statement in section 10.3.5.1 to clarify that 100% of flow is normally treated through the Powdex system at full load

### SAFETY EVALUATION SUMMARY

The operation/function of the condensate, powdex, or main steam systems as evaluated in the SAR, is not adversely affected by this activity, which simply makes editorial changes and corrects to reflect the actual plant operating configuration. The change does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. There is no change to plant setpoints, safety limits or design parameters. This activity has no effect on any margins of safety as previously evaluated in the SAR. This change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Sections 10.4.6.6 and 10.3.5.1 were revised accordingly.

## UFSAR CHANGES (Pkg 98-137)

### DESCRIPTION

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

This change to UFSAR Table 6-16 specifically corrects the description of the operators for valves 1, 2, 3LP-17 and LP-18 to be SB-0-25 type. The valve operators were installed by NSM-1762.

### SAFETY EVALUATION SUMMARY

This change does not affect the design, function, or operation of plant equipment or systems. The LPI system, as evaluated in the SAR, is not adversely affected by this activity which provides descriptive accuracy. It does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no change to plant setpoints, safety limits or design parameters. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Table 6-16 was revised accordingly.

## UFSAR CHANGES (Pkg 98-138)

### DESCRIPTION

#### SYSTEM: 230 kV Switchyard

This safety evaluation supports a change to UFSAR Section 8.2.1.3. This revision corrects the description of the purpose of the "second" circuit between the plant and the 230kV switchyard. The second circuit consists of the main step-up transformer through the auxiliary transformer. This change provides enhanced clarity in describing the plant response to loss of normal and/or emergency power.

### SAFETY EVALUATION SUMMARY

Prior to re-analysis of the "hypothetical loss of all power event" into the "Station Blackout" event, the second circuit was relied on to be available within a certain time frame to mitigate the consequences of an accident and assure that the RCS pressure boundary limits were not exceeded. Subsequently, Oconee's response to the NRC Station Blackout Rule credited the SSF for mitigating the BO while preventing a seal LOCA from occurring. This change to the UFSAR does not affect the design, function, or operation of the electrical power system. The system is not adversely affected by this activity, which provides consistency and enhanced clarity. It does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. There is no change to plant setpoints, safety limits or design parameters. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Section 8.2.1.3 was revised accordingly.

## UFSAR CHANGES (Pkg 98-144)

### DESCRIPTION

#### SYSTEM: Integrated Control System (ICS)

This safety evaluation supports changes to UFSAR Section 7.6.1.2.3 (which describes the safety analysis of the ICS) to clarify and enhance the accuracy. The original wording was replaced with a discussion that failure of the ICS does not diminish the safety of the reactor. The OTSG level instruments discussion in the ICS analysis was deleted because it has no overriding importance in the UFSAR Chapter 15.13 analysis. The ICS evaluation scope was modified to include all UFSAR Chapter 15 analyses that apply to the ICS. The increase in scope increases the rigor of the analysis, which more correctly identifies the appropriate level and scope of the analysis.

### SAFETY EVALUATION SUMMARY

The function of the ICS, as evaluated in the SAR, is not adversely affected by this activity, which provides enhanced clarity. Neither of these changes affects the actual level of safety associated with the ICS, but merely correct the scope of descriptions of the ICS evaluation to more correctly identify the present scope of the evaluation. It does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. There is no change to plant setpoints, safety limits or design parameters. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Section 7.6.1.2.3 was revised accordingly.

## UFSAR CHANGES (Pkg 98-151)

### DESCRIPTION

#### SYSTEM: Reactor Coolant System (RCS)

This safety evaluation supports the activities required to implement the NRC approved Tech Spec Amendments 302/302/302 which changed the Reactor Vessel P/T limits (including associated LTOP issues) to values that allow operation to 26 EFPY for each of the Oconee units. The general activities are:

1. Technical Specification 3.4.12 Bases Revisions
  - At the request of the NRC reviewers, the controls that are required to assure that there is a minimum of ten minutes for an operator to mitigate an event before LTOP limits are exceeded have been moved from Selected Licensee Commitment 16.5.2 to Tech Spec Bases 3.4.12.
  - Revision of requirements assumed by the LTOP analysis
  - Inclusion of specific vent areas required to be open if HPI-ES or the CFTs are not "de-activated"
  - Inclusion of specific steps required to "deactivate" the Core Flood Tanks and HPI-ES,
2. Tech Spec Bases 3.1.1 (Shutdown Margin) and Selected Licensee Commitment 16.5.13 Bases (HPI and the Chemical Addition Systems) - Revised minimum temperature considered in criticality evaluations to correspond to new minimum temperature evaluated for vessel P/T limits
3. Selected Licensee Commitment Section 16.5.2 – moved detailed, specific COMMITMENTS to Tech Spec Bases 3.4.12 and added a commitment that the Administrative Controls now in the LCO section of TS 3.4.12 Bases are required to meet the provisions of TS 3.4.12.
4. UFSAR Section 5.2.3.7 – revise to reflect that the 26 EFPY LTOP limits are based on 110% of the steady-state Appendix G curves. Also added new requirement that one bank of pressurizer heaters be deactivated.

### SAFETY EVALUATION SUMMARY

The activities evaluated are all of the general activities required to implement the new NRC approved P/T limits. These changes are largely editorial and administrative in nature. They do not in any way increase the likelihood of initiation, or adversely affect the mitigation of, any SAR described accidents. 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. No new radiological release pathways or failure modes are created. No SSCs are degraded. There is no effect on reactivity. This activity also has no effect on any margins of safety as previously evaluated in the SAR. No USQs are involved and no Technical Specification changes are required. The subject SLCs, Tech Spec bases, and UFSAR sections were revised accordingly.

## UFSAR CHANGES (Pkg 98-152)

### DESCRIPTION

#### SYSTEM: Nuclear Fuel

Calculation OSC-6979 contains a 10CFR50.59 analysis and safety review for use of the Mk-B10L fuel assembly design (radial zoned fuel) at Oconee. Fuel designs prior to Mk-B8 are now obsolete. Also see NRC SER of FCF Topical Report BAW-10186P "Extended Burnup Evaluation".

### SAFETY EVALUATION SUMMARY

The new fuel assembly design is the same as the previous Mk-B10G except that a set pattern of rods have pellets with a lower enrichment in the active fuel region. The normal reload analyses verify the effects on power distribution and accident analyses are acceptable. The current limits and SAR requirements envelop the Mk-B10L. There are no external changes made to the assemblies that would interfere with control rod components or fuel handling equipment. This change does not increase the likelihood of initiation, or adversely affect the mitigation of, any SAR described accidents. 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. No new radiological release pathways or failure modes are created. No SSCs are degraded. The fuel assembly functions have not changed. This activity also has no effect on any margins of safety as previously evaluated in the SAR. No Technical Specification changes are required. There are no unreviewed safety questions or safety concerns. UFSAR Tables 4-1 and 4-2 were updated accordingly.

## UFSAR CHANGES (Pkg 98-156)

### DESCRIPTION

#### SYSTEM: Emergency Power

This safety evaluation supports changes to UFSAR Table 8-1. This activity revised the table to reflect the required Emergency Safeguards (ES) power loads versus the maximum or actual. Ref PIP 98-3896.

### SAFETY EVALUATION SUMMARY

This change does not affect the design, function, or operation of the ES or Emergency Power Systems. The systems are not adversely affected by this activity which simply provides accurate, consistent and useful power loading information. It does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. There is no change to plant setpoints, safety limits or design parameters. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Table 8-1 was revised accordingly.



## UFSAR CHANGES (Pkg 98-159)

### DESCRIPTION

#### SYSTEM: Siphon Sealing Water (SSW)

This safety evaluation supports changes to UFSAR Section 9.2.2.2.5 and SLC 16.9-12. This activity clarifies that BOTH headers of SSW are normally in service. Ref PIP 98-5871.

### SAFETY EVALUATION SUMMARY

The SSW system consists of two full capacity headers that provide sealing water flow to the CCW and ESV pumps. This change ensures adequate flow is available. It does not adversely affect the design, function, or operation of the SSW, ESV or CCW Systems. It also does not adversely affect the design, integrity, operation or function of any plant systems, structures and components. This change does not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no change to plant setpoints, safety limits or design parameters. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Section 9.2.2.2.5 and SLC 16.9-12 were revised accordingly.

## UFSAR CHANGES (Pkg 98-160)

### DESCRIPTION

#### SYSTEM: Neutron Detectors

This safety evaluation supports changes to UFSAR Section 7.4.1.3 and Table 7-4. The specific characteristics (ranges, sensitivities, etc.) of the power range neutron detectors were revised to reflect to the current purchase specification information. Ref PIP 98-3895.

### SAFETY EVALUATION SUMMARY

This revision improved the accuracy and clarity of the PR detector descriptions. This change does not in any way increase the likelihood of initiation, or adversely affect 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. No SSCs are degraded. There is no affect on reactivity. There is no change to plant setpoints, safety limits or design parameters. This activity also has no effect on any margins of safety as previously evaluated in the SAR. The revision does not result in any plant modifications, procedure changes, or other activities that could involve an unreviewed safety question. There are no safety concerns. No Technical Specification changes are required. No Selected Licensee Commitment changes were required. UFSAR section 7.4.1.3 and Table 7-4 were revised accordingly.

## UFSAR CHANGES (Pkg 98-162)

### DESCRIPTION

#### SYSTEM: Main Steam

This safety evaluation supports a largely editorial type change to UFSAR Section 10.3.4. This activity provides a cross reference to Section 10.3.2 for a more detailed discussion regarding the potential and consequences for both steam generators to blowdown following a main steam line rupture.

### SAFETY EVALUATION SUMMARY

This change to UFSAR Section 10.3.4 does not affect the design, function, or operation of the Main Steam or secondary systems. The system, as evaluated in the SAR, is not adversely affected by this activity which simply provides for enhanced accuracy. It does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 are no effects on reactivity. There is no physical change to the plant or procedures. There is no increase in the probability of a malfunction of equipment important to safety. There is no change to plant setpoints, safety limits or design parameters. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Section 10.3.4 was revised accordingly.

## UFSAR CHANGES (Pkg 98-163)

### DESCRIPTION

#### SYSTEM: Radwaste

This safety evaluation supports changes to UFSAR Sections 11.2, 11.6, and Tables 11-2 through 11-6. The descriptions were clarified to more accurately reflect (1) the method of discharge from the waste monitor, recycle monitor, and decant monitor tanks, (2) that all waste gas tanks do not have relief valves, (3) the Radwaste Facility (RWF) maximum temperature is 110 degrees F, (4) piping suspected of being "hot" from crud accumulation will be flushed prior to maintenance, (5) Tables 11-2 through 11-5 contain historical information, (6) the waste gas tank volume is 1098 cubic ft, and (7) the waste gas decay tank volume is 1070 cubic ft.

### SAFETY EVALUATION SUMMARY

These changes were made to clarify, correct, and enhance the Radwaste systems as-built descriptions and current operating practices. This change does not affect the design, function or operation of plant SSCs. They do not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. There is no change to plant setpoints, safety limits or design parameters. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Sections 11.2, 11.6 and Tables 11-2 through 11-6 were revised accordingly.

## UFSAR CHANGES (Pkg 98-164)

### DESCRIPTION

SYSTEM: Main Feedwater, S/G

This safety evaluation supports changes to UFSAR sections 7.5.2.4 and 7.5.2.39. A clarification was made that (1) the S/G startup, operate, and full range level indications are not Reg Guide 1.97 devices and (2) the MFW flow indication corresponds to 0-111% design flow.

### SAFETY EVALUATION SUMMARY

The operation and function of the MFW system, as evaluated in the SAR, is not adversely affected by this activity, which provides clarification/ correction to reflect the actual licensing basis and as-built plant. The descriptions are enhanced. It does not adversely affect the design, integrity, operation or function of systems, structures and components. These changes do not increase the likelihood of initiation, or adversely affect 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 increase in the probability of a malfunction of equipment important to safety. There are no effects on reactivity. There is no physical change to the plant or procedures. There is no change to plant setpoints, safety limits or design parameters. This activity has no effect on any margins of safety as previously evaluated in the SAR. As such, this change does not present an unreviewed safety question and no Technical Specification changes are required. UFSAR Sections 7.5.2.4 and 7.5.2.39 were revised accordingly.

## UFSAR CHANGES (Miscellaneous)

### DESCRIPTION

SYSTEM: Multiple

UFSAR changes not performed under the 10CFR 50.59 Regulation but that resulted from Licensing Amendments, Technical Specification Changes, or other NRC approved changes are included for information and briefly described in Attachment B.

### SAFETY EVALUATION SUMMARY

N/A

## VIII. CALCULATIONS

### DESCRIPTION

SYSTEM: Nuclear Fuel

Calculation OSC-6907 contains a 10CFR50.59 Evaluation to support the O1C18 Core Reload Analysis. The reload analysis addresses all core physics parameters (required boron concentrations, reactivity, etc.) and changes associated with fuel design for a specific cycle. Revisions 2 and 3 add a reference to OSC-7150 and support a change to the COLR to address an adjustment of the negative AO limit at 90% FP, respectively.

### SAFETY EVALUATION SUMMARY

The reload analysis is a QA Condition I engineering calculation used to determine acceptable core physics conditions and parameters for a specific cycle. It also requires a safety evaluation be performed in accordance with Workplace procedure NE-104. Utilizing this methodology does not in any way initiate, affect the mitigation of, or increase the consequences of any SAR described accidents. There is no adverse affect on any SSC and no increase in the probability of a malfunction of equipment important to safety. No new radiological release pathways or failure modes are created. There are no adverse effects on reactivity. There are no physical changes to the plant. This evaluation determined that there were no unreviewed safety questions associated with the O1C18 core reload. No Technical Specification or UFSAR changes are necessary. The COLR (SAR document) was amended in accordance with Rev #3.

## CALCULATIONS

### DESCRIPTION

SYSTEM: Nuclear Fuel

Calculation OSC-6943, Rev. 0, contains a 10CFR50.59 USQ Evaluation for using Framatome Cogema Fuel's Mk-B Grid Repositioning System (GRS). The purpose of this equipment is to reposition spacer grids that are displaced downward from their production location. This equipment is used in the spent fuel pool on a single fuel assembly at a time. All standard procedures controlling fuel handling in the pool are applicable to the GRS evolution. Likewise, removing fuel rods and reinserting replacement rods are also governed by existing plant procedures.

### SAFETY EVALUATION SUMMARY

Utilizing the Framatome Cogema Fuel's Mk-B Grid Repositioning System (GRS) does not in any way initiate, affect the mitigation of, or increase the consequences of any SAR described accidents. There is no adverse affect on any SSC and no increase in the probability of a malfunction of equipment important to safety. No new radiological release pathways or failure modes are created. This activity does not modify the physical plant. There are no effects on reactivity. Using the GRS to reposition slipped spacer grids does not compromise the integrity of the fuel. This evaluation determined that there were no unreviewed safety questions associated with using the GRS on the Mk-B and Mk-B11 fuel used at Oconee. No Technical Specification or UFSAR changes are necessary.



## CALCULATION

### DESCRIPTION

SYSTEM: Nuclear Fuel

Calculation OSC-7000, Rev. 0, contains a 10CFR50.59 Evaluation for using Framatome Cogema Fuel's Mk-B Grid Clamp Tool (GCT). The purpose of this equipment is to reshape or reform damage fuel assembly spacer grids. This equipment is used in the spent fuel pool on a single fuel assembly at a time. All standard procedures controlling fuel handling in the pool are applicable to the GCT evolution.

### SAFETY EVALUATION SUMMARY

Utilizing the Framatome Cogema Fuel's Mk-B Grid Clamp Tool does not in any way initiate, affect the mitigation of, or increase the consequences of any SAR described accidents. There is no adverse affect on any SSC and no increase in the probability of a malfunction of equipment important to safety. No new radiological release pathways or failure modes are created. This activity does not modify the physical plant. There are no effects on reactivity. Utilizing the GCT to reshape damaged spacer grids does not compromise the integrity of the fuel. This evaluation determined that there were no unreviewed safety questions associated with using the GCT on the Mk-B and Mk-B11 fuel used at Oconee. No Technical Specification or UFSAR changes are necessary.

## CALCULATION

### DESCRIPTION

#### SYSTEM: Nuclear Fuel

Fuel inspections during the Oconee unit two end of cycle sixteen outage showed twelve fuel assemblies with damaged grid corners similar to the Oconee 1 end of cycle seventeen instances evaluated in OSC-7023. Five of these twelve were reinserted for use in cycle seventeen. This calculation (OSC-7169) was developed to supplement the justification for continued use of the aforementioned assemblies and to serve as a generic safety evaluation and unreviewed safety question determination. Section five of this calculation discusses the procedure for using this safety review and 50.59 analysis as a generic baseline to justify future instances of damaged grids. Section nine discusses the engineering judgments associated with this analysis. Section ten addresses the previous damage experience envelope and damage categorization. Additionally, revision 1 of this calculation specifically documented the damaged grids evaluated at Oconee 3 EOC 17. Those damaged grids were found to be within the experience base previously evaluated.

### SAFETY EVALUATION SUMMARY

This calculation documents the justification for continued use of fuel assemblies with damaged grids when it is shown that the fuel assembly in question is bounded by the experience envelope discussed in section ten of calculation OSC-7169. Each instance where this analysis is utilized is documented in a new attachment to this calculation. This analysis has defined the envelope of grid damage that DPC has experienced and has determined that all assemblies that are bounded by the envelope, and consequently this generic analysis, shall pose no unreviewed safety questions because this calculation. The basis for defining the envelope is historical DPC operating experience with damaged grids and analytical data. The damaged grid corners as evaluated do not in any way initiate, affect mitigation of, or increase the consequences of any SAR described accidents. There is no adverse affect on any SSC, and no increase in the probability of a malfunction of equipment important to safety. No new radiological release pathways or failure modes are created. There are no effects on reactivity. There are no USQs, and no changes to the UFSAR or Technical Specifications are required.

## CALCULATION

### DESCRIPTION

SYSTEM: Nuclear Fuel

Calculation OSC-7045 contains a 10CFR50.59 Evaluation to support the O2C17 Core Reload Analysis. The reload analysis addresses all core physics parameters (required boron concentrations, reactivity, etc.) and changes associated with fuel design for a specific cycle. Revisions 1 and 2 add a reference and support a change to the COLR to increase the power range (30-60%) tilt limits, respectively.

### SAFETY EVALUATION SUMMARY

The reload analysis is a QA Condition 1 engineering calculation used to determine acceptable core physics conditions and parameters for a specific cycle. It also requires a safety evaluation be performed in accordance with Workplace procedure NE-104. Utilizing this methodology does not in any way initiate, affect the mitigation of, or increase the consequences of any SAR described accidents. There is no adverse affect on any SSC and no increase in the probability of a malfunction of equipment important to safety. No new radiological release pathways or failure modes are created. There are no adverse effects on reactivity. There are no physical changes to the plant. This evaluation determined that there were no unreviewed safety questions associated with the O2C17 core reload. No Technical Specification or UFSAR changes are necessary. The COLR (SAR document) was amended in accordance with Rev #2.

## CALCULATION

### DESCRIPTION

SYSTEM: Nuclear Fuel

Calculation OSC-7124, Rev. 1, contains a 10CFR50.59 Evaluation for using Framatome Cogema Fuel's Mk-B Post Irradiation Examination (PIE) and Mk-B Fuel Assembly Upper End Fitting (UEF) Gage equipment. The PIE equipment is used to inspect the Mk-B11 lead test assemblies (LTAs) and obtain fuel performance data. The data is used to evaluate the Mk-B11 fuel design. The following Mk-B PIE equipment was included in this review:

- manipulator used in the following configurations: the camera assembly (typically used for the visual exams, shoulder gap measurements, and spacer grid position verification), fuel rod oxide and diameter measurements, water channel measurements, and spacer grid oxide measurements,
- fuel assembly length,
- fuel assembly bow,
- guide tube oxide measurements,
- guide tube plug gages, and
- grid width measurement system assembly.

The UEF gage assembly is used to verify the ends of the spring retainer bar arms, the ears, are in correct alignment. This is important because the hold-down pads on the upper grid plate interface with the ears.

### SAFETY EVALUATION SUMMARY

This evaluation determined that there were no safety concerns or unreviewed safety questions associated with using the Mk-B PIE or UEF gage equipment on the Mk-B11 LTAs because the equipment does not adversely effect the fuel or the fuel's ability to perform as intended. This activity does not in any way initiate, affect the mitigation of, or increase the consequences of any SAR described accidents. There is no adverse affect on any SSC and no increase in the probability of a malfunction of equipment important to safety. No new radiological release pathways or failure modes are created. This activity does not modify the physical plant. There are no effects on reactivity. No Technical Specification or UFSAR changes are necessary.

## CALCULATION

### DESCRIPTION

SYSTEM: Nuclear Fuel

Calculation OSC-7136 contains a 10CFR50.59 Evaluation for an update to the Oconee UFSAR to include a specific reference to the use of lead test assemblies (LTA) and to include the typical fuel performance inspections done for LTAs.

### SAFETY EVALUATION SUMMARY

Describing the use of LTAs in the UFSAR does not in any way initiate, affect the mitigation of, or increase the consequences of any SAR described accidents. There is no adverse affect on any SSC and no increase in the probability of a malfunction of equipment important to safety. No new radiological release pathways or failure modes are created. This activity does not modify the physical plant. There are no effects on reactivity. There are no safety concerns or unreviewed safety questions associated with this update. No Technical Specification changes are necessary. UFSAR Section 4.2.2.1.1 was updated to include information about using LTAs and Section 4.2.4.3.3 was updated to include the subsequent LTA fuel inspections.

## CALCULATION

### DESCRIPTION

SYSTEM: Nuclear Fuel

OSC-7155 contains a 10CFR50.59 evaluation performed to determine whether the removal of the "fuel in compression" criteria from the UFSAR involved a USQ. FCF defined the fuel rod in compression criteria as follows: During cooldown above a cladding temperature of 525 °F, the reactor coolant pressure must be maintained above that required to keep the fuel rods in compression. From 525 °F to 425 °F, the reactor coolant pressure must be maintained above that required to limit cladding tensile stresses to 7,000 psi. This criterion was used to minimize the formation of radially oriented hydride platelets by limiting the clad tensile stress. Radially oriented hydride platelets decrease the cladding ductility. These platelets form as the cladding cools down. Therefore, the loss of ductility was a concern for fuel handling and repair operations on high burnup fuel.

### SAFETY EVALUATION SUMMARY

FCF performed a new series of experiments to re-evaluate cladding ductility. These studies were performed to support the licensing limit for fuel rod internal pressure above reactor coolant system pressure. Sandvick (SSM) and Zircotube fuel rod cladding were tested during these experiments. The experiments showed that no additional loss of ductility at operational temperatures was experienced as long as cladding tensile stresses were maintained below 15,000 psi. FCF calculations show that a maximum stress of 14,709 psi could occur during cooldown and that a tensile stress greater than 15,000 psi cannot reasonably occur during cooldown. Since the maximum calculated stress is 14,709 psi, FCF removed the reactor system cooldown criteria for fuel in compression. Note: In BAW-10183P-A (Fuel Rod Gas Pressure Criterion), FCF determined that the most limiting transient condition was an accidental depressurization of the system. The maximum tensile stress for this accident was conservatively estimated to be 15 ksi, which is the basis of stress value depicted in the FCF analysis and their conclusion that stresses greater than 15,000 psi can not reasonably occur. No unreviewed safety questions exist based on the hydride reorientation test results contained in BAW-10183P-A (Fuel Rod Gas Pressure Criterion) and the calculated stress values depicted above. This change does not in any way initiate, affect mitigation of, or increase the consequences of any SAR described accidents. There is no adverse affect on any SSC, and no increase in the probability of a malfunction of equipment important to safety. No new radiological release pathways, or failure modes are created. No technical specification change is required for this revision. The limits specified in the COLR were not affected by this methods revision. No licensing commitments were affected. The Duke methodology topical reports were not affected. Section 4.2.3.1.1 (Pkg 98-93) of the UFSAR was revised accordingly.

## CALCULATION

### DESCRIPTION

SYSTEM: Nuclear Fuel

Calculation OSC-7235 contains a 10CFR50.59 Evaluation to support the O3C18 Core Reload Analysis. The reload analysis addresses all core physics parameters (required boron concentrations, reactivity, etc.) and changes associated with fuel design for a specific cycle.

### SAFETY EVALUATION SUMMARY

The reload analysis is a QA Condition 1 engineering calculation used to determine acceptable core physics conditions and parameters for a specific cycle. It also requires a safety evaluation be performed in accordance with Workplace procedure NE-104. Utilizing this methodology does not in any way initiate, affect the mitigation of, or increase the consequences of any SAR described accidents. There is no adverse affect on any SSC and no increase in the probability of a malfunction of equipment important to safety. No new radiological release pathways or failure modes are created. There are no adverse effects on reactivity. There are no physical changes to the plant. This evaluation determined that there were no unreviewed safety questions associated with the O3C18 core reload. No Technical Specification or UFSAR changes are necessary.

## CALCULATION

### DESCRIPTION

SYSTEM: Nuclear Fuel, SFP

Calculation OSC-7241, contains a 10CFR50.59 Evaluation for utilizing a 37 Rod Failed Fuel Rod Canister (FFRC) in the Unit 3 SFP. The FFRC was fabricated by Framatome Cogema Fuels to provide safe and efficient storage for failed rods that are replaced to meet Duke's fuel reliability program requirements.

### SAFETY EVALUATION SUMMARY

The FFRC was designed to prevent boiling of the SFP water contained within. Sub-criticality of the loaded canister was verified by FCF using the SCALE4.  $K_{eff} < 0.95$  is always maintained. The FFRC weighs only 510 lbs., so it can be safely handled within the pool and robust design precludes any seismic concerns. Utilizing the Framatome Cogema Fuel's FFRC does not in any way initiate, affect the mitigation of, or increase the consequences of any SAR described accidents. There is no adverse affect on any SSC and no increase in the probability of a malfunction of equipment important to safety. No new radiological release pathways or failure modes are created. There are no adverse effects on reactivity. This evaluation determined that there were no unreviewed safety questions associated with using the FFRC at Oconee. No Technical Specification or UFSAR changes are necessary.



## CALCULATION

### DESCRIPTION

SYSTEM: Nuclear Fuel

This calculation (OSC-7277) accomplished two objectives. First, it documents a 50.59 safety evaluation for the specific instance of debris in the RCS of Oconee Unit 3 that is assumed to remain in the core during cycle eighteen. And, it provides a general guideline for future instances of non-metallic debris analysis.

### SAFETY EVALUATION SUMMARY

This calculation summarizes all types of non-metallic debris analyzed in past 50.59 analysis as well as current concerns over paint chips, duct tape and ball bearings. Fuel inspections during the Oconee unit three cycle seventeen outage showed several fuel assemblies with small pieces of non-metallic debris (duct tape and paint chips). Subsequent debris removal efforts were successful in retrieving all debris still located in the fuel assembly, however there were three instances where the debris was no longer resident in the documented fuel assembly. It was conservatively assumed that this debris had been relocated to another fuel assembly being placed back into service for cycle eighteen. Future occurrences where debris is documented but cannot be retrieved shall be documented in an attachment to this calculation. The documentation in the attachments shall address an appropriate list of mechanical, binding, impact, licensing and chemistry issues. The debris evaluated does not in any way initiate, affect mitigation of, or increase the consequences of any SAR described accidents. There is no adverse affect on any SSC, and no increase in the probability of a malfunction of equipment important to safety. No new radiological release pathways or failure modes are created. There are no effects on reactivity. This analysis has determined that all debris instances that are bounded by this generic analysis shall pose no unreviewed safety questions. There are no USQs, and no changes to the UFSAR or Technical Specifications are required.

## **IX. MISCELLANEOUS**

### **DESCRIPTION**

#### **SYSTEM: Incore Detectors**

This safety evaluation supports the Nuclear Application Software (NAS) upgrades and the O3C18 Database Update. The NAS was upgraded to reflect the "long emitter" incore detectors.

### **SAFETY EVALUATION SUMMARY**

The NAS exists on the Operator Aid Computer (OAC), which is a non-safety non-QA device. It does not have any controlling function or perform any safety-related function. Upgrading the NAS and making it consistent with the Framatome Technologies version does not in any way initiate, affect the mitigation of, or increase the consequences of any SAR described accidents. There is no adverse affect on any SSC and no increase in the probability of a malfunction of equipment important to safety. No new radiological release pathways or failure modes are created. This activity does not physically modify any plant SSCs or operating procedures. There are no adverse effects on reactivity. There are no safety concerns or unreviewed safety questions associated with this update. No Technical Specification changes are necessary. No changes to the UFSAR are required.

## MISCELLANEOUS

### DESCRIPTION

#### SYSTEM: Reactor Coolant System (RCS)

This safety evaluation supports a Duke Technical Specification Interpretation (TSI) 3.5.3. It was determined by calculation that the low RCS pressure setpoint of 1500 psig specified for ES channels 1 & 2 was non-conservative due to not accounting for instrument uncertainty. The limit was conservatively raised as an interim measure.

### SAFETY EVALUATION SUMMARY

Implementing a temporary conservative value for the low RCS pressure actuation setpoint does not in any way initiate, affect the mitigation of, or increase the consequences of any SAR described accidents. There is no adverse affect on any SSC and no increase in the probability of a malfunction of equipment important to safety. No new radiological release pathways or failure modes are created. This activity does not physically modify any plant SSCs or operating procedures. There are no adverse effects on reactivity. There are no safety concerns or unreviewed safety questions associated with this update. With the new limit in place, the Technical Specifications are not violated. A Tech Spec amendment was pursued to address the non-conservative value, but not required by the interpretation. No changes to the UFSAR were required.

## MISCELLANEOUS

### DESCRIPTION

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

This safety evaluation supports a commitment change associated with testing the ECCW system. In correspondence with the NRC dated 8/27/97, Duke described the proposed testing in detail. Subsequently, it was determined certain changes in the test method were required to enhance plant safety and protect equipment. Most notably, the SSW was isolated during siphon testing to preclude windmilling the CCW pumps. This change was performed in accordance with NSD-214.

### SAFETY EVALUATION SUMMARY

Despite the changes the acceptance criteria is still satisfied via actual testing or engineering calculation. The changes protect plant equipment and maintain the ECCW system in a safe configuration. The changes do not in any way initiate, affect the mitigation of, or increase the consequences of any SAR described accidents. There is no adverse affect on any SSC and no increase in the probability of a malfunction of equipment important to safety. No new radiological release pathways or failure modes are created. This activity does not physically modify any plant SSCs. There are no adverse effects on reactivity. There is no change to plant setpoints, safety limits or design parameters. There are no safety concerns or unreviewed safety questions. No Technical Specification changes are necessary. No changes to the UFSAR were required.

## MISCELLANEOUS

### DESCRIPTION

#### SYSTEM: Fuel Handling

This 10CFR50.59 USQ evaluation supports an existing statement in UFSAR Section 9.1.4.2.3 that was previously revised. That revision changed the statement concerning the hydraulic fluid used in the fuel transfer system upender operating system from "pool water" to "demineralized water". The actual change was implemented prior to initial plant unit operation. This discrepancy was identified in a UFSAR quality review and documented in PIP-98-2055, Corrective Action 79.

### SAFETY EVALUATION SUMMARY

A change to UFSAR Section 9.1.4.2.3 reflected a historic change in the fluid used in the refueling system upender hydraulic power skids from pool water to demineralized water. The change was evaluated as to the effect on system function and consequences of failure of the components involved and determined not to in any way initiate, affect the mitigation of, or increase the consequences of any SAR described accidents. There is no adverse effect on any SSC and no increase in the probability of a malfunction of equipment important to safety. No new radiological release pathways or failure modes are created. This evaluation does not physically modify any plant SSCs or operating procedures. There are no adverse effects on reactivity. The change was determined to not constitute a USQ or safety concern. Neither the UFSAR nor Technical Specifications require revision.

## MISCELLANEOUS

### DESCRIPTION

SYSTEM: N/A

This 10CFR50.59 USQ evaluation supports an existing statement in UFSAR Section 2.2.1 that was previously revised. The section describes location and routes of nearby industrial, transportation, and military facilities. UFSAR Section 2.2.2.3 describes pipelines within the 5-mile radius of Oconee Nuclear Station. These 2 sections of the UFSAR include descriptions of gas pipeline distribution lines approximately 3.5 miles from the station in the direction of Six Mile. Per the recent UFSAR review and PIP 98-4535, this USQ evaluation was initiated to formally document the acceptability of the statements.

### SAFETY EVALUATION SUMMARY

Information currently contained in the UFSAR was simply substantiated via USQ evaluation. In no way were the physical characteristics of the Station or any of its Operations changed. Explosions have been evaluated in UFSAR Section 2.2.3.1.1. The scenario evaluated (truck with 40,000# of TNT) envelopes an explosion of the gas lines located 3.5 miles away. For example, the worse case accident associated with a gas distribution line would likely be explosion following the ignition of an accumulation of escaping gas from leakage or break. A less severe scenario associated with gas distribution lines would be a fire fueled by escaping gas which can produce intense local heat. The gas distribution line explosion event would be less than explosion from 40,000 pounds of TNT especially considering that it occurs 3.5 miles from the plant. The change does not in any way initiate, affect the mitigation of, or increase the consequences of any SAR described accidents. There is no adverse affect on any SSC and no increase in the probability of a malfunction of equipment important to safety. No new radiological release pathways or failure modes are created. This evaluation does not physically modify any plant SSCs or operating procedures. There are no adverse effects on reactivity. The change was determined to not constitute a USQ or safety concern. Neither the UFSAR nor Technical Specifications require revision.

**ATTACHMENT B**  
**UFSAR Revision Tracking System**

Markup Status per NSD 220									
Contributor	Section Number	Section Owner	Description of Change	Originating Source	Date Initiated	Date Approved	Date Impl.	To Publishing	Comments
Steve Perrero	ISFSI 3.1.2.1, 4.4.5, 8.2.6.2.2	same	Reflect upgrade of Security Systems power supply from retail to SSF	NSM-52931	9/8/98	12/17/99	12/17/98	4/7/98	ISFSI UFSAR Change # 98I-01
Steve Perrero	4.3.2.1	same	Correct transfer cask relief valve setpoint pressures	PIP G96-0145	2/2/99	2/2/98	Pre 1998 discrepancy	2/10/99	ISFSI UFSAR Change # 98I-02
<b>Note</b>	<b>Changes</b>	<b>Below</b>	<b>Are for the</b>	<b>ONS</b>	<b>UFSAR</b>	<b>ONLY</b>	<b>Above</b>	<b>Are</b>	<b>for ISFSI (Dry Cask Storage)</b>
M. McFarland	5.4.6.3.1, 5.4.9	Mike Leighton	Identify proper optimal ring settings (and reference) for Pzr valves	PIP 97-3723	10/8/97	Returned for correction	Pre 1997 discrepancy		UFSAR Change #97-36 (Placed on hold per RCG 1-21-98)
(VOID) Robert T	5.2.3.13	Emory/ Leighton	Correct EOL RV fluences	PIP 97-3723	11/6/97	rejected - See Change 98 36	Pre 1997 discrepancy	XXXXXX	UFSAR Change #97-41
(VOID) Ken Ran	Figs 9-11	Vance Bowman	Provide alternate LPSW supply to U1&2 RB component coolers.	ONOE-11023	10/24/97	XXXXXX	MOD Cancelled	XXXXXX	UFSAR Change #97-125 (NOT IMPLEMENTED)
David Lee(DES)	9.2.2.2.3	Vance Bowman	Summarize response to Bulletin 88-04 relevant to # of LPSW pumps operating under given conditions.	Acc Review Proj PIP 98-1986	5/4/98	8/18/98	Pre 1997 discrepancy	9/23/98	UFSAR Change #97-165
Mitch McFarland	9.1.3.1.2.1	Oakley/Cantrell	Clarify location of CA sample sinks	Acc Review Proj PIP 98-1986	5/4/98	returned for correction	Pre 1997 discrepancy		UFSAR Change #97-167
Louis Bohn (DES)	Tables 9-1, 2	Russ Oakley	Correct tables to reflect current design parameters of the SFP coolers, filters, and pumps	Acc Review Proj PIP 98-1986	3/30/98	10/8/98	Pre 1997 discrepancy	10/8/98	UFSAR Change #97-186
David Lee(DES)	9.2.2.1, 9.2.5	Ron Harris	Add info and refs on OSW program implemented in response to GL 89-13.	Acc Review Proj PIP 98-1986	3/8/98	1/25/99	Pre 1997 discrepancy	3/11/99	UFSAR Change #97-191
DES	Fig 9-15, 16	Russ Oakley	Correct Chem Addition System diagrams to current configuration	Acc Review Proj PIP 98-1986	3/6/98	returned for correction	Pre 1997 discrepancy		UFSAR Change #97-204
DES	Fig 9-5	Russ Oakley	Correct SF Cooling System diagram to current configuration	Acc Review Proj PIP 98-1986	3/6/98	returned for correction	Pre 1997 discrepancy		UFSAR Change #97-207

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Contributor	Section Number	Section Owner	Description of Change	Originating Source	Date Initiated	Date Approved	Date Impl.	To Publishing	Comments
Russ Oakley	6.1, 2, 3 & Fig 6-5	same	Revise description of BS functions.	PIPs 97-1264, 98-2729	5/7/98	4/22/99	Pre 1997 discrepancy	4/22/99	UFSAR Change #97-213
<b>1998</b>	Changes	Below							
David Nix	3.1.2, 3.2.2, 3.3.2.3	Nader/Hester	Clarify ONS Tornado Licensing Basis	PIP 96-0864	7/30/98	9/4/98	Pre 1998 discrepancy	9/4/98	UFSAR Change #98-01
David Lee (DE&S)	9.2.1.7	Bob Leatherwood	Correct text description to denote RIA 50 is located on recirc line back to suction of CC pumps	PIP 98-1986	5/28/98	9/14/98	Pre 1998 discrepancy	9/23/98	UFSAR Change #98-02
Dedrick Wald	10.4.1.4	Jeff Hekking	Clarify that Ph monitoring of condensate leaving hotwell is not performed	PIP 98-2746	7/9/98	9/16/98	Pre 1998 discrepancy	9/23/98	UFSAR Change #98-03
Libby Wehrman	12.4.5.1	same	spelling error	editorial	7/14/98	9/3/98	Pre 1998 discrepancy	9/3/98	UFSAR Change #98-04
Jim Perry	3.11.1.2	same	Update text wording and figure references to reflect changes previously made to Chapter 15 and make consistent with Chapter 6	editorial	7/10/98	9/3/98	Pre 1998 discrepancy	9/3/98	UFSAR Change #98-05
Steve Nader & D	Fig 6-3, 9-29	Hawthorne/Severance	Update RBCU schematic 6-3, to reflect actual plant configuration. Delete Fig 9-29 as extraneous	PIP 98-1986	6/10/98	9/21/98	Pre 1998 discrepancy	9/23/98	UFSAR Change #98-06
Aaron Pugh	7.7.4.1, 9.5.1.4.5.	Phelps/Lefkowitz	Describe sound powered telephone system as available, but not maintained. address range of portable radios w/o repeaters	PIPs 98-2055 and 98-3201	8/17/98	9/17/98	Pre 1998 discrepancy	9/23/98	UFSAR Change #98-07
Gerry Ottman	5.4.1.2, Table 5-16	same	Correct RCP seal description, revise stress analyses descriptions to reflect correct codes, and provide correct info on RCP height and weight	PIP 97-3724	5/28/98	9/17/98	Pre 1998 discrepancy	9/23/98	UFSAR Change #98-08
Bob Gamberg	Table 5-2	same	Accurately reflect the number of transients (AOTCs) that certain welds associated with HPI are qualified for.	PIP 98-2057	7/16/98	9/17/98	Pre 1998 discrepancy	9/23/98	UFSAR Change #98-09
Bob Gamberg	9.5.1.6.1	Harold Lefkowitz	Remove extraneous info about RCP press boundary from fire protection section	PIP 98-2055	7/16/98		Pre 1998 discrepancy		UFSAR Change #98-10



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Vance Bowman	6.2.2.2.7, 9.2.2.2.3, 9.4.6.2, Figs 6-3, 4 and 9- 12	Bowman/ Hawthorne/ Severance	Update descriptions to reflect returning Unit 3 RB Aux Coolers to service with new configuration. See change 98-132.	OP/3/A/1104/0 10	8/5/98	10/8/98	Pre 1998 discrepancy based on interim fix	4/13/99	UFSAR Change #98-11
Doug Berkshire	Table 11-7	same/E. Brown	Update RIA range and sensitivity info	PIPs 96-2637, 1879	8/5/98	8/5/98	Pre 1998 discrepancy	9/23/98	UFSAR Change #98-12
Rick Bowser	9.3.6.2.3	Russ Oakley	Correct description of Post Accident Containment Air Sampling System - delete ref to use of thiosulfate solution	PIP MNS 91- 0020 (INPO ITEM)	8/17/98	2/1/99	Pre 1998 discrepancy	2/2/99	UFSAR Change #98-13
Ron Harris	9.2.2.2.1	same	Correct to show that load shed signal for CCW pumps does not come from ES	ONOE-12284	6/19/98	6/19/98	Pre 1998 discrepancy	9/23/98	UFSAR Change #98-14
(VOID) Bob Gam	6.2.1.3.2	Capps/ Swindlehurst	Change present limits on certain plant parameters for the associated operability. (1) Max BWST indicated temp = 92.5 F, (2) Max indicated lake water temp = 83 F, and (3) indicated RB press > -0.5 psig.	PIP 98-3976	8/21/98	NOT APPROVE D, Rejected by Steve Capps	Pre 1998 discrepancy	XXXXXX	UFSAR Change #98-15
Tim Brown	3.2.2.2	same	Clarify piping specs should be used to determine applicable codes	editorial	9/23/98	9/24/98	Pre 1998 discrepancy	10/20/98	UFSAR Change #98-16
Jim Randles	9.1.4.1.3	Rod Emory	Clarify the Unit's 1&2 and 3 Spent fuel pool capacities and describe how control components are stored	PIP 98-2055	8/27/98	9/28/98	Pre 1998 discrepancy	9/28/98	UFSAR Change #98-17
Jim Randles	9.3.1.2.7	Russ Oakley	Delete statement that ~216 cubic ft of boric acid mix tank soln is req'd to borate a unit to cold s/d at EOL. The actual volume req'd is cycle specific depending on design EFPD, enrichment, etc.	PIP 98-2055	8/31/98	2/1/99	Pre 1998 discrepancy	2/2/99	UFSAR Change #98-18
Joel Witman	Table 3-68	Ray McCoy	Correct seismic qualification table to show EXIDE battery chargers have been changed out	NSM-X2881 and PIP 98- 3169	6/29/98	10/14/98	Mods installed in 1994/95	10/20/98	UFSAR Change #98-19
Shane Klima DE	10.3.4	Allen Park	Indicate the number two stop vlv (MS-104) on each unit is a continuously positioned vlv while the other stop vlvs have fully opened or fully closed positions	Accuracy Review PIP 98- 4062	8/19/98	2/10/99	Pre 1998 discrepancy	2/10/99	UFSAR Change #98-20

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**UFSAR Revision Tracking System**

Markup Status per NSD 220									
Contributor	Section Number	Section Owner	Description of Change	Originating Source	Date Initiated	Date Approved	Date Impl.	To Publishing	Comments
Shane Klima DE	10.1	Jeff Hekking	Indicate MSLB circuitry is installed on all three units	Accuracy Review PIP 98-4062	9/3/98	10/14/98	Pre 1998 discrepancy	10/20/98	UFSAR Change #98-21
Shane Klima DE	10.2.2	Ted Royal	Correct Main Generator rating from 22,000 to 19,000 volts	Accuracy Review PIP 98-4062	8/19/98	10/28/98	Pre 1998 discrepancy	11/12/98	UFSAR Change #98-22
Shane Klima DE	10.2.4	Ted Royal	Indicate turb-gen and associated steam handling equipment automatically follow core thermal power demand	Accuracy Review PIP 98-4062	8/19/98	11/17/98	Pre 1998 discrepancy	11/18/98	UFSAR Change #98-23
Shane Klima DE	10.2.4	Greg Lareau	Clarify that Main Condenser can handle "approximately" 25% of rated steam flow	Accuracy Review PIP 98-4062	9/28/98	2/15/98	Pre 1998 discrepancy	2/15/98	UFSAR Change #98-24
Aaron Pugh	Table 3-68	Ray McCoy	Add qualification report reference	editorial/PIP 98-2428	9/1/98	10/12/98	Pre 1998 discrepancy	11/12/98	UFSAR Change #98-25
Tim Breslin	4.2.2.1.1, 4.2.4.3.3	Hayes/Watrobski	Add text to describe use of Lead Test FAs and enhance description of PIE activities	OSC-7136	3/2/98	10/23/98	Pre 1998 discrepancy	11/12/98	UFSAR Change #98-26
Harold Lefkowitz	9.5.1.5.3	same	Indicate radwaste facility fire suppression foam system is abandoned in place	PIP 98-2055	10/27/98	10/27/98	Pre 1998 discrepancy	11/12/98	UFSAR Change #98-27
Mary Jo Littleton	Table 9-5	same	Correct design press of LiOH pump from 100 to 250 psig	PIP 98-2055	11/2/98	11/2/98	Pre 1998 discrepancy	11/12/98	UFSAR Change #98-28
Bob Hester	9.1.2.1.2, 9.1.2.2.2	same	Clarify description of SFP racks and correct weights	PIP 98-2055	10/29/98	11/2/98	Pre 1998 discrepancy	11/12/98	UFSAR Change #98-29
Harling/Fisk	Figs 9-9, 9-24	Harris/Hawthorne	Relocate cooling water supply for chillers A & B cond/pumps from LPSW to CCW	OSW related NSM-53001 BM, BK, BL1	11/2/98	1/27/99	1998 mod	1/27/99	UFSAR Change #98-30
Bob Hester	9.1.2.3.1	same	Revise seismic design description of the SFP racks to be consistent with existing calculations and SER	PIP 98-2055,50.59 & License amendments 123,123,120 and 90,90,87	10/30/98	11/18/98	Pre 1998 discrepancy	11/18/98	UFSAR Change #98-31
Harling/Fisk	3.2.2.2, 3.7.3.8	Brown/Chau	Include SSW system and discharge line as seismically designed	OSW related NSM-52932 AM2	11/2/98	11/17/98	1998 mod	11/18/98	UFSAR Change #98-32
Greg Lareau	10.4.1.4	Jeff Hekking	Clarify main condenser testing and trending program. Delete superficial info	PIP 97-0134	9/1/98	9/9/98	Pre 1998 discrepancy	12/3/98	UFSAR Change #98-33
Christy Ray (GO)	Figs 6-42, 43	Swindlehurst/Capps	Incorporate results of re-analysis of MSLB containment response for higher EFW flow rates.	OSC-5233, PIP 98-1773	7/1/98	4/12/99	due to 1998 calc revision	4/12/99	UFSAR Change #98-34

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**UFSAR Revision Tracking System**

Markup Status per NSD 220									
Contributor	Section Number	Section Owner	Description of Change	Originating Source	Date Initiated	Date Approved	Date Impl.	To Publishing	Comments
William Brady	5.2.1.8, 5.2.3.2, 5.2.3.13, 5.2.4, Tables 5-12, 13, 14	Leighton/Emory	Update reactor vessel radiation exposure, fluence, chemical/physical properties and surveillance program information	PIP 97-3724	7/15/98	5/3/99	Pre 1998 discrepancy	5/3/99	UFSAR Change #98-35
David Lee (DES)	10.4.7.2	Steve Benesole	Add alarm features associated with EFW	PIP 98-4062	9/1/98	5/6/99	Pre 1998 discrepancy	5/6/99	UFSAR Change #98-36
David Lee (DES)	10.4.7.1.10	Steve Benesole	Clarify basis of decay heat power	PIP 98-4062	9/2/98	under review by GO Safety Analysis Group	Pre 1998 discrepancy		UFSAR Change #98-37
Dan Harrelson	3.11.4, 9.4.1.1, 9.5, Table 9-11, Fig 9-24	Hawthorne / Lefkowitz	Modify control room ventilation system for Units 1&2 to be single failure proof. Install motorized fire dampers.	NSM-53046	7/29/98	12/28/98	Mod implemented fall of 1998	1/7/99	UFSAR Change #98-38
Kevin Dye (DES)	6.2.2.2.1	Reed Severance	Provide complete info about RBCU performance measuring instrumentation	Accuracy Review PIP 98-4052	9/15/98	11/19/98	Pre 1998 discrepancy	12/3/98	UFSAR Change #98-39
Leland Hathorne	9.4.1.2.1,-2	same	Clarify design of CRVS is to have 50% capacity trains, AND NOT to maintain a positive press in the control rooms concurrent with a single failure	PIP 98-1083	11/30/98	11/30/98	Pre 1998 discrepancy	12/3/98	UFSAR Change #98-40
Mike Miller	Table 3-68	Ray McCoy	Update electrical equipment seismic qualification table to include new OSW components and associated references.	License Amendments 229/230/226	11/30/98	4/13/99	OSW related NSM-X3000 implemented in 1998	4/13/99	UFSAR Change #98-41
Mike Miller	7.5.2	Marlon Dempsey	Update instrumentation section to include new OSW electrical components	License Amendments 229/230/226	11/30/98	4/13/99	OSW related NSM-X3000 implemented in 1998	4/13/99	UFSAR Change #98-42
Tommy Holland	9.3, Tables 3-2, 9-10, Figures 1-3, 9-21	Mike Leighton	Replace both Unit 3 CBAST positive displacement pumps with a single centrifugal type pump	NSM-33044	10/15/98	4/13/99	Mod implemented fall of 1998	4/13/99	UFSAR Change #98-43
Lesley Burns	9.1, Fig 9-7	Rod Emory	Address removal of Unit 3 RB Aux Crane and upgrade of U3 RB Main FH crane and controls	NSM-32914 BL 1, 2	11/18/98	12/7/98	Mod implemented fall of 1998	12/22/98	UFSAR Change #98-44
Lesley Burns	9.1.4.2.2	Rod Emory	Correct that U3 SFP bridge grapple mechanism uses a pneumatic (not hydraulic) system	NSM-32914 BL 1, 2	6/12/98	12/7/98	Mod implemented fall of 1998	12/22/98	UFSAR Change #98-45

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Contributor	Section Number	Section Owner	Description of Change	Originating Source	Date Inflated	Date Approved	Date Impl.	To Publishing	
Shane Klima (DE)	6.2.2.3	Russ Oakley	Clarify that that ES 7 and 8 actuation occurs at 10 psig from which point it takes a max of 92 seconds (for pumps to start, vlvs to open) to deliver RBS flow. Thus ES at 10 psig allows the RBS to meet the TS of $\leq 15$ psig.	Accuracy Review PIP 98-4052	9/15/98		Pre 1998 discrepancy		UFSAR Change #98-46
Shane Klima (DE)	10.4.1.4	Jeff Hekking	Cross reference condenser leakage discussion to turbine bldg flooding section	Accuracy Review PIP 98-4062	9/23/98	returned for correction 3/9/99	Pre 1998 discrepancy		UFSAR Change #98-47
Robert Tucker (D)	7.4.3	Steve Jarret	Re-write and enhance section by deleting mech information already covered in 10.4.7 and concentrating on instrumentation and elec details. Also add detail on SGLC system.	Accuracy Review PIP 98-4055	9/28/98	5/5/99	Pre 1998 discrepancy	5/6/99	UFSAR Change #98-48
Shane Klima (DE)	Figs 10-6, 7	Jeff Hekking	Change: line labeled makeup w/o vacuum and Emer #1 makeup TO recirc line w/o vacuum and Recirc w/ vacuum, respectively, Shell sides of C1&2 from HPE to HD TO LPE to HD, & SS of FWH A,B TO HPE to HD	Accuracy Review PIP 98-4062	9/25/98	5/4/99	Pre 1998 discrepancy	5/4/99	UFSAR Change #98-49
Shane Klima (DE)	Figs 10-1, 2, 3, 4, & 5	Scott Manning	Summary Fig 1: Delete equalization line, remove vlv #s associated w/ stop & control vlvs, correct vlv #s, 2: Correct flow direction, 3: Move press gage downstream of desuphtr, 4: Delete press signals, 5: Correct vlv #s. See marked hardcopies	Accuracy Review PIP 98-4062	9/9/98	5/4/99	Pre 1998 discrepancy	5/4/99	UFSAR Change #98-50
Kevin Dye (DES)	Fig 6-2	Russ Oakley	Number of RBS nozzles is different per unit. Add note to fig 6-2 to refer to OFD for exact number of RBS nozzles per header.	Accuracy Review PIP 98-4052	10/15/98		Pre 1998 discrepancy		UFSAR Change #98-51
(VOID) Steve Be	10.4.7	same	Clarify EFW single failure design	PIP 98-4208	11/18/98	DIS-APPROVE D 3/25/99	Pre 1998 discrepancy	XXXXXX	UFSAR Change #98-52 "A" (DISAPPROVED due to NRC letter 2/24/99 disagreeing with ONS EFW licensing position)

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Steve Benesole	10.4.7.2	same	Add motor-driven to 1st sentence, 2nd paragraph under turbine EFW pump.	PIP 98-4208	11/18/98	12/6/99	Pre 1998 discrepancy	5/17/99	USFAR Change #98-52 "B"
Randy Ross	Table 3-68, #36, items m & n	Ray McCoy	Change SSF equipment Seismic Qualification Report References	ONOE(s) - 9402, 9403	12/9/98	4/13/99	Units 2 & 3 Mods implemented by fall of 1998	4/13/99	UFSAR Change #98-53
Fred Owens	14.2	Lenny Azzarello	Add description that a one time Keowee ES Functional test was evaluated for U3EOC17.	License Amendment 233/233/232	9/17/98	11/12/98	Test performed 11/98	12/15/98	UFSAR Change #98-54
Craig Shore	7.5.2.45	Marlon Dempsey	Reflect LDST level instrumentation on U3 has been upgraded to Cat 2, QA-1 designation	NSM-32285	12/15/98	5/6/99	Mod implemented 3EOC17	5/6/99	UFSAR Change #98-55
Leland Hawthorn	Fig 9-24	same	Update and correct Control Room Ventilation and A/C figure to reflect both old and new NSMs that have been implemented. Also see change 98-38	PIP 98-1165, also NSMs-53046, 53001	12/15/98	12/15/98	Pre 1998 discrepancies and mod implemented fall of 1998	12/22/98	UFSAR Change #98-56
Paul Fisk	Table 9-7	same	Correct (1) code of construction for RCP seal injection supply, (2) seal supply press rating, and (3) seal supply filter flowrate	PIP 98-2055, ONOE-13045	12/3/98	12/10/98	Pre 1998 discrepancy	12/22/98	UFSAR Change #98-57
Aaron Pugh	7.7.4	Doug Phelps	Update description of onsite radio communications and offsite communications. Exclusion area control now handled by Emer prep plan.	PIP 98-3895	10/27/98	12/14/98	Pre 1998 discrepancy	12/22/98	UFSAR Change #98-58
Bob Hester	3.8.1	same	Clarify that while the containment buildings are conservatively "analyzed" as free standing structures, they are in actuality not.	PIP 98-2404	10/30/98	12/10/98	Pre 1998 discrepancy	12/22/98	UFSAR Change #98-59
Doug Moss	8.3.1.1.2	Jeff Rowell	7KV system 1 sec time delay for bus xfers is being lengthened to 1.8 sec to protect RCP and Swyd components (Unit 3)	NSMs-x2983	9/18/98	12/17/98	Mod implemented 3EOC17	12/22/98	UFSAR Change #98-60
Louis Bohn (DES)	8.3.2.1.3	Joe Stevens	Clarify that the two Keowee Units battery systems reside in a common room but are physically separated by different enclosures	Accuracy Review PIP 98-4056	8/17/98	2/2/99	Pre 1998 discrepancy	2/8/99	UFSAR Change #98-61

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Chris Browne (D)	8.3.2.2.4	Joe Stevens	Clarify that restoration of power after a station b/o also requires operator action outside the CRoom	Accuracy Review PIP 98-4056	9/21/98	5/10/99	Pre 1998 discrepancy	5/10/99	UFSAR Change #98-62
Chris Browne (D)	8.3.2.2.4	Joe Stevens	Clarify the TDEFW pump operability is limited to 2 hours after a Station B/O due to volume of the associated N2 supply. The SSF ASW system is the licensing basis for decay heat removal during B/O.	Accuracy Review PIP 98-4056	9/10/98	5/10/99	Pre 1998 discrepancy	5/10/99	UFSAR Change #98-63
<b>OCONEE</b>	<b>SERVICE</b>	<b>WATER</b>	<b>MODIFICATIONS</b>	<b>SIX PARTS</b>	-	-	-	-	UFSAR Change #98-64
Harling/Fisk	3.1.1.1	Steve Nader	Designate ECCW as a support system necessary for LPSW	OSW related NSM-53003 part B	3/5/98	3/28/99	1998 OSW mods	4/5/99	UFSAR Change #98-64-01
Harling/Fisk	3.2.2, 3.7.3.8, 9.2.2.1, 2, Table 9-4, Figs 9-10, 11, 42, 43	Ron Harris	Reflect installation and operation of the Essential Siphon Vacuum (ESV) and Siphon Sealing Water (SSW) systems on Units 2&3	OSW related NSMs-2,33000 Part 'C' and 32932	12/21/98	3/5/99	1998 OSW mods	3/9/99	UFSAR Change #98-64-02
See 98-30							1998 OSW mods		UFSAR Change #98-64-03
See 98-32							1998 OSW mods		UFSAR Change #98-64-04
Harling/Fisk	Table 3-2	Tim Brown	Add design information about ESV pumps and tanks to table	OSW related NSM-53000 part C	4/9/98	1/27/99	1998 OSW mods	1/27/99	UFSAR Change #98-64-05
Henry Harling	Fig 10-5	Allen Park	Clarify on Vacuum System drawing that CCW intake connection shown is Unit 1 only	OSW related NSM-2,3000 part C	11/5/98	4/29/99	1998 OSW mods	4/29/99	UFSAR Change #98-64-06
<b>END SERVICE</b>	<b>WATER</b>	<b>MODS</b>							
Kevin Dye (DES)	6.2.2.4	Reed Severance	Revise RBCU inspection & testing requirements to be consistent with those given in 9.4.6.4. OR delete section 6 statement as duplicative.	Accuracy Review PIP 98-4052	8/14/98	5/4/99	Pre 1998 discrepancy	5/4/99	UFSAR Change #98-65
Louis Bohn (DES)	Chapter 8	N/A	Editorial corrections, misspellings, punctuation, change 500Kv to 525Kv, etc.	Acc Review Proj PIP 98-4056	7/16/98	12/21/98	Pre 1998 discrepancy	1/7/99	UFSAR Change #98-66
Mitch McFarland	8.2.1.4	Ron Beaver	Add description of degraded voltage protection for the 100kv supply from Lee via CT-5	Accuracy Review PIP 98-4056	7/15/98	2/11/99	Pre 1998 discrepancy	2/15/99	UFSAR Change #98-67

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Robert Tucker (D)	5.2.2.2	Basil Carney	Denote Pzr surge line was reanalyzed to the 1986 ASME code per NRC Bulletin 88-11	Accuracy Review PIP 97-3723	7/15/98	1/12/99	Pre 1998 discrepancy	2/15/99	UFSAR Change #98-68
Robert Tucker (D)	5.2.3.2	Mike Leighton	Streamline statement about snubbers and reference appropriate section for details	Accuracy Review PIP 97-3723	7/21/98		Pre 1998 discrepancy		UFSAR Change #98-69
Kevin Dye (DES)	Fig 6-3	Reed Severance	Show ES signals on LPSW cooling water supply valves to RBCUs	Accuracy Review PIP 98-4052	8/17/98	1/27/99	Pre 1998 discrepancy	1/27/99	UFSAR Change #98-70
Tom Basler (DES)	Chapter 6	N/A	Editorial, grammar, spelling changes	Accuracy Review PIP 98-4052	8/21/98	12/22/98	Pre 1998 discrepancy	1/7/99	UFSAR Change #98-71
Mary Jo Littleton	9.3.4.1	Mike Leighton	Correct resin volume of deborating demineralizer from 64 to 62.8 cubic ft AND clarify statement about boron conc changes over core life	PIP 98-2055	11/2/98	12/10/98	Pre 1998 discrepancy	1/7/99	UFSAR Change #98-72
Mitch McFarland	6.3.2.3.8	Russ Oakley	Clarify that relief valve setpoints addressed are specifically for for LPI coolers, but the other LPI reliefs with different setpoints also exist	Accuracy Review PIP 98-4052	9/28/98		Pre 1998 discrepancy		UFSAR Change #98-73
Kevin Dye (DES)	6.2.2.2.4	Russ Oakley	Clarify that a minimum of 120 RBS nozzles are available on each header. Also see Chg 98-51	Accuracy Review PIP 98-4052	8/11/98		Pre 1998 discrepancy		UFSAR Change #98-74
Mitch McFarland	6.1.3, 6.2.2.2.1, 6.3.2.2.2	Russ Oakley	There are two BWST alarms provided in the CRoom. Clarify that switchover from BWST to RB sump is performed by the operator when the "emergency low level" alarm is received.	Accuracy Review PIP 98-4052	8/11/98		Pre 1998 discrepancy		UFSAR Change #98-75
Louis Bohn (DES)	7.5.2.27	Marlon Dempsey	Reflect that the LDST tank level instrumentation indicated range of 1.5 to 14 ft now corresponds to 22 to 83% CFT volume for all three units	Accuracy Review PIP 98-4055	9/1/98	2/16/99	Pre 1998 discrepancy	2/16/99	UFSAR Change #98-76
Jeff Robinson	7.5.2.52	Marlon Dempsey	Correct RIA range and power source information	PIP 98-3895	1/12/99	2/16/99	Pre 1998 discrepancy	2/16/99	UFSAR Change #98-77
Aaron Pugh	7.6.2.2	Marlon Dempsey	Indicate all 52 incore detector locations may not actually contain a detector	ONOE-12611 and PIP 98-2791	11/10/98	12/1/98	Pre 1998 discrepancy	2/10/99	UFSAR Change #98-78
Allen Park	10.4.7.1.1	same	Correct S/G pressure from 1064.7 to 1064 psia	ONOE-13240 and PIP-98-4011	1/27/99	1/28/99	Pre 1998 discrepancy	2/10/99	UFSAR Change #98-79

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Tom Yadon (GO)	6.2.2.3	Oakley /Severance	Clarify that either the RBCUs or RBS systems in full capacity acting independently are capable of maintaining RB press below design limits	PIP 98-2729	1/7/99	4/22/99	Pre 1998 discrepancy	4/22/99	UFSAR Change #98-80
Mike Presnell (G)	4.3	Lori Watrobski	Editorial to reflect new ITS reference sections	editorial/ITS	1/21/99	3/5/99	ITS Implementation scheduled for 3/27/1999	3/9/99	UFSAR Change #98-81
Steve Perrero	15.11	Jim Perry	Add ISFSI General License UFSAR as reference	NSM-52959	12/21/98	2/8/98	1998 modification	2/10/99	UFSAR Change #98-82
Doug Phelps	7.5.2.43	Marlon Dempsey	Upgrade HPI makeup flow from pneumatic to electronic instrumentation on Unit's 1&2	ONOE's - 10555, 556	2/5/98	4/13/99	1998 modification	4/13/99	UFSAR Change #98-83
Terry Cribbe	5.1.1.1	Mike Leighton	Relocate max limit for RCS volume of 12,200 cubic feet from Current Tech Spec 5.3.2.3 to UFSAR	License Amendment 300/300/300 Improved Tech Specs	2/10/99	ON HOLD FOR CORRECTION - SEE PIP 99-1646	ITS Implementation scheduled for 3/27/1999		UFSAR Change #98-84
Terry Cribbe	5.1.1.1	Leland Hawthorne	Relocate description of "PRVS operating intermittently during normal operations as required to control temperature" from Current Tech Spec 5.2.3 to UFSAR	License Amendment 300/300/300 Improved Tech Specs	2/10/99	4/5/99	ITS Implementation scheduled for 3/27/1999	4/5/99	UFSAR Change #98-85
Terry Cribbe	6.2.3.1	Jason Patterson	Relocate paragraph that specifies the fuel xfer tube covers are equipped with double seals AND that RB purge penetrations and atmospheric sampling vlvs are equipped with double vlvs having resilient seating surfaces" from Current Tech Spec 5.2.1 to UFSAR	License Amendment 300/300/300 Improved Tech Specs	2/10/99	ON HOLD FOR CORRECTION - SEE PIP 99-1646	ITS Implementation scheduled for 3/27/1999		UFSAR Change #98-86
Terry Cribbe	2.1.1.3	Austin Burns	Relocate information regarding "restricted area" for gaseous releases from Tech Spec 5.1.2 to UFSAR	License Amendment 300/300/300 Improved Tech Specs	2/10/99	2/17/99	ITS Implementation scheduled for 3/27/1999	3/11/99	UFSAR Change #98-87



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Mike Bailey	6.2.3.1, 6.3.2.1, 6.3.5	Bailey/ Bosnak / Leatherwood	Change ES actuation allowable value for RCS pressure from $\geq 1500$ to $\geq 1590$ psig	License Amendment 300/300/300 Improved Tech Specs	2/12/99	2/25/99	ITS Implementation scheduled for 3/27/1999	3/11/99	UFSAR Change #98-88
Vance Bowman	3.11.4, 6.2.2.2.7, Fig 9-24	Severance/ Perry	Add Chilled Water Pumps and Condenser Service Water Pumps to list of redundant HVAC equipment. Clarify LPSW flow to an RBCU can be reduced (less than design flow of 1400 gpm) and containment heat removal requirements still met	PIPs 98-2085 & 98-3161	9/24/98	3/18/99	Pre 1998 discrepancy	4/7/99	UFSAR Change #98-89
Joe Stevens	Table 8-4	Ron Beaver	Table describes Aux Swgr Bus section as 4160 kV, should be 4160 V	Editorial	11/19/98	11/19/98	Pre 1998 discrepancy	3/11/99	UFSAR Change #98-90
				3 PARTS	-	-	-	-	UFSAR Change #98-91
Tim Niggel (GO)	6.2.1.1.3, Tables 6-25, 27,32, Figs 6-36,37,38,40,42	Bob Hester	Change Containment pressure response due to revised LOCA and MSLB analyses	PIP 98-0058	1/3/99	5/4/99	Pre 1998 discrepancy	5/4/99	UFSAR Change #98-91-01
Tim Niggel (GO)	10.4.7, 8	Allen Park	Increase EFW flowrate assumption during SBLOCA from 300 to 400 gpm.	PIP 98-0058	1/3/99	3/2/99	Pre 1998 discrepancy	3/9/99	UFSAR Change #98-91-02
Tim Niggel (GO)	15.2, Tables 15-32 thru 36, and Figs 15-1 thru 15-10	Jim Perry	Replace original B&W startup accident analysis with Duke performed analysis	PIP 98-0058	1/3/99	3/1/99	Pre 1998 discrepancy	4/7/99	UFSAR Change #98-91-03
Stan Hayes (GO)	1.2.2.2, 4.2, 4.4	Price/ Hayes /Walrobski	Remove fuel design info from section 1 and ref sect 4 description instead. Correct fuel design analyses, ie reflect changes to DNB uncertainties and CHF conditions	PIP 98-4488, DPC-NE-2003 SER dated 7/19/89	9/25/98	4/7/99	Pre 1998 discrepancy	4/7/99	UFSAR Change #98-92
Stan Hayes (GO)	4.2.3.1.1	Hayes/ Walrobski	Clarify Framatome Cogema Fuels (FCF) has eliminated the "fuel in compression" criterion	PIP 98-4488, OSC-7155	9/25/98	4/7/99	Pre 1998 discrepancy	4/7/99	UFSAR Change #98-93
Jeff Hekking	10.4.6.1, 2	same	Correct HWP/CBP shutoff head from 550 to 620 psig. Remove redundant information	PIP 98-3962	2/15/99	2/16/99	Pre 1998 discrepancy	3/11/99	UFSAR Change #98-94

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					Date Initiated	Date Approved	Date Impl.		
Doug Repko	3.6.1.3	Bob Hester	Took exception to HELB Report to extend time to align HPI after certain secondary piping breaks from 30 mins to 1 hour	IP/9/A/0050/001 and PIP 99-545	2/19/99	3/1/99	1999 procedure related	3/11/99	UFSAR Change #98-95
Ron Harris	Table 9-4	same	Change CCW pumps design temperature from 75 to 90F	OE-13155 and PIP 98-2055	12/31/98	3/9/99	Pre 1998 discrepancy	3/11/99	UFSAR Change #98-96
Ken Grayson	9.6	same	Change term "hot shutdown" to "mode three" in SSF section	License Amendment 300/300/300 Improved Tech Specs	3/8/99	3/8/99	ITS Implementation scheduled for 3/27/99	3/11/99	UFSAR Change #98-97
Preston Gillespie	13.1.2.2.2	Ed Price	Clarify Shift Work Mgr dual role as STA and reports to OSM. Update Site VP, Sta. Mgr., OPS titles/ descriptions/ functions in accordance with ITS, NPM and OMP.	STA Program Chg, Accuracy Review, and ITS	3/11/99	5/6/99	ITS Implementation scheduled for 3/27/99	5/6/99	UFSAR Change #98-98
Rod Emory	Figs 5-14,15,16	same	Correct U2 RV fig to effect proper construction material also replace for legibility on all 3 units	PIP 99-0022	2/12/99	3/11/99	Pre 1998 discrepancy	4/6/99	UFSAR Change #98-99
Ed Price	16	Renee' Gambrell	Clarify that UFSAR Chapter 16 is the "Selected Licensee Commitments" (SLCs) and is maintained in a separate manual from the 4 volume UFSAR set. SLCs are not searchable via Bookmanager	PIP 98-4690 and editorial	3/11/99	4/5/99	Pre 1998 discrepancy	4/6/99	UFSAR Change #98-100
Beau Abellana	3.1.47	same	Clarify only ECCS valves required for delivery be periodically cycled for operability	PIP 98-5940	3/15/99	3/15/99	Pre 1998 discrepancy	3/31/99	UFSAR Change #98-101
Steve Toney (DE	Table 7-3	Mike Bailey	Clarify LPSW pump 3A is actuated by ES Channel 3 and pump 3B is actuated from ES 4	PIP 98-4055	7/24/98	4/26/99	Pre 1998 discrepancy	4/26/99	UFSAR Change #98-102
Jeff Hekking	10.4.6.3, 10.4.7.3	Allen Park	Relocate information to the appropriate section and delete duplication	PIP 98-3962	3/16/99	4/19/99	Pre 1998 discrepancy	4/19/99	UFSAR Change #98-103
Jeff Hekking	10.4.1.2	same	Clarify that the 18% rated stm flow condenser bypass steam dump function is in addition to the normal duty expected.	PIP 98-3962	2/23/99	2/23/99	Pre 1998 discrepancy	4/6/99	UFSAR Change #98-104
Chris Browne (D	7.7.5.2	Doug Phelps	Show that the SSF D/G recorder has been removed	PIP 98-4055	7/15/98	5/4/99	Pre 1998 discrepancy	5/4/99	UFSAR Change #98-105

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Tom Basler (DES)	6.5.1.2	Leland Hawthorne	Indicate that the main steam lines are not the only lines welded to the liner plate, but that none are considered a source of significant leakage	PIP 98-4052	7/29/98	4/5/99	Pre 1998 discrepancy	4/5/99	UFSAR Change #98-106
Shane Klima(DE)	Table 10-2	Allen Park	Add that local indication of EFW Pumps A&B recirculation flow is available	PIP 98-4062	9/8/98	4/19/99	Pre 1998 discrepancy	4/19/99	UFSAR Change #98-107
Lee Bohn (DES)	8.3.2.1.7.1	Jim Groves	Add Admin and Service Bldg loads to Emergency 250 VDC Lighting System List	PIP 98-4056	9/16/98	4/5/99	Pre 1998 discrepancy	4/5/99	UFSAR Change #98-108
Lee Bohn (DES)	8.2.1.5, 8.2.2, Table 8-2	Ron Beaver	Add description and analysis of the 525 KV switchyard 125 VDC System	PIP 98-4056	7/20/98	5/6/99	Pre 1998 discrepancy	5/6/99	UFSAR Change #98-109
(VOID) Reza Kh	7.8.2.3	Marlon Dempsey	Add reference to SLC for AMSAC/DSS periodic testing	PIP 98-4055		NOT APPROVE D	Pre 1998 discrepancy	XXXXXX	UFSAR Change #98-110 (VOID)
Mark Hager(DES)	6.3.2.6.3, 6.3.6	Paul Fisk	Remove duplicative text description of 3LP-17 & 18 operators since fully addressed in Table 6-16	PIP 98-4052	8/18/98	5/5/99	Pre 1998 discrepancy	5/5/99	UFSAR Change #98-111
Shane Klima(DE)	10.4.6.5.1	Ted Royal	Add "loss of speed feedback" to list of Turbine Trips	PIP 98-4062	8/24/98	4/29/99	Pre 1998 discrepancy	4/29/99	UFSAR Change #98-112
Robert Tucker(D)	Table 7-1	Bob Cornett	Add note "Trip Condition Bypassed at predetermined lower power setpoints" to Main Turbine and Loss of MFWP trips in Table	PIP 98-4055	7/14/98	4/26/99	Pre 1998 discrepancy	4/26/99	UFSAR Change #98-113
Shane Klima(DE)	10.4.6.3	Jeff Hekking	Delete adjective "newly" installed, from discussion of U3 auxiliary ring header that was installed in 1982	PIP 98-4062	8/24/98	4/29/99	Pre 1998 discrepancy	4/29/99	UFSAR Change #98-114
(DES)	7	Multiple	Editorial - Correct grammar, spelling, format, etc.	Editorial & PIP 98-4055	7/15/98	4/5/99	Pre 1998 discrepancy	4/5/99	UFSAR Change #98-115
Mitch McFarland	6.3.3.3	Jeff Rowell	Qualify that HPI valves can pass design flowrate at 14 secs even though they may not be fully open	PIP 98-4052	9/23/98	4/19/99	Pre 1998 discrepancy	4/19/99	UFSAR Change #98-116
Lee Bohn (DES)	8.3.1.3	Warren Sing	Add description of cable & tray identification (including color coding) for Unit's 2&3 safety-related equipment	PIP 98-4056	9/9/98		Pre 1998 discrepancy		UFSAR Change #98-117
Shane Klima(DE)	10.3.2	Scott Manning	Address MS equalization line - SEE Change 98-50	PIP 98-4062	8/24/98	5/4/99	Pre 1998 discrepancy	5/4/99	UFSAR Change #98-118

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					Date Initiated	Date Approved	Date Impl.	To Publishing	
Tom Basler (DES)	6.5.1.2	Leland Hawthorne	Clarify which penetrations are embedded lines	PIP 98-4052	10/2/98	returned for correction	Pre 1998 discrepancy		UFSAR Change #98-119
Gerry Ottman	Table 9-14	Ken Grayson	Raise SSF ASW Pump design temperature from 110 to 150F	ONOE-12359	3/30/99	3/30/99	Pre 1998 discrepancy	4/6/99	UFSAR Change #98-120
Bob Leatherwo	9.3.2.2.2	same	Reword to say "one of two LD filters or RCP seal filters /S normally in use while one is a spare"	Editorial	4/26/99	4/26/99	Pre 1998 discrepancy	4/27/99	UFSAR Change #98-121
Bob Cornett	7.4.1.2.1	same	Reference Figs 7-9, 10 to section	PIP 98-3895	4/27/99	4/27/99	Pre 1998 discrepancy	4/27/99	UFSAR Change #98-122
Stan Hayes (GO)	4.2.2.3, 4.4, 4.5	Hayes/Walrobski	Correct format, spelling, grammar	Editorial	4/21/99	4/28/99	Pre 1998 discrepancy	4/28/99	UFSAR Change #98-123
Stan Hayes (GO)	4.2.5, 4.4.5	Hayes/Walrobski	Correct title and date of BAW-10143 Reference	DPC-NE-2003 SER	4/21/99	4/28/99	Pre 1998 discrepancy	4/28/99	UFSAR Change #98-124
Mike Leighton	5.3.4.2	same	Delete UFSAR statement on PT limits curves surveillance that references TS 4.2. The TS was previously amended to delete the same info.	License Amendments 162, 162, 159	4/27/99	4/28/99	Pre 1998 discrepancy	4/28/99	UFSAR Change #98-125
James Thompson	Table 6-16	Paul Fisk	Correct descriptions of vlv operators for 2,3HP-26, 27	ONOE-11636,7 & 11650,1	5/18/98	4/26/99	1998 Mods	4/26/99	UFSAR Change #98-126
Jeff Hekking	10.3.2, 10.4.8	Scott Manning	Ref calc for blowdown of both S/Gs	PIP 98-3962	2/18/99	2/18/99	Pre 1998 discrepancy	4/7/99	UFSAR Change #98-127
Bob Hester	9.1.2.3.4, 9.1.5	same	For SFP racks: revise seismic displacement and methodology for determining. Also revise Max seismic load, stress, and seismic plus thermal stress. Also add weld stress allowables. Revise references.	PIP 98-2055	2/22/99	2/22/99	Pre 1998 discrepancy	4/7/99	UFSAR Change #98-128
Ken Grayson	9.6.3.1, 9.6.5	same	Clarify in SSF section that the damage control measures needed to achieve cold shut down are for Appendix R Fire only	PIP 98-2055	4/6/99	4/6/99	Pre 1998 discrepancy	4/7/99	UFSAR Change #98-129
James Cooper	7.5.2.58, 9.2.2.2.3, Fig 9-12	Vance Bowman	Reflect change out and re-numbering of 3LPSW-404/405 to 3LPSW 251/252	NSM-33022	4/7/99	4/12/99	1998 Mod	4/13/99	UFSAR Change #98-130
Rod Emory	Table 5-11	same	Correct Core Flood - LP Injection Nozzles ID from 14" Schedule D to 12"	PIP 99-0022	4/6/99	4/8/99	Pre 1998 discrepancy	4/8/99	UFSAR Change #98-131

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Vance Bowman	6.2.2.2.7, 9.2.2.2.3, 9.4.6.2, Figs 6-3, 4 and 9- 12	Bowman/ Hawthorne/ Severance	Update descriptions to reflect returning Unit 1&2 RB Aux Coolers to service with new configuration. Also see Changes 98-11, 132	OP/1, 2 /A/1104/010	2/8/99	2/12/99	Pre 1998 discrepancy based on interim fix	4/13/99	UFSAR Change #98-132
Jeff Hekking	10.3.5.1, 10.4.6.6	Scott Manning	Reflect Powdex system normally treats 100% flow at 100% power. Also delete redundant info.	PIP 98-3962	4/12/99	4/12/99	Pre 1998 discrepancy	4/12/99	UFSAR Change #98-133
Mike Leighton	5.1.2.4, 5.2.3, 5.3.4, 5.4.6.2, 9.3.4.1	same	Change terms "hot and cold shutdown" to applicable mode in RCS sections. Better describe: leak detection, measures to avoid becoming water solid, and PZR code safety requirements. Indicate PT limit curves will change with increasing EFPY	License Amendment 300/300/300 Improved Tech Specs	4/12/99	4/28/99	ITS Implementatio n scheduled for 3/27/99	4/28/99	UFSAR Change #98-134
Sid Lewis	5.4.6.4.1	Mike Leighton	Correct text descriptions of vlv operators for 2,3RC-4	ONOE-9459, 10942	4/12/99	4/26/99	1998 Mods	4/26/99	UFSAR Change #98-135
Vance Bowman	Fig 9-11	same	Revise fig to show supply line to U1 &2 RB Component Coolers is downstream of LPSW-69 & 70. Also correct to show only 'A' LPSW line can supply RB Component Coolers.	ONOE-13152 & PIP 98-6025	3/20/99	4/6/99	Pre 1998 discrepancy	4/20/99	UFSAR Change #98-136
Matt Streibich	Table 6-16	same	Correct 1,2LP-17,18 vlv operators to SB-0-25	NSM-1762 & PIP 98-0064	2/15/99	4/14/99	Pre 1998 discrepancy	4/14/99	UFSAR Change #98-137
Phillip Thomas	8.2.1.3	Ron Beaver	Clarify the function of the 230 KV swyd "second circuit" in relation to LOCA.	PIPs 98-3896 & 3899	2/18/99	4/20/99	Pre 1998 discrepancy	4/20/99	UFSAR Change #98-138
VOID	See 98-78		duplicate of 98-78	ONOE-12611 & PIP 98-2791	4/14/99	4/19/99	Pre 1998 discrepancy	n/a	UFSAR Change #98-139 (Duplicate of 98-78)
Marlon Dempsey	7.6.1.1.8	same	Clarify trip fault/status detection, indication, and design bases	ONOE-13093	4/14/99	4/14/99	Pre 1998 discrepancy	4/20/99	UFSAR Change #98-140
Carol Naugle	15.11.2.1, 15.16.7	Karen Craig	Increase maximum internal fuel rod pressure in the SFP from 1200 to 1300 psig	License Amendment 301/301/301	4/12/99	4/21/99	NRC approved 3/26/99	4/21/99	UFSAR Change #98-141
Kevin Dye (DES)	Table 6-7, Fig 6-9	Jason Patterson	Correct RB penetration table and figure information to match as-built plant	Accuracy Review PIP 98- 4052	10/19/98		Pre 1998 discrepancy		UFSAR Change #98-142
Stan Hayes (GO)	4.4.4.2.2.	Lori Watrobski	Correct the BWC correlation Thermal Hydraulic Test conditions for the appropriate fuel type. See change 98-92	DPC-NE- 2003P-A, Rev 0, SER	1/6/99	4/27/99	Pre 1998 discrepancy	4/28/99	UFSAR Change #98-143

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Bill Rostron	7.6.1.2.3	same	Make consistent with section 15.13 to preclude any dependence on the OTSG level or ICS	PIP 98-3895	11/3/98	4/21/99	Pre 1998 discrepancy	4/21/99	UFSAR Change #98-144
Jim Randles	Table 7-5, 3-68	Rostron/Mc Coy	Replace Rosemount RTDs with WEED design	NSM-X2865	4/22/99	4/26/99	U3 Fall of 1998	4/26/99	UFSAR Change #98-145
Mo Salim	Figs 9-30, 34	same	Replace illegible figures with 11 X 17"	editorial - PIP 98-2055	4/22/99	4/22/99	Pre 1998 discrepancy	4/22/99	UFSAR Change #98-146
Bill Eister	15.16.5	same	Change H2 recombiner flow path surveillance test frequency from "refueling outage" to "18 months"	License Amendment 300/300/300 Improved Tech Specs	4/24/99	4/26/99	ITS Implementation 3/27/99	4/26/99	UFSAR Change #98-147
Bob Leatherwo	9.3.2.2.6	same	Clarify source of borated water available from BWST during "normal operation"	License Amendment 300/300/300 Improved Tech Specs	4/26/99	4/26/99	ITS Implementation 3/27/99	4/26/99	UFSAR Change #98-148
Terry Cribbe	13.1	Ed Price	Correct Station personnel qualification requirements (RP Mgr) to concur with ITS	License Amendment 300/300/300 Improved Tech Specs	4/27/99	4/27/99	ITS Implementation 3/27/99	4/28/99	UFSAR Change #98-149
Terry Cribbe	13.4.2.1	Rick Bond	Delete "as required by TS" from section on NSRB review	License Amendment 300/300/300 Improved Tech Specs	4/27/99	4/27/99	ITS Implementation 3/27/99	4/28/99	UFSAR Change #98-150
Bob Douglas	5.2.3.7, SLCs 16.5.2, 13, TS Bases 3.1.1, 3.4.12	Gamberg/ Leighton	Update for new RCS Pressure/Temperature Limit Curves for 26 EFYP	License Amendment 302/302/302 and 50.59	4/29/99	4/30/99	4/30/99	5/11/99	UFSAR Change #98-151
Stan Hayes (GO)	Tables 4-1.2	Steve Perrero	Include Mk-B8, B9 fuel	OSC-6979	4/27/99	4/29/99	Pre 1998 discrepancy	5/3/99	UFSAR Change #98-152
Terry Cribbe	4.3.4, 5, 7, 5.2.3.3.3, 6.3.2.6.3.4, 7.5.2.5, 12.4.7, 13.5.1.3.4, 15.11, 15, 16	Multiple	Revise references to "old" TS that were changed during ITS conversion. Also reference new SLC, bases, topical, etc.	License Amendment 300/300/300 Improved Tech Specs	4/29/99	5/10/99	ITS Implementation 3/27/99	5/10/99	UFSAR Change #98-153

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Terry Cribbe	Table 7-2	Bob Cornett	Changes NOTE * from setpoint to allowable value.	License Amendment 300/300/300 Improved Tech Specs	4/29/99	5/3/99	ITS Implementation on 3/27/99	5/3/99	UFSAR Change #98-154
Reene' Gambrell	3.8.1.5.4	Bob Hester	Add description of temp cover plate installed in emergency hatch during RFOs	License Amendment 303/303/303	4/29/99	5/4/99	Amendment dated 4/28/99	5/4/99	UFSAR Change #98-155
Jeff Rowell	Table 8-1	same	Table changed to reflect "required" ES power loads versus maximum or actual	PIP 98-3896	4/29/99	4/29/99	Pre 1998 discrepancy	5/3/99	UFSAR Change #98-156
Mitch McFarland	6.2.4.2, Figs 6-13, 14	Jason Patterson	Delete penetration material and figs duplicated in Chapter 3	Accuracy Review PIP 98-4052	5/3/99		Pre 1998 discrepancy		UFSAR Change #98-157
S.J. Hayes	4.4.2.1; 4.4.3.3.3; 4.5.2.2; & Table 4-2	S. Hayes/ Lori Walrobski	Editorial Changes & Changes to be consistent with DPC-2005P-A & DPC-2003P-A	Topical Report, DPC-NE_2005P	5/4/99	5/5/99	Amendment dated 2/24/95	5/5/99	UFSAR Change #98-158
Ron Harris	9.2.2.2.5	same	Indicate both SSW headers are normally in service such that a single failure of LPSW cannot cause a loss of safety function. Also see SLC 16.9.12	OSW related & PIP 98-5871	5/4/99	5/4/99	Pre 1998 discrepancy	5/4/99	UFSAR Change #98-159
R. Cornett	7.4.1.3 & Table 7-4	same	Revised data to reflect current purchase spec. & information for pwr range neutron detectors	PIP 98-3895 CA# 26	5/5/99	5/5/99	Pre 1998 discrepancy	5/5/99	UFSAR Change #98-160
Warren Sing	9.5.1.6.2	Harold Leftkowitz	Editorial - Correct reference to 9.5.1.4.3	PIP 98-2055	5/4/99	5/5/99	Pre 1998 discrepancy	5/5/99	UFSAR Change #98-161
Shane Klima(DE	10.3.4	R.S. Manning	Cross reference section 10.3.2 into section 10.3.4 (stop valves)	Accuracy review PIP 98-4062	7/16/98	5/5/99	Pre 1998 Discrepancy	5/5/99	USFAR Change #98-162
Mary Jo Littleton	11.2.1, 11.2.2.1, 11.6.3.2.1, 11.6.7.1, Tables 11-2,3,4,5,&6	same	Update the UFSAR Radwaste Sections to provide a more accurate and detailed description of existing information.	Accuracy Review PIP 98-5942 CA#29	4/29/99	4/29/99	Pre 1998 Discrepancy	5/6/99	UFSAR Change #98-163
Rick Stade	7.5.2.4, 7.5.2.39	Rostron/Dempsey	Clarify that startup, operate, and full range S/G level indications are not Reg Guide 1.97. Show that MFW flow indication corresponds to 0-111% design flow	Accuracy Review PIP 98-3895	5/10/99	5/10/99	Pre 1998 Discrepancy	5/11/99	UFSAR Change #98-164

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