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SUBJECT: Forwards quarterly rept of changes to procedures & plant mods described in FSAR for Third Quarter 1988.

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QUARTERLY REPORT IN ACCORDANCE WITH 10CFR50.59

Gentlemen:

In accordance with 10CFR50.59 and CP&L Letter (NLS-86-454) of commitment dated December 9, 1986, the following report is submitted for the third quarter of 1988. This report contains brief summaries of changes to procedures and/or plant modifications, which change the plant as it is described in the FSAR. There were no tests or experiments conducted during this interval, which are not described in the FSAR which require reporting in this report.

Very truly yours,

R. A. Watson
Vice President
Harris Nuclear Project

MGW:crc

Enclosure

cc: Mr. W. H. Bradford (NRC - SHNPP)
Mr. M. L. Ernst (NRC - RII)

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CHANGE TO PROCEDURE AS DESCRIBED IN THE FSAR

Title: CRC-001, Rev. 4, SHNPP Environmental and Chemistry Sampling and Analysis Program

Functional Summary: Procedure CRC-001 specifies the Harris Plant chemistry sampling and analysis schedule. It addresses routine sample points and provides limits where appropriate. CRC-001 previously included benzene insoluble test methods for Emergency Diesel Generator Lube Oil. Testing for benzene insolubles has been replaced with testing for toluene insolubles. Benzene insolubles was a test which when used in conjunction with pentane insolubles, would provide the amount of oxidized material, soaps, and asphaltic material present in used oils. Because of the carcinogenic nature of benzene, the benzene insolubles test will no longer be run.

Safety Summary: Toluene insolubles is an acceptable substitute for benzene insolubles. ASTM D893-85, Standard Test Methods for Insolubles in Used Lubricating Oil, tests oil using pentane and toluene insoluble test methods. The standard no longer has a test method employing benzene. Changing to toluene is technically correct and allows testing of oil per current standard test methods.

This change does not increase the probability or consequences of analyzed accidents, nor introduce a different type of accident or equipment malfunction than already evaluated in the FSAR. Thus, no unreviewed safety question exists.

FSAR Reference: Section 9.5.7.4

CHANGE TO PROCEDURE AS DESCRIBED IN THE FSAR

Title: CRC-812 Revision 2, Dew Point

Functional Summary: Procedure CRC-812 provides the method of measuring the dew point of air in systems such as the Instrument Air, Emergency Diesel Generator (EDG) Starting Air, and Breathing Air Systems. CRC-812 Revision 2 changes the EDG Starting Air dew point monitoring location from the air dryer effluent to the air receiver effluent and provides a -20°F dew point as an operating limit.

Safety Summary: The EDG initial and possible subsequent EDG starts are performed on stored air normally without operation of the air compressor/air dryer. Monitoring of stored air dew point provides better assurance of EDG operability. Maintaining the stored air in the air receiver at a -20°F or less dew point will prevent formation of ice in the EDG Starting Air Distributers that distribute pilot air to open the Air Starting valves in sequence on each of the diesels cylinder.

This change does not increase the probability or consequences of analyzed accidents, nor introduce a different type of accident or equipment malfunction than already evaluated in the FSAR. Thus, no unreviewed safety question exists.

FSAR Reference: Section 9.5.6

CHANGE TO FACILITY AS DESCRIBED IN THE FSAR

Title: PCR-000031, Digital Rod Position Indication (DRPI) Cooling

Functional Summary: This plant modification installed HVAC duct work to the 1A and 1B DRPI cabinets. The ductwork provides approximately 250 ACFM to each cabinet for cooling in an effort to maintain the cabinet temperature below 120°F. Ductwork to the cabinets was routed from existing ductwork at elevation 286' of the Reactor Containment Building.

Safety Summary: Although the DRPI System is a nonsafety system, the 1A & 1B DRPI cabinets are located inside containment and the recommendation of RG 1.29 were applied to the modification. As a result, the HVAC support for the modification has been seismically designed to prevent any interaction with a safety system.

This change does not increase the probability or consequences of analyzed accidents, nor introduce a different type of accident or equipment malfunction than already evaluated in the FSAR. Thus, no unreviewed safety question exists.

FSAR Reference: Figure 6.2.2-3

CHANGE TO FACILITY AS DESCRIBED IN THE FSAR

Title: PCR-000064, Emergency Service Water (ESW) Screen Wash Pump Flow Meter

Functional Summary: This modification provides flow elements on the suction lines of the emergency service water screen wash pumps to determine the pump flow rate. The flow rate and discharge pump pressure will be used to evaluate pump degradation during periodic in-service testing. The emergency service water screen wash pumps provide seal water to ESW pumps and screen wash water to the traveling screens. This modification adds orifice flanges and an orifice plate (1/8" thick) with 2.651" concentric bore to the suction line of each screen wash pump. Instrument valves are used on flange pressure taps to ensure minimal impact to pipe stress and hanger loads.

Safety Summary: All of the installed components will be ASME III, Class 3 carbon/stainless steel qualified material to ensure seismic/structural integrity. The design meets the same criteria as the original installation. Since the instrument lines associated with this modification will be used only during ISI testing, they will be capped to provide additional isolation.

This change does not increase the probability or consequences of analyzed accidents, nor introduce a different type of accident or equipment malfunction than already evaluated in the FSAR. Thus, no unreviewed safety question exists.

FSAR References: Figure 9.2.1-1

CHANGE TO FACILITY AS DESCRIBED IN THE FSAR

Title: PCR 000264, Turbine Lube Oil Reservoir Vapor Extractor

Functional Summary: This modification provides a redundant vapor extractor on the Turbine Lube Oil Reservoir to improve the unit availability. The design mounts a second vapor extractor (pump and motor) or the Turbine Lube Oil Reservoir. It and the existing vapor extractor draw suction from a common outlet on the Turbine Lube Oil Reservoir and discharge into a common header. Each is provided with "blast-gate" valves to regulate flow and check valves on the outlets to prevent backflow. The vapor extractor housing drains are piped together into a common drain. One pressure tap with an isolation valve is provided for instrumentation and control.

Safety Summary: The second vapor extractor provides redundancy within the system; therefore, possibility for failure of the system is reduced. The redundant vapor extractor reduces the possibility for oil leakage or hydrogen buildup in the lubrication system, therefore, reducing the possibility for fire. The redundant vapor extractor is the same type, size, and material as the original vapor extractor. All mechanical items added are the same type, material, and pressure rating as the original components; therefore, material compatibility is maintained.

This change does not increase the probability or consequences of analyzed accidents, nor introduce a different type of accident or equipment malfunction than already evaluated in the FSAR. Thus, no unreviewed safety question exists.

FSAR Reference: Figure 10.2.2-9

CHANGE TO FACILITY AS DESCRIBED IN THE FSAR

Title: PCR-000741, Component Cooling Water (CCW) Check Valve Testing

Functional Summary: This modification installed test connections which will allow performance of ASME Section XI valve testing of check valves 3CC-V276SN-1 and 3CC-V277SN-1 located in CCW line 3CC4-626SN-1 downstream of the processing sampling panel. The previous piping configuration did not allow ISI testing of these check valves.

The CCW line is required to provide a maximum primary sample temperature of 120°F to the sampling panel. The CCW to this nonsafety processing sampling panel is provided with two air operated valves on the inlet and two check valves on the outlet side. The panel is located in a separate cubicle on elevation 236' of the RAB which is inaccessible during post-accident.

This modification adds 1" lines with two globe valves and pipe cap around the two existing check valves 3CC-V276SN-1 and 3CC-V277SN-1. These check valves are classified as isolation valves from the primary sampling panel IA-NNS and CCW line 7CC4-409-1. These check valves are considered the class break between a class 3 and a class 7 line. The new test lines will be connected to line 3CC4-626SN-1.

Safety Summary: All of the installed components will be ASME III, class 3 carbon steel qualified material to ensure seismic/structural integrity. Since these lines will be used only during ISI testing, they will be capped to provide additional isolation. No additional credible failure modes will be introduced by adding the 1" drain lines.

This change does not increase the probability or consequences of analyzed accidents, nor introduce a different type of accident or equipment malfunction than already evaluated in the FSAR. Thus, no unreviewed safety question exists.

FSAR Reference: Figure 9.2.2-01

CHANGE TO FACILITY AS DESCRIBED IN THE FSAR

Title: PCR 001069, NLL Cards for Steam Generator Level Channels

Functional Summary: This plant modification supported the installation of a 1.5 second filter to the Steam Generator Low-Low Level Reactor Trip and Steam Generator Low, Coincident with Steam/Feedflow Mismatch Reactor Trip channels in the Shearon Harris Plant. Previously, the non-LOCA safety analyses assumed a 2.0 second response time for reactor trip for the Low-Low Level trip function (the Mismatch trip is not assumed in any of the safety analyses). A 1.5 second increase in response time required that the safety analysis assumption increase to 3.5 seconds.

Safety Summary: The increase in response time for the two reactor trip functions mentioned above will impact any of the safety analyses which takes credit for these trips for protection. Those transients include:

1. Loss of Non-emergency AC Power
2. Loss of Normal Feedwater
3. Feed Line Break

To address the impact on the above events, each transient was reanalyzed with a 3.5 second reactor trip response time. The results of the reanalysis were within the applicable safety criteria discussed in the FSAR. Therefore, the installation of the time filters (and the resulting 3.5 second total response time assumption) is acceptable with respect to the conclusions presented in the non-LOCA safety analyses in the Shearon Harris FSAR.

This change does not increase the probability or consequences of analyzed accidents, nor introduce a different type of accident or equipment malfunction than already evaluated in the FSAR. Thus, no unreviewed safety question exists.

FSAR Reference: Section 15.0 & 15.2
Section 16.3

CHANGE TO FACILITY AS DESCRIBED IN THE FSAR

Title: PCR-001841, Fuel Handling Building Sprinkler System Drain

Functional Summary: This plant modification provides drain piping from the Fuel Handling Building sprinkler system main drains into the condensate drain system to prevent the sprinkler drain water from entering the radwaste drain system. The modification also adds check valves in the drain piping and seals the drains to prevent back flow or splash back when discharging from the main drain at high volume/velocity.

Safety Summary: The new drain piping and check valves are the same material type, and grade, schedule, and pressure rating as the original system components; therefore, the system integrity is maintained. Sealing the drains and hard piping the main drain into the condensate drain system eliminates the possibility for splashing on electrical equipment. The open drains were previously overflowing from the high velocity flashes. Hard piping into the condensate drain system also eliminates the possibility for flooding.

This change does not increase the probability or consequences of analyzed accidents, nor introduce a different type of accident or equipment malfunction than already evaluated in the FSAR. Thus, no unreviewed safety question exists.

FSAR Reference: Figure 9.3.3-3

CHANGE TO FACILITY AS DESCRIBED IN THE FSAR

Title: PCR-002031, Thrust Bearing Instrumentation

Functional Summary: This modification replaces the main turbine rotor position instrumentation which had proven to be unreliable, with new instrumentation provided by Westinghouse. This component is part of the turbine supervisory control system and provides indication of thrust bearing wear. The modification will improve reliability and provide more accurate indication of thrust bearing wear to Operations personnel.

Safety Summary: This modification will provide better monitoring of main turbine thrust bearing wear. The component is mounted in a non-safety related system.

This change does not increase the probability or consequences of analyzed accidents, nor introduce a different type of accident or equipment malfunction than already evaluated in the FSAR. Thus, no unreviewed safety question exists.

FSAR Reference: Figures 10.2.2-9 and 10.2.2-10

CHANGE TO FACILITY AS DESCRIBED IN THE FSAR

Title: PCR-002109, Program for Reactor Coolant System (RCS) Unidentified Leak Rate Detection

Functional Summary: This plant modification adds a new function to the plant computer (also known as the ERFIS computer). The purpose of this function is to calculate the containment sump leak rate by monitoring the two containment sump level points. It will calculate leak rates every thirty minutes and alarm the operator via an ALB Main Control Board annunciator if either leak rate exceeds the rate of the previously calculated leak rate by 0.76 gpm or if the leak rate exceeds the last hour's leak rate by 0.76 gpm.

This modification was implemented to replace the containment sump flow element FE-7164 which was removed by PCR-002318. This element was designed to measure flow into the containment sump.

Safety Summary: Regulatory guidance pertaining to these systems is found in 10CFR50, Appendix A, Criterion 4 and 30 and Regulatory Guide 1.45.

Regulatory Guide 1.45 specifies the following:

c.5 The sensitivity and response time of each leakage detection system employed for unidentified leakage should be adequate to detect a leakage rate of one gpm in less than one hour.

c.7 Indicators and alarms for each leakage detection system should be provided in the main control room.

The proposed system meets these requirements. By calculating a leak rate every 30 minutes based on the last 30 minutes level changes the program will detect and alarm a .1 gpm increase within one hour. The ALB and computer alarm information is available in the control room.

This system does not add any additional instrumentation. It uses existing level instrumentation and computer facilities. It does not control or activate any equipment other than the ALB's on the main control board. Failure or malfunction of this system could at worst cause a malfunction of other software on the plant computer. This computer does not and cannot control safety related equipment or equipment important to safety.

This change does not increase the probability or consequences of analyzed accidents, nor introduce a different type of accident or equipment malfunction than already evaluated in the FSAR. In addition, the sump inleakage flow determination by changes in sump level have proven to be more accurate than the flow element. Thus, no unreviewed safety question exists.

FSAR Reference: Section 5.2.5

CHANGE TO FACILITY AS DESCRIBED IN THE FSAR

Title: PCR-002307, Installation of Inspection Ports on Feedwater Flow Elements and Flow Straighteners in Feedwater Lines.

Functional Summary: This plant modification installed inspection/cleaning ports on each main feedwater flow element and installed flow straighteners in the feedwater lines upstream of each main flow element. The function of the feedwater system is to deliver feedwater to the steam generators at the required flow rate for any plant power level.

In the case of the Harris Plant feedwater system, piping configuration and design do not provide for optimum accuracy of the flow reading from the main feedwater flow elements. The lack of inspection ports leaves no means for determining the amount of fouling on the flow element surfaces or for cleaning those surfaces should fouling exist. Since fouling will adversely affect flow measurement readings, a correction factor must be applied to account for this uncertainty. Similarly, the lack of either flow straighteners or sufficient runs of straight pipe upstream of the flow elements necessitates use of a correction factor due to flow turbulence at the element inlets. The elements are calibrated based on smooth fluid flow; the turbulence at the inlets results in a degree of uncertainty in the instrument readings.

Safety Summary: The use of inspection ports and flow straighteners enhance normal system and plant performance. However, these are new components which create new potential failure modes in the feedwater system which required evaluation. The applicable safety considerations are mechanical failure of the inspection ports and straighteners and the possible consequent effects on control signal failure (main flow elements), containment isolation, and steam generator integrity.

The design of the inspection ports and flow straighteners is commensurate with other similar components in the feedwater and condensate system. Therefore, the probability of a failure which could have adverse impact on feedwater flow capability, feedwater isolation capability, or on the steam generator integrity is not increased.

This change does not increase the probability or consequences of analyzed accidents, nor introduce a different type of accident or equipment malfunction than already evaluated in the FSAR. Thus, no unreviewed safety question exists.

FSAR Reference: Figures 10.4.7-2, 10.1.0-3, 3.6A-33.1

CHANGE TO FACILITY AS DESCRIBED IN THE FSAR

Title: PCR-002319, Condensate Polishing Demineralizer System (CPDS) Hot Water Tank Relief Valve

Functional Summary: This modification revised the set point of the pressure relief valve for the CPDS Hot Water Tank from 100 PSI to 98 PSI. The purpose of the hot water tank is to raise the temperature of the dilute caustic to 120 F in order to enhance the removal of silica from the resin. The previous design set the relief valve for the CPDS hot water tank higher than the tank's maximum allowable working pressure. The tank is built to ASME Section IV and is rated at 98 PSIG (maximum allowable working pressure). This set point change is not an enhancement, but brings the operation of the hot water tank within the design specification.

Safety Summary: The CPDS does not consititute a potential radioactivity release path to the environment and has no safety related function. If the fluid being processed is radioactive due to leakage from primary to secondary, the system has the effect of concentrating the activity in the regeneration waste which is processed by the Waste Management System. Failure of any component could compromise the system operation, but would not affect any safety related equipment or prevent safe shutdown of the plant.

This change does not increase the probability or consequences of analyzed accidents, nor introduce a different type of accident or equipment malfunction than already evaluated in the FSAR. Thus, no unreviewed safety question exists.

FSAR Reference: Table 10.4.6-3

CHANGE TO FACILITY AS DESCRIBED IN THE FSAR

Title: PCR-002461, Steam Generator Blow Down (SGBD) System Improvements

Functional Summary: This modification replaced the air-to-open/air-to-close actuators on SGBD valves 2BD-V11SA-1, 2BD-V15SA-1, and 2BD-V19SA-1 with an air-to-open/spring-to-close type with the intent of providing a more reliable actuator. The previous actuators relied on an air accumulator to close. The replacement actuators will open and close at rates slower than the previous design, but will close within current Technical Specification limits (60 seconds).

This modification also installed manual gate valves, (2BD-V115SN-1, 2BD-V116SN-1, 2BD-V117SN-1, 2BD-V118SN-1, 2BD-V119SN-1, and 2BD-V120SN-1) at the steam generator nozzles with the intent of providing positive isolation (while the steam generators are pressurized) of blowdown to allow for the performance of maintenance of downstream valves.

Safety Summary: The replacement actuators are designed in accordance with the original specification which requires IEEE (containment service) and seismic Category I qualification. The springs on the actuator have been specified to close the valve under maximum system design differential pressures. The valve actuator will fail safe on loss of instrument air. The closure under accident conditions is still done by the use of a solenoid valve. Because of the above, there is no reduction of the valves ability to close and stay closed under all expected conditions.

The valve stroke time has been increased to minimize the system's susceptibility to column separation during closure and rapid bubble formation followed by condensation-induced water hammers during valve opening following long periods of system shutdown. However, the new closure times are well within the Technical Specification 60-second limit.

Isolation valves have been installed in the blowdown lines at the steam generator blowdown nozzles to allow maintenance on downstream valves. These valves are designed to ASME B&PV Code Section III and seismic Category I which is the same design criteria used for the original design of the line. A failure of the added valves would not introduce a new accident scenario or a more limiting break in the steam generator. The limiting failure would be a feedwater break between the steam generator and the first check valve, and it has been shown in FSAR 15.2.8 that for this feedwater break, the Auxiliary Feedwater (AFW) system capacity is adequate to prevent uncovering the reactor core. Therefore, a line break in the steam generator blowdown system will not result in an event which would prevent the safe shutdown of the reactor.

This change does not increase the probability or consequences of analyzed accidents, nor introduce a different type of accident or equipment malfunction than already evaluated in the FSAR. Thus, no unreviewed safety question exists.

FSAR References: Figure 10.1.0-6

CHANGE TO FACILITY AS DESCRIBED IN THE FSAR

Title: PCR-002543, AMSAC Modification

Functional Summary: This modification adds new cables and equipment utilized as part of the ATWS Mitigation System (AMSAC) Actuation Circuitry. The addition of this equipment to the plant also requires an FSAR change to the Fire Hazard Analysis Appendix 9.5A.

Safety Summary: The design of the AMSAC system was previously reviewed and approved by the NRC in a Safety Evaluation Report dated July 14, 1988.

Appendix R requires cables considered necessary for safe shutdown to be analyzed to ensure that at least one train of safe shutdown equipment is available to achieve cold shutdown in 72 hours. New cables 11974S and 99175Q were analyzed in accordance with the requirements of Appendix R and their routes in the Cable Spread Rooms A and B were in compliance with the Appendix R separation requirements. The cables also terminate in ISOL CAB 2A-2A2-SA; 2B-2B2-SB and ARP-19 SA and SB located on Elevation 305. The HNP Safe Shutdown Analysis identifies that the plant design has been reviewed to assure that instrumentation and controls for at least one shutdown division of each system, including the necessary support equipment, is available during shutdown at the alternative locations. Therefore, loss of the cables on Elevation 305 will not impact the capability to safely shutdown the plant from alternative shutdown locations as previously analyzed. In case of fire on Elevation 305 requiring control room evacuation, HNP procedure AOP-004, Safe Shutdown in Case of Fire or Control Room Inaccessibility, provides shutdown steps from alternative locations. Upon transfer to the Auxiliary Control Panel (ACP) the automatic function of these cables will be disconnected to prevent a spurious signal.

This change does not increase the probability or consequences of analyzed accidents, nor introduce a different type of accident or equipment malfunction than already evaluated in the FSAR. Thus, no unreviewed safety question exists.

FSAR Reference: Section 9.5A, Figure 7.3.1-1

CHANGE TO FACILITY AS DESCRIBED IN THE FSAR

Title: PCR-002869, Emergency Diesel Generator (EDG) 1B-SB Right Bank Intercooler

Functional Summary: This plant modification provided a flexible connector for EDG 1B-SB right bank intercooler adapter at the point the adapter connects to the turbocharger. The previous intercooler adapter consisted of a 12" diameter pipe welded to a "box" constructed of steel plate. This adapter connected the turbocharger to the intercooler. The adapter had developed a crack at the weld connecting the 12" pipe and the "box". The crack is thought to have been caused by vibration during EDG operation.

Safety Summary: This modification resulting from discussions with the EDG supplier and a utility who had had similar problems with their EDGs. The flexible joint, clamp, backing ring, and bolting material are all of materials compatible with the existing EDG. The flexible joint is made of a viton/fiberglass material, the clamps are plated malleable iron, the backing ring is galvanized metal, and the bolting material is carbon steel. Based on discussions with the EDG manufacturer and the Turbocharger manufacturer, these materials should withstand the maximum temperature and pressure the flexible joint should experience during operation.

The FSAR requires the controlled use of combustible materials in the permanent plant structure. The use of the flexible material at the location specified in PCR-002869 has been reviewed and is found acceptable.

This change does not increase the probability or consequences of analyzed accidents, nor introduce a different type of accident or equipment malfunction than already evaluated in the FSAR. Thus, no unreviewed safety question exists.

FSAR Reference: Sections 9.5.1 and 9.5A

CHANGE TO FACILITY AS DESCRIBED IN THE FSAR

Title: PCR-002878, Emergency Service Water (ESW) Pump Seal Water Supply

Functional Summary: This plant modification deleted the ESW Pump Seal Water Booster system (i.e., pumps 1A-NNS and 1B-NNS, associated valves and piping). The system was originally designed to provide non-operating ESW pump seal water. The pump vendor recommended seal water flow of 2 gpm even during non-operating conditions such that no accumulation of dirt or debris will exist during the start of the pumps. This function is not essential for an emergency start of the ESW pumps.

Safety Summary: The deletion of the ESW Pump Seal Water Booster system is justified primarily by the capability of the Screen Wash Pump path to supply the recommended flow with the screen wash pumps idle. The deletion of the pipe, valves, and pumps lessens the number of items that can fail and therefore lowers the probability of overall failure. The modification also deletes the non-isolable cross connect between ESW Pumps "A" and "B". This alone was determined to create an unreviewed safety question under Engineering Evaluation PCR-002848 because it violated the FSAR statement 9.2.1.3.1. which called for assurance of cooling under any passive or active failure. The modification brings the system into compliance with this statement.

Engineering Performance Test .101T showed that under the lowest normal operating header pressures, the pressure from the Normal Service Water System provided flow to the ESW pump bearings of 2.5 gpm and 2.1 gpm to pumps "A" and "B" respectively. This is within the requirements set forth by the pump vendor (Hayward Tyler Pump Company). This confirms that an Emergency Service Water Pump will maintain the same amount of reliability as in the previous configuration, without compromise to the cross connected system and the overall ESW system reliability.

This change does not increase the probability or consequences of analyzed accidents, nor introduce a different type of accident or equipment malfunction than already evaluated in the FSAR. Thus, no unreviewed safety question exists.

FSAR Reference: Figure 9.2.1-1

CHANGE TO FACILITY AS DESCRIBED IN THE FSAR

Title: PCR-002992, Boron Injection Tank (BIT) Bypass Line Elimination

Function Summary: This plant modification deleted the BIT bypass line. Originally the design for the safety injection system required a BIT containing concentrated Boric Acid Solution (12% Boric Acid vs. 4% in Normal Reactor Coolant). After injection of this concentrated solution into the RCS, the safety injection lines required flushing to ensure a uniform Boric Acid Concentration. The BIT bypass line provided this capability. However, prior to issuance of the SHNPP operating license, CP&L demonstrated to the NRC that the BIT no longer required a concentrated Boric Acid Solution. Therefore, the safety injection system lines no longer require flushing after injection through the BIT, and the BIT bypass line can be isolated or deleted without effect on system or plant operation.

Safety Summary: IE Bulletin 88-08 identified the problem of thermal fatigue cracking of RCS piping due to thermal cycling caused by leakage of relatively cold water through closed isolation valves. At SHNPP, the BIT bypass line isolation valve had been confirmed to be leaking. This leakage created the same situation in the cold leg injection lines which resulted in fatigue cracking of RCS piping at other plants. The BIT bypass line is no longer required for operation of the safety injection system. Therefore, to eliminate this source of leakage permanently, the BIT bypass line was deleted entirely. The remaining branch connections at the main headers are now capped.

Based on the above, deletion of the BIT bypass line does not increase the probability or consequences of analyzed accidents, nor introduce a different type of accident or equipment malfunction than already evaluated in the FSAR. Thus, no unreviewed safety question exists.

FSAR Reference: Figure 6.3.2-01, Table 16.3-5

CHANGE TO FACILITY AS DESCRIBED IN THE FSAR

Title: PCR-003022, Delete Post-Accident Access Area Monitor in Turbine Building

Functional Summary: This plant modification removed post-accident access area radiation monitors RM-01TR-3515A and RM-01TR-3516A which were located in the instrument and service air compressor area of the Turbine Building, elevation 261'. This action was initiated by the site Radiation Monitoring System (RMS) task force in an effort to reduce the number of area monitors in the system.

Safety Summary: Monitor RM-01TR-3515A and RM-01TR-3516A are not part of the safety related portion of the RMS and are not included in Technical Specifications. Review of FSAR figure 12.3A-4 (Post-Accident Dose Rates and Accessibility Analysis), and Reg Guide 1.97 Table 3 (Type E Variables), concluded that RM-01TR-3515A and RM-01TR-3516A were not required in their previous location and, therefore, were deleted. Removal of these area monitors does not in any way facilitate the release of radioactivity. These monitors are not discussed in the Technical Specifications. The probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the FSAR is not increased. The probability for an accident or malfunction of a different type than any evaluated previously in the FSAR has not been created. Thus, no unreviewed safety question exists.

FSAR Reference: Section 12.3.4.1.8.4

CHANGE TO FACILITY AS DESCRIBED IN THE FSAR

Title: PCR-003074, Spare Penetration Modification for Sludge Lance and Eddy Current Lines

Functional Summary: This plant modification changed the configuration of spare containment penetration S-66 such that it can be more readily used during outages. The original design of penetration S-66 utilized a 10" diameter welded cap on the inside of the containment building. This change outfitted the penetration with flanged connections on both sides of the containment wall. During outages, the sleeve is used for eddy current, sludge lancing and other equipment that must be run from outside the containment building to a location inside. During operations the blind flanges constitute the containment barrier and during outages vapor seals provide protection against refueling accidents. A test connection has been provided such that LLRT requirements can be satisfied during operation.

Safety Summary: This modification makes a design change which in its design configuration is mechanically equivalent to the previous design. The previous design utilized a 10" diam. welded cap on the inside of the containment building. This was the mechanical boundary between the containment atmosphere and the RAB. The new configuration merely removes the welded cap and replaces it with 10" diam. flanges and blind flanges. The flanges are rated for the same pressures that the cap was originally designed for. This modification is essentially a replacement with an equal to or better component and hence as so can be considered equally safe and containment integrity is maintained. This also negates any increase in probability for the release of radioactivity.

This change does not increase the probability or consequences of analyzed accidents, nor introduce a different type of accident equipment malfunction than already evaluated in the FSAR. Thus, no unreviewed safety question exists.

FSAR Reference: Sections 6.2.4, 6.2.6, 3.8.2

CHANGE TO FACILITY AS DESCRIBED IN THE FSAR

Title: PCR-003311, Addition/Relocation of Level Components for Moisture Separator Drain Tanks (MSDT's)

Functional Summary: This plant modification installed new level gauges on the moisture separator drain tanks 1A & 1B. In addition, the associated level switches are relocated and the set points revised to reflect the new locations. The newly installed equipment has also been heat traced for freeze protection.

Relocation of the level switches will allow a wider range of operation for the MSDT's while retaining the loop seal to Feedwater Heater No. 4. Also, the installation of new level gauges will provide the ability to monitor the new level in the MSDT's.

Safety Summary: The MSDT's are not safety related, nor are they required for mitigation of any design basis accident. This change does not increase the probability or consequences of analyzed accidents, nor introduce a different type of accident or equipment malfunction than already evaluated in the FSAR. Thus, no unreviewed safety question exists.

FSAR Reference: Figure 10.1.0-5

CHANGE TO FACILITY AS DESCRIBED IN THE FSAR

Title: PCR-003509, Auxiliary Feedwater (AFW) Drip Leg Drain Line Reroute

Functional Summary: This plant modification reroutes the drip leg drain line off of the Turbine Driven AFW Pump from the condenser and connects it to the blowdown line 6BD10-68-1 which is vented to the atmosphere. In the previous configuration, when work was being performed on the condenser, the drip leg had to be isolated. With the drip leg isolated, the steam traps in the drain line could not handle the build up of condensate, and the Turbine Driven AFW Pump could trip on overspeed when started due to water slugging.

Safety Summary: The reroute of this nonsafety line will not adversely affect the availability or reliability of the TDAFW Pump, but will make it more reliable by eliminating the water slugging potential. By the deletion of this line to the condenser, the potential of air inleakage to the condenser is reduced. The additional line to the blowdown system will have no adverse effect on that system.

This change does not increase the probability or consequences of analyzed accidents, nor introduce a different type of accident or equipment malfunction than already evaluated in the FSAR. Thus, no unreviewed safety question exists.

FSAR Reference: Figure 10.1.0-1 and 10.1.0-6

CHANGE TO FACILITY AS DESCRIBED IN THE FSAR

Title: PCR-003550, Steam Generator Drain Line Repair

Functional Summary: This modification was made to the three steam generators (SG) primary head drain line piping. During August 1988, while in a refueling outage, an accumulation of residue (appearing to be boric acid crystals) was observed on SG's A and B. It was concluded that the residue was a result of reactor coolant system leakage and a repair was necessary. The SG repair consists of cutting off the channel head drain tube (leaving a short alignment protursion) and welding a new Inconel nozzle onto the channel head. This new nozzle (W drain pipe socket) surrounds the existing channel head hole and captures the lower end of the original drain tube. The new nozzle is appropriately welded to the outside surface of the channel head thereby enclosing the hole originally drilled through the channel head. This ensures that any leakage through the hole, or tube, is contained within the new metal boundary.

Following attachment of the new drain pipe socket, the existing valve and piping assembly was reinstalled.

Safety Summary: The new design is stronger and eliminates two welds per SG and is considered to provide a greater margin of safety. The new drain pipe socket is made of Inconel (ASME SB-168) material and is compatible with reactor coolant fluid, and is compatible with the original valve and piping assembly which was reused. The new drain pipe socket was designed and analyzed by Westinghouse and satisfies the requirements of the SG design specification.

This change does not increase the probability or consequences of analyzed accidents, nor introduce a different type of accident or equipment malfunction than already evaluated in the FSAR. Thus, no unreviewed safety question exists.

FSAR Reference: Figure 5.1.2-1

CHANGE TO FACILITY AS DESCRIBED IN THE FSAR

Title: PCR-003606, Steam Generator Blowdown (SGBD) Settling Tank Piping Wall Thinning

Functional Summary: This plant modification replaced the Steam Generator Blowdown System magnetic filter settling tank pump discharge piping (previously carbon steel) from the pump discharge flanges to the Secondary Waste System Discharge Header 7WS6-63-1. The replacement piping is stainless steel. The modification also replaces the A and B settling tank pump Discharge Valves IBD-119 and IBD-122 and Discharge Check Valves 1BD-120 and 1BD-123, respectively, with stainless steel bodies. The modification also replaces the settling tank pumps' minimum recirculation piping, the flow orifices, and Isolation Valve 1BD-124.

The valves and piping were replaced with stainless steel to prevent against corrosive attack from secondary waste water that can back flow into the settling tank pump discharge piping during condensate polisher regeneration. This event has occurred on at least one occasion and resulted in severe corrosion to the settling tank pump and associated discharge piping and valves.

The settling tank pump discharge piping was previously a combination of 1½" and 3" (nominal) pipe. The 1½" piping has been up-sized to 2" to accommodate larger valves and the 3" section will remain as is with only a material change.

This modification also installs a new manual Isolation Valve 1BD-161 at the steam generator blowdown/secondary waste interface. This was installed to facilitate the recovery of the secondary waste header while the settling tank piping modifications were being performed and to facilitate the maintenance of check valves 1BD-120 and 1BD-123 located upstream.

Safety Summary: A failure of the settling tank and associated pumps, piping, pressure boundary, etc. cannot challenge steam generator inventory through any credible scenario since blowdown flow is regulated by physically separate, safety-related components located upstream in the RAB. A failure of the pressure boundary would cause the Turbine Building Elevation 240' to be filled with steam; however, it would not be considered an initiating event due to the arguments stated above. Although a failure of the settling tank or its associated piping, components, etc., is credible, it would not affect the safe shutdown of the plant because a blowdown pressure boundary failure is bounded by more limiting events which have greater consequences and much higher probability of occurrence.

This change does not increase the probability or consequences of analyzed accidents, nor introduce a different type of accident or equipment malfunction than already evaluated in the FSAR. Thus, no unreviewed safety question exists.

FSAR Reference: Figure 10.1.0-6