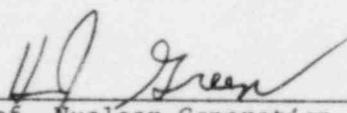


TENNESSEE VALLEY AUTHORITY  
Division of Power Production

ANNUAL OPERATING REPORT  
BROWNS FERRY NUCLEAR PLANT  
January 1, 1978 - December 31, 1978

Docket Numbers 50-259, 50-260 and 50-296  
License Numbers DPR-33, DPR-52 and DPR-68

Submitted by

  
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PLANT MODIFICATIONS SUMMARY  
January 1, 1978 - December 31, 1978

<u>Modification</u>	<u>Safety Evaluation</u>
ECN L2077 - High Pressure Coolant Injection - Units 2 and 3	<p>Modified the lift rod linkage in the control valve linkage assembly on the HPCI turbines of units 2 and 3. The ECN was completed.</p> <p>The modification reduced the bending loads on the lift rods to an acceptable level, thus increasing the reliability and availability of the HPCI turbine.</p>
P0056 - Primary Containment Electrical Penetrations - Unit 3	<p>Installed potting compound in electrical connectors in unit 3 on the drywell side of penetration. The ECN was completed.</p> <p>The addition of the potting compound helped to waterproof the connectors and increased their reliability.</p>
ECN's L2020, P0001 - Reactor Recirculation - Units 2 and 3	<p>Installed redundant recirculation pump trip breakers and logic on A and B reactor recirculation pumps. Performed inspection and post-modification testing on the reactor recirculation pump trip system. Both the ECN's were completed.</p> <p>The USQD stated that the "change was necessary to avoid or mitigate EOC derates and improve safety."</p>
DCR 1656 - Reactor Recirculation - Unit 3	<p>Installed a vertical restraint on a 1-inch sensing line coming off number 19 and 20 jet pump recirculation risers. The DCR was completed.</p> <p>The restraint eliminated a vibration problem and improved the reliability of the system.</p>
BF DCR CC#1 - Fuel Handling and Storage - Units 1 and 2	<p>Replaced up to 168 7 x 7 fuel assemblies with 8 x 8 fuel assemblies in units 1 and 2. The core component DCR was completed.</p> <p>The 8 x 8 fuel assemblies are interchangeable with the 7 x 7 fuel assemblies and will provide superior performance.</p>
ECN L1931 - Control Rod Drive - Units 2 and 3	<p>Installed piping to loop the south end of the control rod drive scram headers and piping and valves for flushing connections. The ECN was completed.</p> <p>The modification did not affect the ability of the control rod drive system to operate as designed. The design margin of safety was not reduced.</p>

Plant Modifications Summary

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<u>Modification</u>	<u>Safety Evaluation</u>
ECN L2031 - Feedwater - Unit 3	Installed additional supports for the X-29b instrument line in unit 3 drywell. The ECN was completed.  The modification increased the reliability of the associated reactor vessel level instrument in the case of a seismic event. The change did not affect any functional aspect of the instrument or system operation.
ECN L2086 - Main Steam - Unit 3	Replaced temperature recorder TR-1-1. The ECN was completed.  The modification did not affect the operation of the main steam relief valves. It improved the operator's ability to monitor the system.
ECN L1862 - Neutron Monitoring - Units 1, 2 and 3	Provided authorization for the use of the Square D type K switch as replacement part for existing GE neutron monitoring bypass switches 7A-S3, S4A, S4B, and 7B-S2, S3B, and S3A. The switch changeout will be performed as maintenance on an as-needed basis. All work covered by the ECN was approved to work as necessary.  The replacement switch equals or exceeds the requirements and specifications of the original switch which is no longer being manufactured.
ECN L1967 - Reactor Recirculation System - Units 2 1 3	Replaced existing recirculation flow transmitters FT-68-5A, 5B, 81A and 81B with Rosemont transmitters.  The Rosemont transmitter is an acceptable substitute for the existing transmitter that is no longer manufactured. The modification did not reduce the design margin of safety.
ECN L1957 - Automatic Depressurization - Unit 3	Installed an improved timer to replace the time delay function previously served by the CR2820 relays. The ECN was completed.  The modification improved the reliability of the automatic depressurization system.
ECN L1823 - Rod Sequence Control - Units 1, 2, and 3	Replaced PS-85-61A and 61B with electronic pressure transmitters and alarm switches. The ECN was completed.  The modification improved the reliability of the Rod Sequence Control System.

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<u>Modification</u>	<u>Safety Evaluation</u>
ECN P0166 - Neutron Monitoring - Unit 3	<p>Removed 4 neutron monitors installed between the shroud and RPV wall of unit 3 and stored them temporarily in the unit 3 fuel pool. The ECN was completed.</p> <p>The monitors had been installed as part of a test to measure the neutron flux in the core over a prescribed period of time. The testing has been completed by General Electric. The modification affected no safety-related function.</p>
ECN L1741 - High Pressure Coolant Injection - Unit 3	<p>Replaced temporary valve PCV-73-43T2 with permanent valve PCV-73-43. The ECN was completed.</p> <p>An overall gain in system availability was obtained. The margin of safety was not reduced.</p>
DCR 1250 - Main Steam - Units 2 and 3	<p>Replaced the existing EC pilot solenoid 250V coils with 270V coils on the main steam isolation valves. The DCR was completed.</p> <p>The modification should improve operational reliability. It will not affect the safety-related aspects of the main steam isolation valves.</p>
DCR CC #9 - Neutron Monitoring - Unit 3	<p>Changed LPRM detectors' assemblies; and performed pre- and post-installation testing on LPRM detectors. The (core component) DCR was completed.</p> <p>The core component design change had no effect on plant safety, performance, limits, or the design margin of safety.</p>
ECN L1911 - High Pressure Coolant Injection and Reactor Core Isolation Cooling - Units 1, 2, and 3	<p>Installed new higher wattage resistors in the power supply to the HPCI and the RCIC turbine speed control circuits. The ECN was completed.</p> <p>The modification increased the availability and reliability of both systems.</p>
DCR 1338 - Main Steam - Unit 3	<p>Installed improved diaphragms (P/N 200463 R1) in Target Rock relief valve air operators. The DCR was completed.</p> <p>This modification assured that the original operability, reliability, and service life of the main steam relief valve air operators can be maintained at least at their "as procured" levels.</p>

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<u>Modification</u>	<u>Safety Evaluation</u>
ECN L1990 - Control Rod Drive - Units 1 and 2	<p>Removed the control rod drive hydraulic return line reactor vessel nozzle safe end and replaced it with a cap. Rerouted the 4" control rod drive return line from the reactor pressure vessel to the reactor water cleanup system. Performed post-modification testing to access the system performance. The ECN was completed.</p> <p>Major components in the control rod drive system remained unchanged. Only the operating modes are slightly different due to the rerouting of the return line. The operating characteristics of the system are not changed with respect to accidents and transients.</p>
DCR 541 - RHR Service Water - Unit 3	<p>Relocated residual heat removal service water vent valves on top of residual heat removal heat exchanger to allow for easier heat exchanger head removal. The DCR was completed.</p> <p>The modification does not affect the function of the vents. It eliminates the cutting and rewelding of the heat exchanger vent lines each time the heat exchanger head has to be removed. It has no effect on design safety.</p>
DCR 1608 - Radioactive Waste Cask - Common	<p>Installed threaded bushings for low-level cask cover head bolts for radioactive waste cask BS-33-180. The DCR was completed.</p> <p>The modification restores the integrity of the cask and does not affect any other system or component.</p>
ECN P0115 - Fuel Handling and Storage - Unit 3	<p>Installed 13 base support plates in the unit 3 spent fuel pool. The ECN was not completed.</p> <p>The bases rest on the spent fuel pool floor liner without mechanical attachments. The addition of the bases does not affect the spent fuel racks under any design basis event.</p>
DCR 1152 - Neutron Monitoring - Units 1, 2 and 3	<p>Replaced carbon resistors R6 and R7 with metal film resistors of equal value. The DCR was completed.</p> <p>Implementation of this modification helped to improve the reliability of the Intermediate Range Monitor system input to the reactor protection system. The design margin of safety was not reduced.</p>
ECN P0124 - Feedwater - Units 1, 2, and 3	<p>Changed setpoints for the following: LIS-3-56 (A-D) Contacts 1 and 2 from 490" to 470"; LIS-3-58 (A, C) Contacts 3 and 4 from 490" to 470"; LITS-3-58 (A, D) Contacts 3 and 4 from 490" to 470". The ECN was completed.</p>

Plant Modifications Summary

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<u>Modification</u>	<u>Safety Evaluation</u>
ECN P0124 (Continued)	NRC review and approval of this Technical Specification change and its justification as based upon an analysis by General Electric verified that there was no resultant adverse effect on safety.
DCR 1564 - Condenser Circulating Water - Common	Removed the high temperature trips from the 4-kV switchgear for units B and D. The DCR was completed.  This modification is an interim fix until ECN L2057 can be implemented.
ECN P0081 - AC Auxiliary Power - Unit 3	Changed the alternate power supply for 4-kV unit boards 3A, 3B, and 3C to cooling tower transformers "A" and "B" (cooling tower switchgears "B" and "D"). The ECN was completed.  Changing the alternate power supply reduced the load on the common station service transformer and provided improved stability in the voltage levels at the safety-related equipment.
ECN P0064 - Primary Containment Electrical Penetrations - Unit 3	Installed potting compound in safety-related electrical connectors on the drywell side of penetrations EA, EB, EC, EE, and EF in unit 3. The ECN was not completed.  Potting these connectors improved their reliability and did not jeopardize or degrade the integrity of the associated circuits.
P0074 - Reactor Recirculation Unit 2	The modification added a flange connection to the Grinnell Snubbers on the Reactor Recirculation System which have the 4" double extra heavy pipe welded directly to snubber cylinder. The ECN was completed.  The change was made to aid in the inspection and maintenance requirements and did not alter the operating characteristics or the reliability of the snubbers.

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<u>Modification</u>	<u>Safety Evaluation</u>
ECN L1443 - Primary Containment Cooling - Unit 2	<p>Increased the blower blade angle of all ten unit 2 drywell cooling fans to 40°. The ECN was completed.</p> <p>Increasing the fan blade pitch angle provided more air flow to cool the drywell. The probability of an accident or safety-related equipment malfunction was not affected.</p>
ECN P0108 - Primary Containment Cooling - Unit 2	<p>Determined the air flow rate for drywell fans subsequent to changing the fan blade angle to 40°. The ECN was completed.</p> <p>This ECN was the post-modification testing for the work performed on ECN L1443. The test results were satisfactory.</p>
ECN P0072 - Battery Boards - Common	<p>Replaced GE type CLF Class J fuses with Shawmut Class J fuses in 250V DC circuits in Battery Boards 2, 3, and 4. The ECN was not completed.</p> <p>The original fuses were rated for AC operation only. The replacement fuses are rated for operation on up to 280V volts DC. The probability of an accident or equipment malfunction important to safety was decreased.</p>
ECN P0105 - Main Steam - Unit 2	<p>RV70A (TVA 1-501) discharge was reoriented from 30° southeast of azimuth 82°15' to 30° northeast of azimuth 82°15'. The ECN was completed.</p> <p>The orientation of RV70A's discharge in no way affects safety valve operability.</p>
ECN P0110 - Containment Atmospheric Monitoring - Unit 1	<p>Added an isolation amplifier between oxygen sensor O<sub>2</sub>E-76-42 and input amplifier O<sub>2</sub>M-76-42. New sensor O<sub>2</sub>E-76-42 was installed. The ECN was completed.</p> <p>The addition of the amplifier prolonged the life of the sensor and did not reduce the accuracy or reliability of the instrument.</p>
ECN P0017 - Containment Atmospheric Monitoring - Unit 2	<p>Installed conduit and pulled cable to provide alternate H<sub>2</sub> sensors in unit 2 drywell and torus. The ECN was completed.</p> <p>The probability or consequences of an accident or safety equipment malfunction was not increased.</p>

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<u>Modification</u>	<u>Safety Evaluation</u>
ECN L1946 - Containment Atmosphere Dilution - Unit 2	<p>Installed two one-half inch vent lines with a double valve on each line in the unit 2 containment atmosphere dilution system. The ECN was completed.</p> <p>This modification was necessary to enable a required integrated leak rate test to be conducted. It did not affect the design safety margin.</p>
ECN L1728 - Reactor Building Ventilation - Unit 1	<p>Replaced the 2B shutdown board room emergency supply fan motor. The ECN was completed.</p> <p>The modification did not change the mode of operation or the availability of the electrical board room ventilation equipment.</p>
ECN L2073 - Reactor Building Structure - Unit 2	<p>Cut a penetration and installed 4" diameter pipe stud with internal and external isolation valves to ensure proper containment isolation. The pipe carries air and water for a unit 2 torus modification. The ECN was not completed.</p> <p>The modification did not violate secondary containment. The use of the sleeve is necessary to allow modifications and maintenance work required to ensure safe operation of the plant.</p>
ECN L8021 - Standby Gas Treatment - Common	<p>Installed the internal wiring to provide low flow alarm circuitry for standby gas treatment blower "C". The ECN was completed.</p> <p>This modification did not increase the possibility of an equipment malfunction. It provided the operator with a standby gas treatment train "C" low flow annunciation.</p>
ECN P0088 - 161-kV Switchyard - Common	<p>Added 161-kV capacitor banks, auxiliary relay system and controls to the Athens 161-kV line to improve voltage stability. The ECN was completed.</p> <p>The change improved the margin of safety by improving the voltage stability and reliability of the offsite power supply.</p>

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<u>Modification</u>	<u>Safety Evaluation</u>
ECN P0065 - Primary Containment - Unit 3	<p>Spliced conductors around connector J3 both inside and outside primary containment for TE-64-52A and TE-64-52C on electrical penetration CB. The ECN was completed.</p> <p>Implementation of the ECN did not increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the FSAR or create a different type than previously evaluated.</p>
P0047 - Fire Protection Systems - Common	<p>Modified the initiation circuits for the sprinkler and CO<sub>2</sub> fire protection systems in spreading rooms A and B to make sprinklers the automatic primary system and the CO<sub>2</sub> the manual backup system. The ECN was completed.</p> <p>This change allows for greater personnel safety. The high pressure water fire protection system is at least as reliable as the CO<sub>2</sub> system. The CO<sub>2</sub> fire protection system remains operable. The design safety margin was not reduced.</p>
ECN L2124 - Condensate Storage and Supply - Unit 2	<p>Removed a Y-connection and installed a blind flange on the condensate storage and supply header 20-inch line and new piping on the 24-inch line. The ECN was not completed.</p> <p>The probability of a pipe break is greatly reduced and, thus, system reliability is enhanced. The modification improved the integrity of the piping inside the reactor building.</p>
ECN L1824 - CO <sub>2</sub> Fire Protection - Unit 3	<p>Replaced the 2-minute timer with a 4-minute timer for the CO<sub>2</sub> fire protection system. The ECN was completed.</p> <p>The new timer in no way reduced the availability of the CO<sub>2</sub> system nor did it change the minimum storage tank requirements. The design margin of safety was not reduced.</p>
ECN's L1070, P0102 - Reactor Pressure Vessel - Unit 2	<p>Installed piping to vent the reactor pressure vessel when it is completely filled with water. Removed check valve 10-518 from the reactor pressure vessel drain vent line to facilitate containment integrated leak rate test venting in and out of reactor pressure vessel. The ECN's were completed.</p> <p>The probability of occurrence or the consequences of an accident or malfunction of equipment important to safety are not increased by implementation of these ECN's.</p>

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<u>Modification</u>	<u>Safety Evaluation</u>
BF DCR CC #7 - Fuel Handling Storage and Supply - Unit 2	<p>Machined two holes in the lower tie plate of each type 2 and type 3 fuel assembly. The core component DCR was completed.</p> <p>This modification helps reduce the flow-induced vibration of the core internals. Consequently, the fuel channel corner wear will be reduced. The design safety margin is not reduced.</p>
ECN L1991 - Reactor Building Ventilation - Units 1 and 2	<p>Revised the supply and distribution ventilation duct system for the main steam vault to improve the air flow; thus, reducing the operating temperature of the vault. The ECN was not completed.</p> <p>The modification greatly reduced the possibility of spurious MSIV closure due to high temperatures caused by poor ventilation. The design safety margin was not reduced.</p>
ECN L1805 - Control Bay Heating, Ventilation and Air Conditioning - Unit 3	<p>Added three-way valves to the control bay chilled water system. The ECN was completed.</p> <p>The change from two-way valves to three-way valves increased the reliability of chiller operation so that system reliability is increased.</p>
ECN's L1701, L1763 - Standby Liquid Control - Unit 2	<p>Modified the trip circuit on standby liquid control pumps 2A and 2B to remove load shedding logic. The ECN was completed.</p> <p>The modification assured compliance with the Final Safety Analysis Report and did not introduce any new potential failure modes to the standby liquid control system.</p>
DCR CC #8 - Neutron Monitoring - Unit 2	<p>Changed local power range monitor detector assemblies; installed new signal cable connectors; and, performed post-installation testing on the local power range monitor detectors. The core component DCR was completed.</p> <p>The core component design change did not involve a change in any local power range monitor design specification. The design margin of safety was not reduced.</p>

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<u>Modification</u>	<u>Safety Evaluation</u>
DCR CC #6 - Fuel Handling and Storage - Common	<p>Modified a single blade guide to act as a transfer and storage container for the neutron source holder. The core component DCR was completed.</p> <p>The modification had no adverse effect on core reactivity and no effect on the ability to perform functional and subcritical checks on control rods.</p>
ECN LM623 - Radiation Monitoring - Units 1 and 2	<p>This modification was in accordance with GE-FDDR ER1-418 and provided inputs to the radiation release rate monitoring system computer panel to indicate the stack gas detector mode of operation. The ECN was not completed.</p> <p>The modification did not reduce the margin of safety as defined in the basis for any technical specification.</p>
ECN L1949 - Control Rod Drive - Unit 3	<p>Replaced PdT-85-17 and 18 with Rosemont transmitters. The ECN was completed.</p> <p>The previously used transmitters were obsolete and parts were no longer available. Their replacement did not increase the probability or consequences of an accident or safety equipment malfunction.</p>
ECN L1992 - Reactor Building Ventilation - Unit 1	<p>Reworked the exhaust duct divisions at P-R5, elevation 621 and plastered over the removable concrete blocks at the south wall of the heat exchanger room, the west wall of the reactor water cleanup pump room 1A and the east wall of the reactor cleanup pump room 1B. The ECN was not completed.</p> <p>A small portion of the work was accomplished to help resolve the overheating problem in the reactor water cleanup pump rooms. The ventilation was not adversely affected; and, when completed, the modification will bring actual flow rates into agreement with the designed flow.</p>
ECN P0034 - Fuel Handling and Storage - Unit 3	<p>Removed all spent fuel storage racks, control rod racks and associated bracing south of the refueling slot excepting the fuel rack centered on the west end of the refueling slot. The ECN was completed.</p> <p>Seismic qualification is retained for the remaining racks. The criticality margin of stored new or spent fuel is not increased.</p>

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<u>Modification</u>	<u>Safety Evaluation</u>
ECN L1854 - CO <sub>2</sub> Fire Protection - Common	Performed post-modification testing of fire protection panels 25-328 and 329 which monitor fire protection detectors in the housekeeping areas of elevation 617' and in the elevation 606' mechanical equipment room. Initiated the preaction sprinkler stations (2 each) supplying the elevation 617' housekeeping areas. The ECN was completed.  Only the testing of the equipment was accomplished here. The total modification improved the ability of the fire protection system to protect safety-related equipment.
ECN L1809 - Fire Protection - Common	Added chain wheel operators to existing fire protection valves in areas not easily accessible in units 1, 2, and 3 of the reactor building. The ECN was not completed.  This modification allows more convenient and safer operation of the valves.
ECN L1976 - Fire Protection - Common	Installed pressure-restricting devices on 1-1/2" fire hose racks and hose reel outlets. Verified proper pressure settings. The ECN was completed.  The change implemented a commitment to the Nuclear Regulatory Commission to limit the pressure in the hose to a maximum of 75 psig so that non-expert non-fire department personnel can effectively handle the hose.
ECN L1978 - Fire Protection - Common	Installed a sprinkler system and its associated control equipment in all three units of the turbine building, elevation 586'; and the battery and battery board rooms, elevation 593'. Energized the equipment and performed post-modification testing. The ECN was completed.  The modification was necessary to meet a commitment to the Nuclear Regulatory Commission. The probability or consequences of an accident to safety-related equipment are not increased.
ECN L2084 - High Pressure Fire Protection - Common	Enlarged the size of the existing drains in cable spreading rooms A and B to accommodate the design drainage load following actuation of the spreading room sprinkler system. The ECN was completed.  The addition of greater drain capacity helps assure that the use of the high-pressure fire protection system in the spreading rooms will not result in damage to safety-related equipment.

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<u>Modification</u>	<u>Safety Evaluation</u>
ECN L2051 - Main Steam - Units 1 and 2	<p>Modified the main steam safety/relief valves by enlarging the throat diameters to 5.125" plus 0.005" minus 0.000"; installing new seat rings and discs; and changing out the piston on all stems with acme threads. The ECN was completed.</p> <p>The implementation of the ECN did not increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the Safety Analysis Report.</p>
ECN L1973 - Main Steam - Unit 1	<p>Installed two rams heads with supports and tailpipe into the unit 1 torus. The ECN was completed.</p> <p>The modifications were limited to the physical installation of the piping and supports. No physical tie-in or interaction with any system was implemented by this ECN.</p>
ECN L1730A - Postulated Pipe Breaks Outside Containment - Unit 1	<p>Installed a 22" sleeve and hanger around 18" residual heat removal containment spray piping. The ECN was completed.</p> <p>The addition of the sleeve and hanger had no effect on the safe operation of the plant and the margin of safety during a rupture of the residual heat removal system piping was improved.</p>
ECN L9073 - Standby Diesel Generator - Units 1, 2, and 3	<p>Installed the logic required to shut down the diesel generator battery exhaust fans upon receipt of a CO<sub>2</sub> discharge actuation signal. The ECN was completed.</p> <p>The modification did not increase the probability of an accident or safety-related equipment malfunction.</p>
ECN L1977 - Fire Protection - Common	<p>Modified the spreading rooms sprinkler stations by converting the manual supply valves to remote operated solenoid valves. The ECN was completed.</p> <p>The replacement of the manual valves is necessary to meet a commitment in Supplement 2 of the Nuclear Regulatory Commission Safety Evaluation Report. The probability or consequence of an accident or safety equipment malfunction is not increased.</p>

Plant Modifications Summary

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<u>Modification</u>	<u>Safety Evaluation</u>
ECN L1451 - Associated Electrical System - Unit 1	<p>Wired spare primary containment isolation system relay contacts in panels 9-15 and 9-17 to provide an input to the sequential events recorder. Added cables and a sequential recorder card. The ECN was completed.</p> <p>The modification did not affect any safety consideration. The possibility of a malfunction or accident is not increased.</p>
ECN LM200 - Core Spray - Unit 3	<p>Install two polished sodium chloride (chromate) pumps and associated pressure sensing lines. The ECN was not completed.</p> <p>The two new pumps are redundant and have separate power supplies. The possibility for a different type of accident or malfunction is not created. The design safety margin was not reduced.</p>
ECN L1663 - Reactor Recirculation - Unit 1	<p>Added a support for the X-28 reactor water level instrument pipe in the unit 1 well. The ECN was completed.</p> <p>The addition of the support did not affect the operation or function of the associated instrumentation.</p>
ECN's L2064 and L1496 - RHR Service Water - Unit 1	<p>Removed the valve discs from valves FCV-23-34, -40, -46, and -52 and replaced them with V-notch discs. The valve seats were also replaced. The ECN was completed.</p> <p>The modification did not affect the design function of the valves; however, it did help the valves operate more reliably and without chatter in a high discharge pressure environment.</p>
DCR CC #5 - Neutron Monitoring - Unit 1	<p>Changed the local power range monitor detector assemblies, installed new signal cable connectors and performed post installation testing. The core component DCR was completed for unit 1.</p> <p>The new detectors meet the same design specifications as those which they replaced. The change had no effect on plant performance, limits, or the design safety margin as defined by the operating license.</p>

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<u>Modification</u>	<u>Safety Evaluation</u>
ECN L2072 - Feedwater - Unit 1	<p>Installed new feedwater spargers with new single ring nozzles. Machined safe-ends to remove cladding so that they would accept the new nozzles. The ECN was completed.</p> <p>Implementing the ECN did not create the possibility for an accident or for a malfunction of a different type than evaluated previously in the FSAR.</p>
DCR CC #2 - Fuel Handling and Storage - Unit 1	<p>Machined two bypass flow holes in the lower tie plate of each type 2 and type 3 fuel assembly. This was part of the corrective action for incore instrument tube vibration problems. The core component DCR was completed.</p> <p>The margin of safety as defined in the Cycle 2 Technical Specifications was not reduced by this modification. It was extensively evaluated by NRC prior to the work being accomplished.</p>
DCR CC #4 - Nuclear Boiler Reactor - Units 1, 2, and 3	<p>Removed the neutron source holders from the reactor pressure vessel. The core component DCR was completed.</p> <p>The minimum source range monitor count of three counts per second was maintained as required. There was no adverse effect on the safety analysis for any of the units.</p>
ECN L1984 - Fire Protection System - Common	<p>Made a 4" tie-in to the 8" fire protection header and blanked the tie-in line with a 4" isolation valve. The ECN was not completed.</p> <p>The probability of an accident or safety-related equipment malfunction was not increased.</p>
ECN L2007 - Control Rod Drive - Unit 2	<p>Isolated the CRD 4" return line to the reactor pressure vessel and performed testing to assess CRD system performance. The ECN was completed.</p> <p>Major components of the CRD system remain unchanged. The operating characteristics of the system relating to accidents and transients are not changed. The margin of safety was not reduced.</p>