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SUBJECT: "Summary of Nuclear Station Mods & Exempt Change Variation Notices Completed Under 10CFR50.59 for 1987."

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Oconee Nuclear Station

Summary of Nuclear Station Modifications and Exempt Change
Variation Notices Completed under 10CFR50.59

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ON-1001

DESCRIPTION: Failure of valve 3BS-2 in the Unit 3 reactor building spray system prompted this modification. Material specifications on the stems of valves BS-1 and BS-2 are changed by this modification.

SAFETY EVALUATION: Defective valve stems have been replaced by high strength valve stems. This enhances reliability of the valves and poses no unreviewed safety questions.

<u>STATUS:</u>	Unit 1	Unit 2	Unit 3	Station
	Complete	Complete	Complete	N/A

ON-1080

DESCRIPTION: This modification installs a cross connect line, tie-in line, and isolation valves in the High Pressure Injection system discharge lines. This change affects FSAR figures 6.0-1 and 9.3-2 as well as sections 6.3.2 and 9.3.2.

SAFETY EVALUATION: This modification eliminates the need for operator action outside the control room in the event of a small break LOCA. Thus, the margin of plant safety is improved. Malfunction of this modification will not create a new or different kind of accident from any accident previously evaluated.

<u>STATUS:</u>	Unit 1	Unit 2	Unit 3	Station
	Complete	Complete	Complete	N/A

ON-1282

DESCRIPTION: This modification routes piping to and from the Hydrogen Recombiner support pad. This piping is blind flanged until just after a LOCA at which time the recombiner is placed and bolted to its pad and supply and discharge piping is connected by flex hoses. This modification also adds flange connections for the Hydrogen Purge Cart. The compressed air for replenishment of the purged volume is piped directly to penetration 61. This change effects FSAR Section 15.16.

SAFETY EVALUATION: The purpose of this modification is to enable easy connection and operation of a portable Hydrogen Recombiner. This modification does not cause any safety related interactions with any other equipment and is an upgrade of the existing equipment. This modification does not pose any unreviewed safety questions.

<u>STATUS</u>	Unit 1	Unit 2	Unit 3	Station
	Complete	Complete	Complete	Complete

ON-1426

DESCRIPTION: This modification installs a dedicated fuse block for the load shed trip initiate coils in 4160 V switchgear TC, TD, and TE. It also installs a computer alarm relay to the dedicated fuse block and a power indication light on the switchgear cubicle.

SAFETY EVALUATION: This will allow each local load shed trip - initiate relay on the TC, TD, and TE switchgear to remain operational with the breaker cubicle in which it is located de-energized. Alarms will now indicate loss of switchgear control voltage, thus detailed surveillance will not be required. This modification will pose no unreviewed safety questions.

<u>STATUS:</u>	Unit 1	Unit 2	Unit 3	Station
	Complete	Complete	Complete	N/A

ON-1529

DESCRIPTION: An improved mechanical seal was installed on the low pressure injection pumps, high pressure injection pumps, reactor building spray pumps, and spent fuel cooling system pumps.

SAFETY EVALUATION: This seal is considered to be significantly more reliable than the seal it replaces; greater ease of installation and maintenance are additional advantages associated with the use of the seal. No unreviewed safety questions are created as a result of this modification.

<u>STATUS:</u>	Unit 1	Unit 2	Unit 3	Station
	Complete	Complete	Complete	N/A

ON-1845

DESCRIPTION: This modification provides for separate non load shed power supplies for low pressure injection system valves 3LP-12 and 3LP-14. This provides greater redundancy in the two LPI trains. Currently, a single failure would require personnel access to a radiologically inaccessible area to prevent LPI pump damage after a LOCA.

SAFETY EVALUATION: This modification ensures that loss of power to one valve does not lead to loss of power to the other valve. This improves reliability and safety and also satisfies FSAR design criteria discussed in Chapter 6. This modification does not pose any unreviewed safety questions.

<u>STATUS:</u>	Unit 1	Unit 2	Unit 3	Station
	N/A	N/A	Complete	N/A

ON-1922

DESCRIPTION: Valve operator upgrading was performed on motor operated valves 2FDW-372, -382 and 3FDW-372, 382 in the Emergency Feedwater System.

SAFETY EVALUATION: These modifications have been performed to prevent possible hammering problems associated with the valves. These changes will improve reliability of the valves. No unreviewed safety questions are judged to be created as a result of this modification.

<u>STATUS:</u>	Unit 1	Unit 2	Unit 3	Station
	N/A	Complete	Complete	N/A

ON-2088

DESCRIPTION: This modification replaces the case to cover studs on the Unit 3 reactor coolant pumps with studs where the chromium plating has been removed and Pepcoat G122 has been applied on an as needed basis. This modification fulfills a regulatory commitment (RO 287/81-2)

SAFETY EVALUATION: This modification will not adversely affect the operation of any safety related components and poses no unreviewed safety questions.

<u>STATUS:</u>	Unit 1	Unit 2	Unit 3	Station
	N/A	N/A	Complete	N/A

ON-2162

DESCRIPTION: This modification replaces existing high pressure injection system Lonegran relief valves HP-71 and HP-302 with new bellows type relief valves. In addition, inlet and outlet piping is rerouted and new expansion joints on the outlet side of each valve are installed. This replacement will correct boric acid leakage problems.

SAFETY EVALUATION: The replacement valve meets or exceeds the original design specification. No safety system will be degraded and no functional change will be made to any system as a result of this modification. No unreviewed safety questions are created as a result of this modification.

<u>STATUS:</u>	Unit 1	Unit 2	Unit 3	Station
	Complete	Complete	Complete	N/A

ON-2172

DESCRIPTION: The sight glasses used for oil level indication for the high pressure injection pump bearings were modified to aid operators in obtaining more accurate oil level information.

SAFETY EVALUATION: More reliable indications of pump bearing lubricant level will help to assure operability of the system. No unreviewed safety questions are posed by this modification.

<u>STATUS:</u>	Unit 1	Unit 2	Unit 3	Station
	Complete	Complete	Complete	N/A

ON-2174

DESCRIPTION: This modification revises Emergency Power Switching Logic (EPSL) to provide circuitry to automatically respond to a degraded power source that may cause cycling of the startup transformer 4kv breakers.

SAFETY EVALUATION: This modification will improve the ability of the EPSL to transfer away from a startup transformer power source which cannot carry connected Oconee loads at an acceptable steady state voltage level. No unreviewed safety question is created by implementation of this modification.

<u>STATUS:</u>	Unit 1	Unit 2	Unit 3	Station
	Complete	Incomplete	Complete	N/A

ON-2179

DESCRIPTION: This modification replaces Westinghouse Electric SV and SVS lightning surge arrestors of silicon carbide design with metal oxide arrestors. A total of 18 surge arrestors are replaced.

SAFETY EVALUATION: Previous arrestors were replaced due to failures in service and obsolete design. The new arrestors are of superior design. This modification does not alter the function of any system and will not affect the operation of any safety system. No unreviewed safety questions are posed by this modification.

<u>STATUS:</u>	Unit 1	Unit 2	Unit 3	Station
	Complete	Complete	Incomplete	Complete

ON-2180

DESCRIPTION: This modification upgrades portions of the operator aid computer in order to implement the safety parameter display system in response to NUREG 0737.

SAFETY EVALUATION: This modification is performed as a result of an NRC commitment. No safety system will be degraded by this modification. No unreviewed safety questions are created as a result of this modification.

<u>STATUS:</u>	Unit 1	Unit 2	Unit 3	Station
	Incomplete	Incomplete	Complete	N/A

ON-2320

DESCRIPTION: This modification replaces the pressurizer sample line outside containment isolation valve and operator (RC-7).

SAFETY EVALUATION: Replacement of RC-7 was required because the existing valve operator could not close against full reactor coolant system differential pressure. This modification does not pose any unreviewed safety questions.

<u>STATUS:</u>	Unit 1	Unit 2	Unit 3	Station
	Complete	N/A	N/A	N/A

ON-12414

ON-22414

ON-32414

DESCRIPTION: This modification will install a stainless steel door to restrict personnel access to the fuel transfer tube area.

SAFETY EVALUATION: In reference to IE Notice 82-51 this modification will reduce chances of serious overexposure to radiation in the area above the fuel transfer tubes. No safety system will be degraded, and no functional change will be made to any system as a result of this modification. No unreviewed safety question is judged to be created by this modification.

<u>STATUS:</u>	Unit 1	Unit 2	Unit 3	Station
	Complete	Complete	Complete	N/A

ON-12415

ON-22415

ON-32415

DESCRIPTION: This modification will install wire gates to restrict personnel access to areas containing incore detectors.

SAFETY EVALUATION: In reference to IE Notice 82-51 this modification will reduce chances of serious overexposure to radiation while incore detectors and wires are removed from the core. This modification does not pose any unreviewed safety questions.

<u>STATUS:</u>	Unit 1	Unit 2	Unit 3	Station
	Complete	Complete	Complete	N/A

ON-12453

ON-22453

ON-32453

DESCRIPTION: This modification adds pressure equalization valves and manual control to the existing atmospheric steam dump lines. This change affects FSAR Section 9.2.3.

SAFETY EVALUATION: This modification will facilitate achieving controlled cold shutdown in the event of a condenser vacuum loss. Manual globe valves are installed such that low pressure injection can be initiated within 12 hours of condenser vacuum loss. This modification poses no unreviewed safety questions.

<u>STATUS:</u>	Unit 1	Unit 2	Unit 3	Station
	Complete	Complete	Complete	N/A

ON-12454

ON-22454

ON-32454

DESCRIPTION: This modification will allow pressure to vent through a 1/4" hole on the upstream side of valve LP-1. Previously, valve LP-1 could possibly fail to open due to overpressurization of the bonnet. Pressure could be trapped between the wedges of the flex wedge and cause it to stick.

SAFETY EVALUATION: This modification prevents valve LP-1 from possibly failing to open due to overpressurization of the bonnet. The reliability of valve LP-1 will be improved, thus there are no unreviewed safety questions involved as a result of this modification.

<u>STATUS:</u>	Unit 1	Unit 2	Unit 3	Station
	Complete	Complete	Complete	N/A

ON-12462

ON-22462

ON-32462

DESCRIPTION: This modification provides an inspection hole in the B Steam Generator for sampling and inspection of deposits inside the Steam Generator. The inspection port is needed to determine the success or failure of the pulse or chemical cleaning method used to clean the deposits.

SAFETY EVALUATION: The inspection port installed by this modification is a standard handhole opening with a "J" bolted closure on the shroud opening. The inspection port provided by this modification is similar to 15 existing handhole closures on the steam generators. The new handhole opening will not affect the function of steam generator shell or the safe and reliable operation of the steam generator. This modification does not pose any unreviewed safety questions.

<u>STATUS:</u>	Unit 1	Unit 2	Unit 3	Station
	Complete	Complete	Incomplete	N/A

ON-12465

ON-22465

ON-32465

DESCRIPTION: This modification adds a tap between the isolation valve and expansion joint in the high level sensing line on the A and B Steam Generators for hook up of level instrumentation for pulse cleaning.

SAFETY EVALUATION: There exists redundant level instrumentation in the event of complete failure of either the valve or the weld involved in this modification. The volume of feedwater lost in the event of failure of the instrument tubing or valve would be minimal in comparison to the volume of feedwater entering the Steam Generator. Therefore, no unreviewed safety question exists.

<u>Status:</u>	Unit 1	Unit 2	Unit 3	Station
	Complete	Complete	Incomplete	N/A

ON-12487

ON-22487

ON-32487

DESCRIPTION: This modification replaces component cooling system gate valve CC-8 with a butterfly valve. This change affects FSAR figure 9.2.1.

SAFETY EVALUATION: The replacement valve meets or exceeds the original design specification. There are no unreviewed safety questions associated with this change.

<u>STATUS:</u>	Unit 1	Unit 2	Unit 3	Station
	Complete	Incomplete	Complete	N/A

ON-12492

ON-22492

ON-32492

DESCRIPTION: This modification involves pulling and reterminating new power cables with a higher current rating for valves BS-1 and BS-2.

SAFETY EVALUATION: For particular 230KV switchyard degraded grid voltage conditions and during an Engineered Safeguards actuation, the previous power cables for valves BS-1 and BS-2 could cause significant line losses in the form of voltage drops and prevent required operating power from reaching the valves. The new power cables are of sufficient current rating such that line losses would not prevent required operating power from reaching the valves. No safety system will be degraded, and no functional change will be made to any system as a result of this modification. No unreviewed safety question is judged to be created by or involved in this modification.

<u>STATUS:</u>	Unit 1	Unit 2	Unit 3	Station
	Complete	Complete	Complete	N/A

ON-12494

ON-22494

ON-32494

DESCRIPTION: Motorola Engineered Safeguards Wide Range Reactor Coolant Pressure Transmitters PT-21P, - 22P, - 23P were replaced with Rosemont Model # 1153GD9RB transmitters to conform to the Environmental Qualification Program.

SAFETY EVALUATION: These transmitters are needed to conform to the Environmental Qualification Program. This modification poses no unreviewed safety questions.

<u>STATUS:</u>	Unit 1	Unit 2	Unit 3	Station
	Complete	Complete	Complete	N/A

ON-12642

ON-22642

ON-32642

DESCRIPTION: This modification replaces component cooling system gate valve CC-7 with a soft seated butterfly valve. This change effects FSAR figure 9.2-1.

SAFETY EVALUATION: The replacement valve meets or exceeds the original design specification. There are no unreviewed safety questions associated with this change.

<u>STATUS:</u>	Unit 1	Unit 2	Unit 3	Station
	Complete	Incomplete	Complete	N/A

ON-12662

ON-22662

ON-32662

DESCRIPTION: This modification replaces steam traps SD-TP0031 and 0032 with 600 lb. traps. Previous traps were not rated at the 575 psig pressure that may accumulate during an abnormal event when the Emergency Feedwater (EFW) Pump turbine control valve MS-87 is fully open and MS-93 is closed.

SAFETY EVALUATION: The purpose of the portion of the main steam system that contains the steam trap is to drain condensate out of the EFW pump turbine steam supply line. Since the affected pipe and new traps can withstand the higher design pressure and the new trap weight is negligible, there is no increase in the probability or consequences of previously analyzed accidents. This modification has no adverse impact on the EFW system, as such no unreviewed safety questions are created.

<u>STATUS:</u>	Unit 1	Unit 2	Unit 3	Station
	Complete	Complete	Incomplete	N/A

ON-12667

ON-22667

ON-32667

DESCRIPTION: This modification reroutes cables for valve HP-4 through the West Penetration Room to the SSF. This modification is a result of an NRC Appendix R audit.

SAFETY EVALUATION: This modification assures that Appendix R shutdown train separation requirements are met. The power sources for the cables and the valve locations will not be changed. There are no unreviewed safety questions associated with this modification.

<u>STATUS:</u>	Unit 1	Unit 2	Unit 3	Station
	Complete	Incomplete	Complete	N/A

ON-12683

ON-22683 -

ON-32683

DESCRIPTION: This modification provides circuitry to automatically trip the main feedwater pumps on the loss of Integrated Control System (ICS) Hand or Auto power. Current procedures require a manual trip of the Main Feedwater pumps.

SAFETY EVALUATION: The effect of this modification will be to replace the manual operation with an automatic operation. This modification will eliminate the possibility of an overcooling or undercooling transient from occurring due to the loss of ICS Hand or Auto Power feeders. Thus, no unreviewed safety questions are judged to be created as a result of this modification.

<u>STATUS:</u>	Unit 1	Unit 2	Unit 3	Station
	Complete	Incomplete	Incomplete	N/A

ON-12685

ON-22685

ON-32685

DESCRIPTION: A reanalysis of the pressurizer spray line indicated that snubber supports on valve RC-1 may fail during a postulated operational earthquake. This modification removes both snubbers attached to RC-1 and adjusts one constant spring.

SAFETY EVALUATION: This modification will result in this portion of the Reactor Coolant System being more capable of withstanding design basis events. No unreviewed safety questions are judged to be created as a result of this modification.

<u>STATUS:</u>	Unit 1	Unit 2	Unit 3	Station
	Complete	Incomplete	Incomplete	N/A

ON-32734

DESCRIPTION: This modification provides High Pressure Service Water piping to the Auxiliary Building Cable Room of adequate size to provide the required flow to the sprinklers in the room. This modification replaces approximately 20 feet of 4 inch pipe with 6 inch pipe.

SAFETY EVALUATION: The HPSW system will not be degraded and reviews of previous stress analysis and supports will be performed. The cable room sprinklers will be able to perform their intended function, thus the consequences of a fire will be reduced. No unreviewed safety questions are created as a result of this modification.

<u>STATUS:</u>	Unit 1	Unit 2	Unit 3	Station
	N/A	N/A	Complete	N/A

OE-1454

DESCRIPTION: This exempt change replaces switch SW-7 that operates the SSF HVAC service water pumps 1 and 2 with two switches (one for each pump). Simultaneous operation of both pumps is allowed without requiring installation of jumpers.

SAFETY EVALUATION: The replacement of switch SW-7 with two switches simplifies simultaneous operation of both pumps without changing the way the system is used. No unreviewed safety questions are created as a result of this modification.

<u>STATUS:</u>	Unit 1	Unit 2	Unit 3	Station
	N/A	N/A	N/A	Complete

OPERATION WITH LAKE KEOWEE
HIGHER THAN 75 DEGREES F

The Oconee FSAR states in various data tables that a lake temperature of 75 degrees F was used for certain original equipment design and analysis. Recent studies have indicated and historical data has shown that 75 degrees F is not a conservative value.

A safety evaluation was performed to evaluate the overall effects of plant operation and accident analysis. The functional areas reviewed included mechanical systems, electrical systems, instrumentation and control, civil environmental design, stress analysis, support/restraint, environmental data, licensing and safety analysis. Compensatory actions have been implemented to justify operation with lake water temperature less than or equal to 85 degrees F. There are no unreviewed safety questions associated with plant operation with lake water temperature less than or equal to 85 degrees F.

Mark B Fuel Assembly

Reconstitutable Top Nozzle

The addition of the reconstitutable top nozzle to the Mark B fuel assemblies has no significant affect on structures, systems, and components addressed in the FSAR as shown in BAW-1532-5. As such, no unreviewed safety questions are created. While the reconstitutable top nozzle feature is not significant enough to require an FSAR revision, Section 4.2.2.1.1 has been revised to provide a greater level of detail on fuel assembly design.

Oconee Nuclear Station

Summary of Procedure Changes

Completed Under 10CFR50.59

OCONEE NUCLEAR STATION
Summary of Procedure Changes, Tests and
Experiments Completed Under 10CFR50.59 for 1987

TT/3/A/0900/001

This procedure involves verifying that LPI valves 3LP-21 and 3LP-22 do not automatically close when 3LP-19 (R. B. Emergency Sump Isolation - Line A) is opened. The test is not described in FSAR, however, LPI system operability will not be required when test is performed. Therefore, a description in the FSAR is not required. This procedure does not change the level of safety or increase the consequences of malfunctions as evaluated in the FSAR. Therefore, unresolved safety issue is judged not to exist.

PT/3/A/251/19

This procedure has been rewritten to delete the requirement to establish a RCS cooldown by use of the atmospheric dump valves and only serves to verify that the valves can be opened against normal system pressure. It does not change the level of safety or increase the consequences of malfunctions as evaluated in the FSAR. It does not change the margin of safety as determined in technical specifications.

PT/0/A/110/05C

Change #23, in Procedure PT/0/A/110/05C involves revision of the Unit 1 and 2 Spent Fuel Pool Exhaust Fans design flow. FSAR Table 9.4-1 "Ventilation System Major Component Data" lists the flow capacity of these fans as 12,400 cfm each, while the actual flow has been 14,500 cfm each.

This change in design flow does not affect the ability of the Spent Fuel Ventilation System to meet its intended function because the Reactor Building Purge Filter System is designed for greater than 14,500 cfm flows.

Therefore, unresolved safety issue does not exist.

TT/0/A/0128/06

This procedure describes extraction of one irradiated rod from fuel assemblies and placement of the rod in a control rod guide tube. Since this operation only involves movement of one rod at a time, it is bounded by FSAR Section 15 that assumes fuel assembly failure where 56 rods suffer mechanical damage. Therefore, an unresolved safety issue is judged not to exist.

PT/0/A/110/01

Change #15, in Procedure PT/0/A/110/01 involves increase in design flow of the Unit 1 and 2 Spent Fuel Pool Exhaust Fans from 12,400 cfm to 14,500 cfm, each. This change reflects the actuality, since the fans have operated at the higher flow rate from the beginning. It does not affect the ability of the Spent Fuel Ventilation System to meet its intended function because the Reactor Building Purge Filter System is designed for greater than 14,500 cfm flows. Therefore, an unresolved safety issue does not exist.

PT/3/A/230/18

Procedure PT/3/A/230/18 has been written to test HPSW flow to HPI Motor Cooler Backup Supply System. The test is performed during cold shutdown. It does not change the level of safety or increase the consequences of malfunctions as evaluated in the FSAR. It does not change the margin of safety determined in Tech. Spec.; therefore, an unreviewed safety question does not exist.

CP/O/B/2002/10

This procedure is used to inject hydrogen peroxide into reactor coolant system to accelerate the release of activated corrosion products from the system piping thus allowing for purification and reduction in radiation levels associated with maintenance of the system. The FSAR only provides for injection of boron, lithium hydroxide and hydrazine into the reactor coolant system. No additional impact on corrosion of the primary system has been identified by the use of hydrogen peroxide; therefore, an unreviewed safety question is judged not to exist.

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July 1, 1988

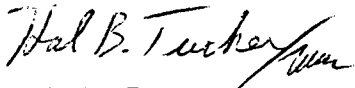
U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555

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

Gentlemen:

Please find attached a description of Oconee facility changes in the form of nuclear station modifications, exempt change variation notices, and procedure changes which were completed subject to the provisions of 10CFR 50.59 between January 1, 1987 and December 31, 1987. This report is submitted pursuant to the requirements of 10CFR 50.59(b).

Very truly yours,



Hal B. Tucker

PJN/190/jgm

Attachment

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