

Alabama Power Company
40 Inverness Center Parkway
Post Office Box 1295
Birmingham, Alabama 35201
Telephone 205 868-5581

W. G. Hairston, III
Senior Vice President
Nuclear Operations



Alabama Power
the southern electric system

March 22, 1990

10CFR50.59

Docket No. 50-348

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

Gentlemen:

Joseph M. Farley Nuclear Plant - Unit 1
10CFR50.59 Annual Report

Attached for your review is the annual report required by 10CFR50.59 for 1989. This report summarizes changes to the plant performed in accordance with the provisions of 10CFR50.59 for Joseph M. Farley Nuclear Plant Unit 1.

If you have any questions, please advise.

Respectfully submitted,

W. G. Hairston, III

WGH,III/DRC:md 13.23

Attachment

cc: Mr. S. D. Ebnetter
Mr. E. A. Reeves
Mr. G. F. Maxwell

9003300191 891231
FDR ADOCK 05000348
R FDC

LE47
11

ALABAMA POWER COMPANY

JOSEPH M. FARLEY NUCLEAR PLANT

UNIT 1 - ANNUAL REPORT

REQUIRED BY 10CFR50.59

Section 50.59 of Part 50, Licensing of Production and Utilization Facilities, of the regulations of the United States Nuclear Regulatory Commission, states that the holder of a license authorizing operation of a production or utilization facility may (1) make changes in the facility as described in the safety analysis report, and (2) make changes in the procedures as described in the safety analysis report, and (3) conduct tests or experiments not described in the safety analysis report, without prior commission approval, unless the proposed change, test or experiment involves a change in the technical specifications incorporated in the license or an unreviewed safety question (as defined in 10CFR50.59).

The licensee is required to maintain records of such changes, tests or experiments, and those records are required to include written safety evaluations which provide the basis for the determination that the changes, tests or experiments do not involve any unreviewed safety questions.

Brief descriptions and a summary of the safety evaluations of the changes, tests or experiments as described above, for the Joseph M. Farley Nuclear Plant Unit 1 which were completed in 1989, are provided in the following.

Subject: ADIF 88-46

Description: Revised FSAR Section 8.3.2.1.5 to more accurately reflect the testing actually performed on safety related batteries that are purchased for use at FNP. Safety related battery test requirements for batteries in service at FNP include both a performance test and a service test.

Safety Evaluation: This change corrects an existing error and clarifies that both tests are required. This does not change the FNP battery testing program.

PORC Review: PORC Meeting 2028, 6/20/89

Subject: ADIF 88-72

Description: Added a discussion of the updated main steam valve room (MSVR) high energy line break analysis to FSAR Appendix 3J. Also, redundant information already in Appendix 3J was deleted.

Safety Evaluation: A full spectrum of main steam line break sizes has been analyzed to determine the MSVR temperature and pressure response. The new MSVR temperature and pressure analysis combined with peak surface temperature calculations verifies that existing safety related equipment located in the MSVR can be expected to perform its intended function under postulated accident conditions.

PORC Review: PORC Meeting 2022, 6/8/89

Subject: ADIF 88-73

Description: Changed FSAR Section 4.2 to reflect the fact that the combined loadings (seismic and LOCA) on the fuel are less than the Inconel grid crush strength, whether original or reduced. This became a concern when testing demonstrated a reduction in fuel grid crush strength for Inconel grids, as compared to tests performed in 1978. Recent Westinghouse testing indicated that the grid strength for Inconel grids is 20% lower than the 1978 value. The reduction in strength has been attributed to various changes made in the brazing process.

Safety Evaluation: The grid crush strength remains larger than the combined seismic and LOCA loads. Also, there is no additional fuel damage for any analyzed accident or any impact on shipping loads. Therefore, the conclusions of the FSAR remain valid and no decrease in safety margin occurs.

PORC Review: PORC Meeting 1973, 3/2/89

Subject: ADIF 88-81

Description: Revised FSAR Appendix 9B to address the fire resistance of the boundaries of fire areas 1-34 (Unit 1) and 2-34 (Unit 2). Each of the fire areas consists of two rooms and two 18 inch stainless steel ducts which are encased in concrete and connect the rooms. At FNP, fire areas are to be bounded by three hour fire barriers. Barriers of less fire resistance must be documented and approved. However, the fire resistance afforded by the concrete is not addressed in the FSAR.

Safety Evaluation: The minimum thickness of concrete covering the ducts is 18 inches. According to the Southern Building Code, this thickness of concrete of the type utilized at that location provides at least a three hour fire resistance. Therefore, the ducts as well as the remainder of the boundaries of fire areas 1-34 and 2-34 possess the required three hour fire rating and meet all fire resistance requirements.

PORC Review: PORC Meeting 2024, 6/13/89

Subject: ADIF 88-87

Description: Updated FSAR Table 3.11-1 to provide revised and additional Auxiliary Building radiation dose values. Also, the parameter for relative humidity during the post-accident condition in the Auxiliary Building area was revised from 100% to 50%. Other changes provided administrative corrections only to FSAR Section 6.2.

Safety Evaluation: The change to the parameter for relative humidity was based on the determination that none of the Auxiliary Building areas except the main steam valve room experience increased temperature, pressure or relative humidity following a LOCA or MSLB. Thus, the post-accident relative humidity is equal to the normal value (50%).

The revised radiation doses are based on specific calculations. The calculated radiation doses are less than the qualified radiation dose values for the safety related components in the area.

PORC Review: PORC Meeting 2024, 6/13/89

Subject: ADIF 88-100

Description: Revised the primary coolant hydrogen concentration values stated in FSAR Paragraph 9.3.4.1.2.2.2 to be consistent with those stated in table 5.2-22. Table 5.2-22 specified a range of 25-50 cc (STP)/Kg H₂O while paragraph 9.3.4.1.2.2.2 specified 25-35 cc (STP)/Kg H₂O. Also, an editorial change was made to the table and paragraph to identify the hydrogen concentration as being applicable for "power operation". This change makes the FSAR consistent with the terminology of WCAP-7452.

Safety Evaluation: A review of the Westinghouse specification for primary coolant hydrogen concentration verified the range shown in table 5.2-22 to be correct. Thus, this is an administrative change to ensure consistency within the FSAR.

PORC Review: PORC Meeting 2024, 6/13/89

Subject: ADIF 88-101

Description: Changed FSAR Paragraph 5.2.2.4.4 to make the discussion of ECCS blocking controls consistent with the logic shown on figures 7.2-6, 7.2-7, 7.2-8 and 7.3-1.

Safety Evaluation: This text change serves only to make the discussion of ECCS actuation blocks in Chapter 5 consistent with the logic shown on the referenced FSAR Figures. Therefore, this text change does not affect the operation of any safety related system or affect safe shutdown of the plant.

PORC Review: PORC Meeting 2024, 6/13/89

Subject: ADIF 88-125

Description: Deleted a statement in FSAR Section 6.5.2.1 which referred to "... a nonreturn valve" in the piping between the auxiliary feedwater pumps and the service water system. There is not a nonreturn valve installed in the service water to auxiliary feedwater pump piping. A review of drawings indicated that the design of the plant never included nonreturn valves in these lines. Deleting the reference to these valves will correct the FSAR to be consistent with the design intent and with as-built conditions.

Safety Evaluation: There is no need for the referenced nonreturn valves. Two normally closed motor operated valves in this piping provide adequate isolation. The absence of the nonreturn valves between the service water and the auxiliary feedwater system and the deletion of the phrase in the FSAR stating that these valves are installed will not result in an unreviewed safety question.

PORC Review: PORC Meeting 1997, 4/25/89

Subject: ADIF 88-132

Description: Changed FSAR Section 6A.1.1 to refer to figures 6.2-1 through 6.2-41 rather than 6.2-1 through 6.2-46. Also, this safety evaluation changed section 6A.1.1 to indicate that one, not two, containment air cooling (CAC) fan is assumed to be operating following an accident.

Safety Evaluation: Figures 6.2-42 through 6.2-46 do not display CTMT post-accident pressure and temperature values, as was stated in section 6A.1.1. This change is administrative and does not affect plant design or accident analyses.

The containment design basis accident analysis assumes that only the minimum complement of ESF equipment is operating. Therefore, it can be concluded that only one CAC fan should be operating. Also, another FSAR section pertaining to this analysis clearly assumes that only one CAC fan is operating.

PORC Review: PORC Meeting 2023, 6/9/89

Subject: ADIF 88-134

Description: Deleted the reference to the pH monitoring system from FSAR Section 10.4.8. This section had stated that a pH alarm is used to signal exhaustion of the steam generator blowdown (SGBD) demineralizer resin.

Safety Evaluation: FNP performs a periodic sample analysis which provides a better means of detecting resin bed exhaustion than the pH monitoring system which is referenced in the FSAR. Also, failure of this portion of the SGBD system will not degrade the performance of any safety related equipment or affect the safe shutdown capability of the plant.

PORC Review: PORC Meeting 2023, 6/9/89

Subject: ADIF 88-136

Description: Changed FSAR Section 7.6.2.1 to match the residual heat removal (RHR) loop suction isolation valves with the correct train. This section of the FSAR had incorrectly specified which loop suction isolation valves were associated with each train.

Safety Evaluation: This change is administrative only. It serves to make the FSAR internally consistent in its description of the RHR system valve configuration.

PORC Review: PORC Meeting 2023, 6/9/89

Subject: ADIF 88-138

Description: Revised the closure times for several valves listed in FSAR Tables 6.2-31 and 6.2-32.

Safety Evaluation: Each affected valve was analyzed by the design organization and the requirements applicable to each valve were determined. The revised valve closure times stated in the FSAR reflect the minimum response time required by: (1) the accident analysis bases, (2) the guidance given in the Standard Review Plan (NUREG-0800), and (3) the requirements of Technical Specifications.

PORC Review: PORC Meeting 2028, 6/20/89

Subject: ADIF 88-139

Description: Corrected two inconsistencies in FSAR Figure 12.1-2. This figure had indicated that radiation monitor RE-1 (control room area monitor) provided a signal to close the control room air intake on a high radiation signal; however, RE-1 provides indication and alarm only. Channels RE-35A and RE-35B provide the signal for control room isolation on high radiation (in the fresh air intake). Figure 12.1-2 had also indicated that there is a computer input from radiation monitor RE-1B (Technical Support Center area monitor); however, RE-1B does not provide a computer input.

Safety Evaluation: These deletions make the FSAR internally consistent in its discussion of the radiation monitoring system. No change is being made to the design of the plant. Other FSAR sections discuss the radiation monitors that provide alarms to the control room and isolate the control room air intake in high radiation conditions. Instrumentation to display area radiation monitor readings is provided independently of the plant computer.

PORC Review: PORC Meeting 2014, 5/18/89

Subject: ADIF 88-141

Description: Revised FSAR Paragraph 5.5.11.1 to restore internal consistency to the description of the pressurizer relief tank (PRT). Although paragraph 5.5.11.1 refers to the correct design basis for the PRT (i.e., "absorb...a discharge of steam equal to 110 percent of the volume above the full power pressurizer water level setpoint"), the reference to a 10 percent step load decrease as the initiating event is incorrect. Therefore, the reference to the 10 percent step load decrease was deleted.

Safety Evaluation: This change makes the FSAR internally consistent. No change is being made to the design basis of the PRT. The initiating event is a loss of load without turbine trip. There is no change to equipment installed in the plant.

PORC Review: PORC Meeting 2028, 6/20/89

Subject: ADIF 88-144

Description: Revised the discussion of fire breaks in the FSAR to note that fire breaks are not required to be installed to meet current requirements. FSAR Appendix 9B had stated that fire breaks had been installed and that the fire breaks are maintained functional to satisfy the requirements of Appendix A to Branch Technical Position 9.5-1.

Safety Evaluation: An analysis has shown that the functionality of fire breaks is not required by the fire hazards analysis or the methodology used to satisfy the requirements of 10CFR50 Appendix R. Therefore, fire breaks are no longer required.

PORC Review: PORC Meeting 2024, 6/13/89

Subject: ADIF 88-146

Description: Revised FSAR Chapter 13.1 to provide additional detail on the Alabama Power Company organizational structure.

Safety Evaluation: These FSAR changes are administrative in nature and do not affect the operation of FNP.

PORC Review: PORC Meeting 2028, 6/20/89

Subject: MD 89-1987

Description: Authorized the temporary installation of jumpers to allow the operation of the radioactive waste area exhaust fan with the supply fan out of service.

Safety Evaluation: The purpose of the radioactive waste area ventilation system is to maintain the temperature between 65°F and 110°F when outside air is between 20°F and 95°F. While the supply fan is out of service, the boric acid tank area temperature (the area of greatest concern) was monitored to ensure the temperature remained greater than 65°F while the exhaust fan was being run. Also, administrative controls were instituted which required the exhaust fans to be shut down if the outside air temperature dropped to less than 20°F. Appropriate doors between the radiation controlled area and the outside air were opened to allow ventilation.

PORC Review: PORC Meeting 1957, 1/3/89

Subject: MD 89-2001

Description: Revised the setpoints for the Unit 1 residual heat removal (RHR) pump manifold switches.

Safety Evaluation: The revised setpoints account for the post-seismic setpoint shifts of up to $\pm 10\%$ determined during the Barton flow switch qualification test. The revised setpoints assure that the mini-flow valves open when actual flow falls below the low flow setpoint. There is no effect on the capability of the RHR system to perform its safety functions.

PORC Review: PORC Meeting 1970, 2/21/89

Subject: MD 89-2077

Description: Installed a drain line and an isolating valve on the chemical injection system strainer. This is needed to provide a means of periodically flushing the chemical injection strainers. This will also provide a point for temporary connection of a calibration cylinder for the purpose of determining the chemical addition rate.

Safety Evaluation: The drain valve will be closed during normal operation and will be utilized only during maintenance on the strainer and during pump calibration. The chemical injection system is not required for safe shutdown of the unit.

PORC Review: PORC Meeting 2039, 7/20/89

Subject: MD 89-2090

Description: Authorized the temporary installation of jumpers to allow the operation of the radioactive waste area exhaust fan with the supply fan out of service.

Safety Evaluation: The purpose of the radioactive waste area ventilation system is to maintain the temperature between 65°F and 110°F when outside air is between 20°F and 95°F. While the supply fan is out of service, the boric acid tank area temperature (the area of greatest concern) was monitored to ensure the temperature remained greater than 65°F while the exhaust fan was being run. Also, administrative controls were instituted which required the exhaust fans to be shut down if the outside air temperature dropped to less than 20°F. Appropriate doors between the radiation controlled area and the outside air were opened to allow ventilation.

PORC Review: PORC Meeting 2043, 8/4/89

Subject: MD 89-2095

Description: Installed a ten second TDE Agastat relay on well water pump #1.

Safety Evaluation: This relay is designed to protect the system and the pump from overpressurization and was previously evaluated and approved by PCN S84-G-3057 for well water pump #2, which is the same type as well water pump #1.

PORC Review: PORC Meeting 2096, 11/21/89

Subject: MD 89-2155

Description: Authorized temporary isolation of one leaking cooling coil in a containment cooler. There is a leak in one tube in this coil which cannot be repaired prior to start-up of the unit.

Safety Evaluation: This will eliminate service water leakage into containment. Operation of the containment cooler with eleven of the twelve coils in service has been evaluated by the design organization. It was determined that operation was acceptable until the next refueling outage.

PORC Review: PORC Meeting 2088, 11/3/89

Subject: MD 89-2167

Description: Installed schedule 80S piping in a portion of the steam dump warming lines instead of schedule 40S.

Safety Evaluation: The use of slightly heavier wall piping (schedule 80S) will provide additional strength and should allow a longer life and better capability to absorb stresses induced by dead weight, vibration, and other system transients. The installation of the schedule 80S pipe will not significantly affect the function or performance of the system.

PORC Review: PORC Meeting 2095, 11/20/89

Subject: PCR/PCN 80-594 (B80-1-594)

Description: Relocated the electric motor for the radwaste air handling unit (N1V46C001) from the air handling unit to the floor. Also, added combustible loads to fire area 1-04.

Safety Evaluation: The relocation of the motor is expected to reduce vibration levels experienced by the unit. The addition of combustibles, due to cable insulation, does not increase the fire severity rating listed in the FSAR.

PORC Review: PORC Meeting 1931, 10/6/88

Subject: PCR/PCN 85-3113 (B85-1-3113)

Description: Provided a new room air handling unit for the control rod drive mechanism cabinets room. This design modification will maintain the room at 77°F and 50 to 70 percent relative humidity. Also, changed the P&ID to delete the pressure differential indicator (PDI) connection at the air filter inlet. Since there is no ductwork at the air filter inlet, the high side of PDI 2376B will be vented to the atmosphere.

Safety Evaluation: The HVAC system modifications are an improvement over the existing air conditioning system. This is a non-safety related non-seismic system. Failure of this system will not impact plant operation or any safety related function. These changes will not decrease the effectiveness of the fire protection program. Also, although the change to the P&ID is a clarification of actual PDI configuration, there is no change from the original intended installation of the PDI.

PORC Review: PORC Meeting 2034, 7/11/89

Subject: PCR/PCN 85-3421 (B85-1-3421)

Description: Removed the manual/auto stations for TIC-3042A, B, and C (controllers for service water flow to the component cooling water heat exchangers) from the main control board. Also, disconnected the automatic pushbuttons on the manual/auto stations for FIC-3009A, B, and C and relabeled the stations as HIC-3009A, B, and C.

Safety Evaluation: This change does not affect the operation of the service water flow control valves. The modifications were made based on human factors engineering requirements and to avoid operator confusion.

PORC Review: PORC Meeting 2044, 8/8/89

Subject: PCR/PCN 87-3995 (B87-1-3995)

Description: Provided the design necessary to change the delta flux deviation alarm setpoint from 60 penalty points to 50 penalty points for annunciator window P62 "Delta Flux Deviation Alert" to provide the operators a time margin prior to reaching the 60 penalty points which is a limiting condition for operation.

Safety Evaluation: This requires a software change only. Since the plant computer is a non-safety related system, this change will not affect any of the plant operating parameters. The new alarm setpoint will improve the operators capability to operate the plant within the set limits.

PORC Review: PORC Meeting 1996, 4/24/89

Subject: PCR/PCN 87-4000 (B87-1-4000)

Description: Reorganized the monitor light boxes (MLBs) on the main control board. Indication for equipment associated with a safety injection (SI) is on MLB1, Phase A containment isolation is on MLB2, Phase B containment isolation is on MLB3, and loss of off-site power (LOSP) is on MLB4. MLBs 5 and 6 have been deleted. Additionally, the lights have been rearranged in a more informative configuration in accordance with the commitments of the Control Room Design Review. This modification also installed spare conductors in the cables to MLB4 window 6.1. This will enhance the ability to detect an LOSP by actuating MLB4 window 6.1.

Safety Evaluation: This modification enables the plant operators to quickly verify the automatic action of valves which receive signals due to SI, Phase A or B isolation, or LOSP. The monitor light boxes do not perform a safety related function so the modification will not adversely affect safe shutdown or any safety related systems or components.

PORC Review: PORC Meeting 2040, 7/27/89
PORC Meeting 2081, 10/24/89

Subject: PCR/PCN 87-4053 (B87-1-4053)

Description: Revised drawings D-175039 and D-175040 to resolve several drawing discrepancies related to HV-8547 (the boron thermal regeneration system bypass valve).

Safety Evaluation: This drawing change only PCN does not affect the operation of the BTRS or CVCS, and was issued to provide documentation changes to reflect the plant as-built configuration.

PORC Review: PORC Meeting 2046, 8/10/89
PORC Meeting 2059, 9/15/89

Subject: PCR/PCN 87-4115 (B87-1-4115)

Description: Provided a dedicated nitrogen supply, directly from the main nitrogen supply header, to the hydrogen recombiner gas analyzers to provide a more reliable source of nitrogen. The nitrogen is used to purge the gas analyzers on the hydrogen analyzers during shutdown to keep moisture from entering the analyzers. Also installed two filters on each recombiner skid on the analyzer purge gas tubing to ensure a dry source of purge gas.

Safety Evaluation: These changes will improve the availability of the nitrogen purge gas for the hydrogen recombiner gas analyzers and therefore decrease the chance of moisture entering the analyzers, causing them to fail.

PORC Review: PORC Meeting 1946, 11/22/88

Subject: PCR/PCN 87-4369 (B87-1-4369)

Description: Installed a temperature switch with the lowest practical setpoint (28°F) on the radioactive waste HVAC exhaust fans discharge damper to provide control of the recirculation damper. This will minimize the time that the recirculation damper is open.

Safety Evaluation: The radioactive waste area HVAC system is a non-safety related system and these changes do not impact safe operation or shutdown of the plant. This change will increase the efficiency of the radioactive waste ventilation system by minimizing the time that the recirculation damper is open. This allows a minimum design ambient temperature of 65°F to be maintained.

PORC Review: PORC Meeting 1902, 7/19/88

Subject: PCR/PCN 87-4675 (B87-0-4675)

Description: Removed deactivated fire dampers NSV47XV072 and 74 and their ductwork from the supply duct of the computer room air conditioning system. Also, drawing D-205012 was revised by removing dampers NSV47XV079 and 80 and relocating NSV47XV049 and 50. These changes to the computer room air conditioning system reflect as-built conditions existing in the plant.

Safety Evaluation: Fire dampers NSV47XV072 and 74 are not necessary because they are located in the same fire area. Dampers NSV47XV079 and 80 are not shown to be on a fire area boundary. The new locations of NSV47XV049 and 50 are consistent with fire protection program requirements. These changes do not affect fire area integrity, the fire protection program evaluation, or operation of the computer room air conditioning system. Moreover, they will not impair the operation of plant safety related systems or the safe shutdown of the plant.

PORC Review: PORC Meeting 1953, 12/20/88

Subject: PCR/PCN 88-4806 (B88-1-4806)

Description: Incorporated a data link between the data logger in the electrical penetration room and the Systems Performance computer in room 279 of the Service Building. CMX cable used in the electrical penetration room is to be replaced with WO2 cable. This adds combustible material to room 334 (fire area 1-34) in the form of cable insulation.

Safety Evaluation: The combustible loading increase is quite small and does not change the fire severity for fire area 1-34. This change does not decrease the effectiveness of the fire protection program.

PORC Review: PORC Meeting 1995, 4/20/89

Subject: PCR/PCN 88-4806 (B88-1-4806)

Description: Attached resistance temperature detectors (RTDs) to sections of the reactor coolant system (RCS) piping to further enhance the temperature detection capability.

Safety Evaluation: The RTDs were mounted to the outside of the piping with a stainless steel band to preclude mechanically altering the pipe. Such attachment adds an insignificant amount of mass and will not significantly alter the characteristic frequencies of the piping system such that any wear or fatigue mechanism would be accelerated. Because the instruments do not penetrate the piping, little probability exists that their presence will affect the integrity of the piping.

PORC Review: PORC Meeting 2035, 7/13/89

Subject: PCR/PCN 88-4842 (B88-1-4842)

Description: Installed a full height barrier with a lockable gate in the back of the CVCS demineralizer valve access room (Room 331) to prevent inadvertent and unauthorized entry into this room. This room is classified as an exclusion area due to radiological conditions. Also provides for additional modifications to prevent entry into the exclusion area.

Safety Evaluation: This modification provides positive control of this area. It is concluded that the installation of this locked barrier and wire mesh enclosure has no adverse impact on the safe shutdown of the plant.

PORC Review: PORC Meeting 1925, 9/22/88

Subject: PCR/PCN 88-4845 (B88-1-4845)

Description: Installed lockable wire mesh doors at the entrances to the recycle evaporator demineralizer valve room (Room 307) and the waste monitor tank/waste evaporator condensate demineralizer valve room (Room 310). These rooms are classified as exclusion areas during resin transfer.

Safety Evaluation: This modification provides positive control of the valve compartments when the radiological conditions warrant. The installation of these lockable wire mesh barriers does not affect the safe shutdown of the plant.

PORC Review: PORC Meeting 1968, 2/16/89

Subject: PCR/PCN 88-4854 (B88-1-4854)

Description: Installed a new full height lockable wire mesh door inside the volume control tank (VCT) room (Room 217) to prevent unauthorized entry. This room is classified as an exclusion area due to radiological conditions. Also, blocked penetration PF-28, which is an opening in the wall between the VCT room and the VCT valve compartment to prevent entry.

Safety Evaluation: This modification provides positive control of the exclusion area. The installation of this lockable door has no impact on the safe shutdown of the plant.

PORC Review: PORC Meeting 1925, 9/22/88

Subject: PCR/PCN 88-4856 (B88-1-4856)

Description: Installed wire mesh barriers and a wire mesh roof enclosure inside the waste gas compressor (WGC) room (Room 153) to provide positive access control of the overall area. The WGC area is an exclusion area due to the radiological conditions of the room. These additional access controls are needed because the door which had previously been used to control entry into this area also controls access for routine entry to obtain air samples.

Safety Evaluation: This modification provides positive control of the exclusion area while still allowing Operations personnel to obtain necessary samples. The installation of these lockable barriers has no adverse impact on the safe shutdown of the plant.

PORC Review: PORC Meeting 1932, 10/11/88

Subject: PCR/PCN 88-4862 (B88-1-4862)

Description: Installed a wire mesh barrier with lockable gates in the waste gas decay tank (WGDT) valve compartment at the entrance to the WGDT room (Room 152) to provide positive access control of the overall area. Also, blocked six wall penetrations through which a person could crawl through and gain access. The WGDT area is an exclusion area due to radiological conditions. These additional access controls are needed because the door which had previously been used to control entry into these areas also controls access to the WGDT sample station located immediately inside the door.

Safety Evaluation: This modification allows for positive control of the exclusion area while still allowing Operations personnel to obtain necessary samples. The installation of these lockable barriers has no adverse impact on the safe shutdown of the plant.

PORC Review: PORC Meeting 1917, 8/25/88

Subject: PCR/PCN 88-5068 (S88-1-5068)

Description: Modified sprinkler system 1A-21 hangers to meet seismic category 1 criteria.

Safety Evaluation: This modification will ensure the survivability of the system during a seismic event. The change does not degrade the capability of the fire protection program or adversely impact any other plant system or structure.

PORC Review: PORC Meeting 1917, 8/25/88

Subject: PCR/PCN 88-5212 (B88-1-5212)

Description: Installed a new primary to secondary steam generator leak detection system which will immediately identify a leaking steam generator and compute the instantaneous leak rate as a function of N-16 in the main steam system and reactor power.

Safety Evaluation: The N-16 leak detection system is non-safety related. This system does not affect the operation or integrity of any safety related system.

PORC Review: PORC Meeting 2042, 8/3/89

Subject: PCR/PCN 88-5231 (B88-1-5231)

Description: Revised FSAR Figure 9.2-5 to show the replacement of carbon steel piping and flanges with stainless steel piping and flanges on the cooling water inlet and outlet of the 1A, 1B, and 1C charging pumps.

Safety Evaluation: This drawing change only PCN documents the replacement of carbon steel piping and flanges with stainless steel piping and flanges. The use of stainless steel in-lieu-of carbon steel was previously evaluated and found acceptable.

PORC Review: PORC Meeting 1960, 1/10/89

Subject: PCR/PCN 88-5244 (B88-1-5244)

Description: Routed the discharge from the reactor vessel head vent system (RVHVS) to the pressurizer relief tank (PRT). Also relocated an anchor on the reactor head vent discharge pipe in order to route leakage from the RVHVS isolation valves away from the head area. The original design provided flow instrumentation to identify leakage and facilitate testing. However, due to scheduling problems, revisions were processed to delete all electrical design pertaining to installation of flow switches in the reactor head vent permanent discharge piping.

Safety Evaluation: The PRT has a nitrogen gas cover which would mitigate the effects of a hydrogen gas discharge from the RVHVS discharge piping. The basic purpose of the RVHVS remains unchanged by this modification. The results of the stress analysis concluded that all modifications are within allowable code values. The design changes have been evaluated and it was determined that there would be no effect on accident analyses or plant accident scenarios. The new anchor location has no significant effect on the existing design stress analysis and the pipe support loads do not change significantly. The deleted flow instrumentation is non-safety related and its deletion will not affect the operation of the system.

PORC Review: PORC Meeting 2065, 9/28/89
PORC Meeting 2076, 10/13/89
PORC Meeting 2087, 11/2/89

Subject: PCR/PCN 88-5369 (B88-1-5369)

Description: Installed Limitorque SB motor operators on several valves in the residual heat removal and containment spray systems in place of the previously existing SMB operators. As a part of this modification, it was necessary to re-route several conduits. This added combustible material to Fire Area 1-1.

Safety Evaluation: The combustible material added is in the form of cable insulation which is qualified to IEEE 383. There is no change to the fire severity in Fire Area 1-1.

PORC Review: PORC Meeting 2066, 9/29/89

Subject: PCR/PCN 88-5494 (S88-1-5494)

Description: Changed the existing line which provides emergency service water to the air compressors from one-inch carbon steel to two-inch stainless steel to ensure adequate flow and to minimize fouling. Also, a one-inch drain valve was added that will allow flushing of this line. A two-inch gate valve was installed upstream of the two 2-inch globe valves for each train in the seismic portion of the piping.

Safety Evaluation: All replacement piping and valves meet or exceed the code requirements of the previous piping and components. The stainless steel components will have superior corrosion resistance characteristics resulting in improved flow and extended service life. Existing design features and operator action will ensure that adequate flow is available to safety related components. In addition, service water inventory, temperature, and availability will not be measurably impacted by this modification. The addition of the gate valves will not degrade the flow to safety related components during normal or accident conditions.

PORC Review: PORC Meeting 2052, 8/29/89
PORC Meeting 2058, 9/12/89

Subject: PCR/PCN 89-5644 (S89-1-5644)

Description: Replaced the carbon steel cross-under piping to the No. 5 feedwater heaters with chrome-moly steel piping. The existing carbon steel piping has been identified to have reduced wall thickness due to erosion and corrosion.

Safety Evaluation: The replacement chrome-moly steel piping has a greater resistance to erosion and corrosion which extends the expected useful life of the line. Additionally, this piping system is not a safety related system.

PORC Review: PORC Meeting 2024, 6/13/89

Subject: FNP-0-CCP-202, Rev. 19

Description: Authorized use of the modified reactor coolant system (RCS) water chemistry program. The new program involves operating with an elevated pH in the primary system when boron concentration is less than 1350 ppm. The pH is controlled at a higher value than the pH produced by the coordinated regimen which had been in use. This change is in accordance with Westinghouse guidelines. The modified program will reduce the rate of build-up of excore radiation fields by minimizing deposition of corrosion products.

Safety Evaluation: The feasibility of this program has been demonstrated at a foreign nuclear plant. Westinghouse has analyzed the effect of the new regimen on affected components and the accident analyses and has determined that no adverse consequences will result. The impact on the RCS materials, including the fuel, is expected to be negligible. All equipment will continue to operate as designed.

PORC Review: PORC Meeting 2002, 5/3/89

Subject: FNP-0-CCP-202, TCN 21A

Description: Authorized return to the coordinated reactor coolant system (RCS) water chemistry program for Unit 1. Use of the modified chemistry program had been approved per Revision 19 of FNP-0-CCP-202. Newly available information led to the recommendation that plants with pre-existing cracks in steam generator tubes should not employ the increased lithium concentration associated with the modified program for boron concentration less than 1350 ppm. The modified and coordinated programs are identical for boron concentrations greater than 1350 ppm.

Safety Evaluation: The decision to go back to the coordinated program is a management decision and can be supported by Westinghouse. The potential increase in the radiation source term is more than offset by the potential reduction in detrimental effects on the steam generator tubes.

PORC Review: PORC Meeting 2086, 10/31/89

Subject: FNP-0-ETP-3102, Rev. 0

Description: Provided procedural guidance for using a negative pressure unit (NPU) to exhaust running traps in the floor drain and equipment drain systems. This reduces migration of radioactive gas through the drain systems and reduces airborne radioactivity levels in the Auxiliary Buildings.

Safety Evaluation: Engineering tests have been performed to show that use of the NPUs will not affect operation of the penetration room filtration system or degrade the existing water seals in other portions of the drain systems. The operation of ventilation systems will not be affected.

PORC Review: PORC Meeting 2021, 6/7/89

Subject: FNP-1-FRP-H.1, Rev. 7

Description: Revised to include the installation of jumpers in the Solid State Protection System to bypass the feedwater isolation signal to the feedwater bypass valves. This will establish flow to a steam generator from the main condenser by use of either a steam generator feed pump or a condensate pump following a loss of secondary heat sink in all steam generators.

Safety Evaluation: With the jumpers installed the feedwater bypass valves will not have automatic closure capability; however, the Plant Operator will have manual control of the valves and will be controlling level in the steam generators per the appropriate Emergency Response Procedure. This is consistent with the actions specified in the WOG Emergency Response Guidelines.

PORC Review: PORC Meeting 1978, 3/16/89

Subject: FNP-1-M-046, TCN 3C

Description: Changed the main steam isolation valve (MSIV) bypass valve stroke time shown in FSAR Table 6.3-32. This safety evaluation analyzed the MSIV bypass valve stroke times shown in the FSAR, Technical Specifications and FNP-1-M-046 (Second Ten Year Inservice Testing Plan). The proposed stroke time of 10 seconds was shown to be acceptable. It was determined that the 5 second stroke time shown in FSAR Table 6.2-32 should be designated as a procurement and design criteria and not a required value to be used in determining operability.

Safety Evaluation: The effects of flow through the MSIVs and the MSIV bypass valves were compared. The flow through the MSIV bypass valves would be much less than the flow through the MSIVs due to the smaller flow area of the bypass valves. Thus, the consequences of a 10 second stroke time for the bypass valves would be much less than the consequences of the MSIV stroking in this required time.

PORC Review: PORC Meeting 1970, 2/21/89

Subject: FNP-1-SOP-24.0, TCN 25B

Description: Added appendices one and two to provide guidance for the installation of temporary connections for supplying lubrication and cooling water to the service water pumps while the associated train's lubrication and cooling water lines are being repaired.

Safety Evaluation: Lubrication and cooling water for the pumps running in the affected train will be supplied from each pump's discharge vent. No lubrication cooling flow will exist until the pump is started. The procedure requires monitoring bearing temperatures until the temperatures have stabilized to ensure that sufficient cooling flow is available. All requirements of Technical Specification 3/4.7.4 will be met.

PORC Review: PORC Meeting 2004, 5/4/89

Subject: FNP-0-SOP-25.2, TCN 15A

Description: Provided guidance for establishing temporary lubrication and cooling water supplies for the river water pumps while the normal supply header is being cleaned. Water is to be supplied from the vent valve of the discharge header of the affected river water train.

Safety Evaluation: There are no Technical Specifications associated with the river water system. The river water system is not required for safe shutdown of the plant.

PORC Review: PORC Meeting 2029, 6/22/89

Subject: FNP Emergency Plan, Rev. 16

Description: Changed to incorporate recently revised individual portions of the Site Plan, Medical Plan and Annexes II and III. Each revision was designed, written and provided by the respective entity having cognizance over the development of their plan.

Safety Evaluation: The changes are administrative in nature and do not decrease the effectiveness of the Emergency Plan. The Emergency Plan will continue to meet the standards of 10CFR50.47(b) and 10CFR50 Appendix E.

PORC Review: PORC Meeting 2010, 5/12/89

Subject: FSAR Section 6.2

Description: Corrected the temperature and pressure ratings for the containment spray pumps in FSAR Table 6.2-24.

Safety Evaluation: The correction provides an accurate representation of the equipment as it is installed in the plant. The changes to the FSAR are bounded by the design parameters of the pumps and do not impact any of the current FSAR safety analyses.

PORC Review: PORC Meeting 1967, 2/14/89, Rev. 0
PORC Meeting 2049, 8/22/89, Rev. 1

Subject: FSAR Section 6.2

Description: Revised the stroke times of several containment isolation valves. The stroke times stated in the FSAR were revised to agree with the stroke times stated in the Technical Specifications.

Safety Evaluation: The effect of changing each of the stroke times was analyzed by the design organization. It was determined that the revised stroke times do not adversely affect safe operation.

PORC Review: PORC Meeting 2002, 5/3/89

Subject: FSAR Sections 6.2 and 6A

Description: Revised the FSAR description of post-accident procedures for use of the NaOH solution in the spray additive tank (SAT). Previously, the FSAR had allowed the injection of NaOH from the SAT into the containment spray flow during the recirculation mode. Also, there was no time limit specified for isolation of the SAT after the containment spray system was placed in the recirculation mode. Review of this practice showed that there was a potential for exceeding the licensing basis pH limit of 10.5.

Safety Evaluation: Changes to the post-accident procedures were identified to resolve the above concern. An evaluation has demonstrated that the conclusions stated in the original FSAR analysis remain valid. The changes affect only the timing and sequence of operator actions after an accident. Normal plant operation is not affected and the consequences of postulated accidents are not increased.

PORC Review: PORC Meeting 2053, 8/30/89

Subject: FSAR Sections 6.2 and 6B (FNP-0-M-72)

Description: Approved the use of the FNP Coating Manual which provides a single source of information and procedures for performing coating work in all areas of the plant. The Coating Manual permits an increase in the thickness of paint applied to steel (excluding galvanized steel and stainless steel) and concrete in the containment. This has the potential to affect the containment accident pressure and temperature profiles since coating thickness is a parameter specified in the FSAR's containment heat sink tables and is an input to the supporting pressure and temperature calculations.

Safety Evaluation: Containment accident pressure and temperature profiles were recalculated using the maximum paint thicknesses permitted by the Coating Manual. No changes to the design basis accident profiles were found to be necessary. Therefore, the use of the FNP Coating Manual will not increase the consequences of any design basis accidents and will not increase the probability of failure of safe shutdown equipment located in the containment.

PORC Review: PORC Meeting 1987, 4/6/89

Subject: FSAR Chapter 7

Description: Revised the FSAR requirement for response time testing of reactor trip systems and ESFAS instrumentation when a component affecting the time response has been replaced during maintenance. Now, response time testing is performed in accordance with the plant Technical Specifications.

Safety Evaluation: The requirement to perform response time testing upon component replacement during maintenance was part of the original FNP FSAR and was provided as an alternative to the IEEE-338 (1971) requirement for periodic response time testing. Subsequently, the Unit 1 Technical Specifications were issued which included provisions for periodic response time testing. These specifications are considered to be sufficient to achieve compliance with the provisions of IEEE-338 (1971) without reliance on response time testing of components replaced during maintenance. Since the intent of the FSAR was to show alternative compliance with IEEE-338 (1971) and this compliance is now provided by the Technical Specifications, the FSAR may be revised to reflect the periodic testing now performed. Testing of components after maintenance is covered by procedures already in place.

PORC Review: PORC Meeting 2058, 9/12/89

Subject: FSAR Section 9.5

Description: Revised the requirements for diesel generator fuel oil as stated in FSAR Section 9.5.4. Previously, diesel fuel with a heating value of 19,000 BTU/lb and a specific gravity of 0.9 had been specified as the basis of the fuel oil storage tank capacity. Fuel which meets these criteria is not readily available. Also, the capacity of the diesel generator day tanks was corrected.

Safety Evaluation: The capacity of the diesel fuel oil storage tanks was reassessed based on the BTU content per gallon of currently available fuel. It was found that all requirements for diesel fuel oil storage capacity are met. The operation of the diesel generators is not affected. The correction of the day tank capacity is considered administrative.

PORC Review: PORC Meeting 2041, 8/1/89

Subject: FSAR Section 11.4

Description: Revised the FSAR to address the releases which occur when the condensate hotwell is "blown down". In order to remove impurities from the condenser, flow is directed from the discharge of the condensate pumps to the turbine building sump pump discharge line and ultimately to the river. This represents a potential radioactive effluent release path and must be sampled.

Safety Evaluation: Sampling as required by the FSAR revision will ensure compliance with General Design Criterion 64. The sampling of the pathway is merely the taking of a water sample for analysis. No safety related equipment or procedures are affected.

PORC Review: PORC Meeting 2099, 12/1/89

Subject: Cycle 10 Reload Safety Evaluation

Description: Provided the design for the Cycle 10 core which is based on a Cycle 9 end-of-life burnup within a range of 16,400 to 17,600 MWD/MTU. The Cycle 10 burnup is limited to 17,150 MWD/MTU which may include a power coastdown beyond the end of full power capability. A total of 5 Region-6, 4 Region-7, 6 Region-8, 13 Region-10, 68 Region-11, and 61 fresh Region-12 fuel assemblies are used in the design. A total of 608 fresh wet annular burnable absorbers (WABAs) are used in clusters of 4, 8, 12, and 16. The Region-12 assemblies differ from the previous design in that they have snag-resistant grids, a debris filter bottom nozzle (DFBN), rotated dimples on the inner grid straps for the top and bottom grids, crowned dimples on the inner straps for the remaining grids, changes to the WABAs as a result of an Updated Core Component Program, and additional extended burnup features. The additional extended burnup features are longer fuel rods, longer assembly skeleton, and thinner bottom nozzle.

Safety Evaluation: Based on the reload safety evaluation and the analyses performed by Westinghouse and Southern Company Services, Inc., this reload does not involve any unreviewed safety questions.

PORC Review: PORC Meeting 2058, 9/12/89

Subject: GO-NG-33, Revision 7

Description: Revision 7 incorporates a change made in the procurement area when forming the SONOPCO Project. A Procurement Department dedicated to purchasing support of the system's nuclear units was created. This Procurement Department has been formed under the cognizance of the Southern Company Services Manager, Procurement - Nuclear, and has been authorized as the agent responsible to Alabama Power Company for purchasing activities associated with Farley Nuclear Plant.

Safety Evaluation: This revision provides a change in organizational responsibilities, as discussed above. There is no change in the performance of quality-related purchasing activities.

NORB Review: NORB Meeting 89-03, 09-21-89

Subject: Operations Quality Assurance Policy Manual, Revision 27

Description: Revision 27 incorporates a change made in the QA area when forming the SONOPCO Project. A Corporate Quality Services section was established with the responsibility for quality evaluations of suppliers for the system's nuclear units.

Safety Evaluation: This revision provides a change in organizational responsibilities, as discussed above. There is no change in the performance of quality-related activities for supplier evaluations.

NORB Review: NORB Meeting 89-04, 12-18-89