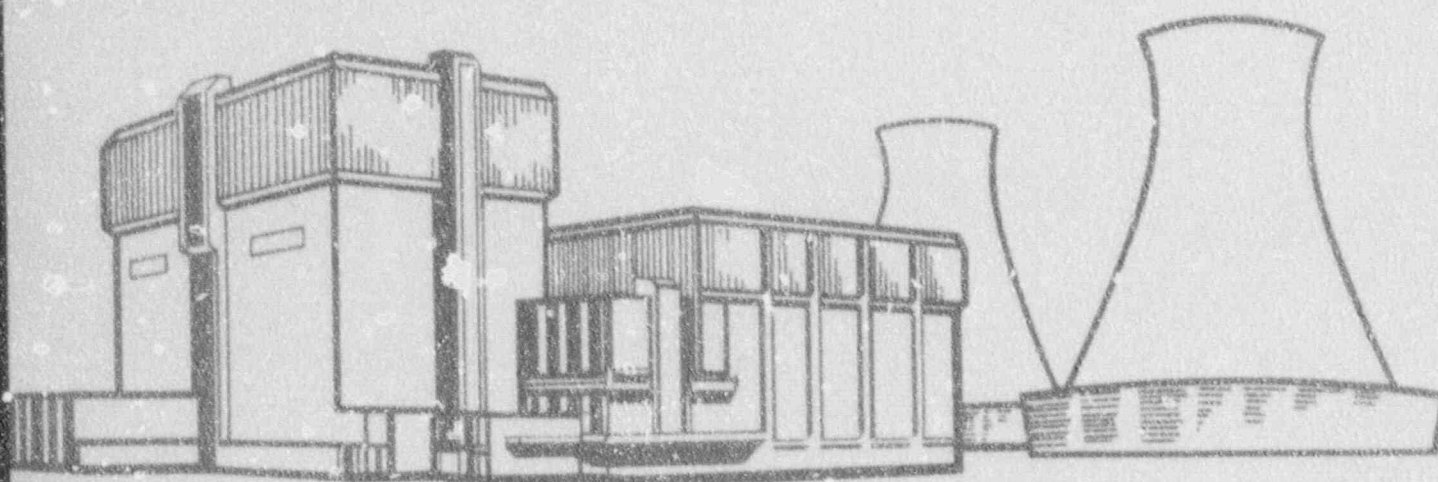


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LIMERICK GENERATING STATION
UNIT NO. 1 and 2
DOCKET NO. 50-352 (UNIT 1)
DOCKET NO. 50-353 (UNIT 2)

ANNUAL PLANT MODIFICATION REPORT
JULY 1, 1991 THROUGH JUNE 30, 1992

SUBMITTED TO
THE UNITED STATES NUCLEAR REGULATORY COMMISSION

PURSUANT TO

FACILITY OPERATING LICENSE NPF-39 (UNIT 1)
AND NPF-85 (UNIT 2)

LIMERICK GENERATING STATION
ANNUAL PLANT MODIFICATION REPORT
AUGUST 31, 1992

This report for Limerick Generating Station Unit No. 1, License No. NPF-39 and Unit No. 2, License No. NPF-85, is issued in fulfillment of the reporting requirements of 10CFR 50.59(b). The report covers modifications that were physically completed during the one-year period ending June 30, 1992, including changes made to the facility as described in the UFSAR.

For each of the modifications included in this report the safety evaluation has determined that there are no unreviewed safety questions as defined in 10CFR 50.59(a)(2) in that (i) the probability of occurrence of the consequences of an accident or malfunction of equipment important to safety previously evaluated in the UFSAR was not increased, and (ii) a possibility for an accident or malfunction of a different type than any evaluated previously in the UFSAR was not created, and (iii) the margin of safety as defined in the basis for any Technical Specification was not reduced.

LIMERICK GENERATING STATION
ANNUAL MODIFICATION REPORT

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Modification No.: 5001-1

A. System: Reactor Water Cleanup

B. Description:

Filling and venting of Reactor Water Cleanup pumps

C. Reason for Change:

Three new vent lines and a demineralized water fill connection will be added to each Reactor Water Cleanup recirculation pump system to provide sufficient ventilation in the Reactor Water Cleanup pumps.

D. Safety Evaluation Summary:

- i) Does this modification increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the FSAR?

Answer: No, the addition of vents and a demineralized water fill connection on the Reactor Water Cleanup system will be installed in a portion of the system which can be isolated from the Reactor Coolant Pressure Boundary.

- ii) Does this modification create the possibility for an accident or malfunction of a different type than any evaluated previously in the FSAR?

Answer: No, the vents and demineralized water fill connection will not affect any safety-related piping or other safety related commodities.

- iii) Does this modification reduce the margin of safety as defined in the bases for the Technical Specifications?

Answer: No, there is no applicable Technical Specification.

Modification No.: 5085-1

A. System: Miscellaneous

B. Description:

This modification replaced Rosemount model 1151 transmitters installed in safety-related applications which require harsh environment qualification, with Rosemount model 1153 transmitters. It also added a square root extractor and a new signal resistor unit in the Residual Heat Removal (RHR) instrument loop.

C. Reason for Change:

There is no longer a supplier for nuclear safety related model 1151 transmitters or spare parts. Regulation 10CFR50.49 was issued requiring all electrical equipment important to safety (as defined in 10CFR50.49) be environmentally qualified.

D. Safety Evaluation Summary:

- i) Does this modification increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the FSAR?

Answer: No, those components replaced or added by this modification meet or exceed the requirements of their application. The model 1153B transmitter is equivalent to the model 1151 transmitter in form, fit, and function.

- ii) Does this modification create the possibility for an accident or malfunction of a different type than any evaluated previously in the FSAR?

Answer: No, the modified instrument loops are not subject to new failure modes, because the replacement model 1153B transmitters are functionally equivalent to the original transmitters and the modification to the FT-51-1N001 is consistent with the design of its redundant instrument loop.

iii) Does this modification reduce the margin of safety as defined in the bases for the Technical Specifications?

Answer: No, capability to measure plant process is not reduced. All design and performance requirements applicable to the original design bases will continue to be satisfied. Technical Specifications Sections 3/4.3.1 through 3/4.3.5 and 3/4.3.7 and their bases were reviewed to make this determination.

Modification No.: 5315-1 (Rev. 4)

A. System: Structures and Snubbers

B. Description:

This modification decommissioned the snubber test machine and services. Modification 6050-0 relocated these services.

C. Reason for Change:

The snubber test facility needed to be relocated to facilitate the installation of the Deep Bed Demineralizers.

D. Safety Evaluation Summary:

i) Does this modification increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the FSAR?

Answer: No, this modification was implemented per existing design requirements.

ii) Does this modification create the possibility for an accident or malfunction of a different type than any evaluated previously in the FSAR?

Answer: No, this modification was implemented per existing design requirements.

iii) Does this modification reduce the margin of safety as defined in the bases for the Technical Specifications?

Answer: No, the systems involved and the equipment that was decommissioned do not affect the existing Technical Specifications. This modification does not affect any commitments related to snubbers as described in the Technical Specifications Section 3/4.7.4.

Modification No.: 5416-1

A. System: Post Accident Sampling

B. Description:

This modification upgraded the Post Accident Sampling System (PASS).

C. Reason for Change:

This modification met PECO's commitment to the NRC to improve the operability and reliability of the PASS.

D. Safety Evaluation Summary:

- i) Does this modification increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the FSAR?

Answer: No, the function of the PASS is not changed by this modification. The safety related portions of the PASS affected by this modification were modified with Q-Listed components which meet all applicable design criteria of the PASS and of Class IE systems. The non-safety related portions do not affect the safety related portions of the PASS or nearby safety related systems.

- ii) Does this modification create the possibility for an accident or malfunction of a different type than any evaluated previously in the FSAR?

Answer: No, this modification only upgrades the equipment associated with the existing PASS and does not change its function or logic.

- iii) Does this modification reduce the margin of safety as defined in the bases for the Technical Specifications?

Answer: No, this modification does not impact any safety system described in the Technical Specifications or their bases. This change does not adversely affect the capability to safely shutdown the plant.

Modification No.: 5871-1

A. System: Circulating Water and Cooling Towers

B. Description:

This modification installed a low water level detector downstream of the cooling tower outlet screen and provides a parallel alarm contact into the existing cooling tower basin Hi/Lo level alarm circuit.

C. Reason for Change:

In order to monitor the pressure drop across the screens, a low level detector was installed downstream of the cooling tower outlet screens and actuates an alarm in the main control room via a common status alarm when the water level drops below a predetermined level. The operator is forewarned of the outlet screens which may require cleaning.

D. Safety Evaluation Summary:

- i) Does this modification increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the FSAR?

Answer: No, this modification is not safety-related and enhances the reliability of the circulating water system.

- ii) Does this modification create the possibility for an accident or malfunction of a different type than any evaluated previously in the FSAR?

Answer: No, the original functional design of the system as described in the FSAR is unchanged. This system is not safety-related and failure analysis is not evaluated in the FSAR.

- iii) Does this modification reduce the margin of safety as defined in the bases for the Technical Specifications?

Answer: No, there are not Technical Specifications applicable to this non-safety related system.

Modification No.: 5880-1

A. System: Nuclear Boiler

B. Description:

This modification installed a test tap on the neck of the valve body of valve HV-41-109A.

C. Reason for Change:

This modification was necessary for an alternate method for performance of Local Leak Rate Testing (LLRT) of the feedwater long-path recirculation valve HV-41-109A.

D. Safety Evaluation Summary:

- i) Does this modification increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the FSAR?

Answer: No, the alternate 10CFR50, Appendix J, Type C leak test method has been demonstrated to maintain the same direction or pressurization on the discharge seat of the valve as normally performed. This method is more sensitive to leakage than that previously used.

- ii) Does this modification create the possibility for an accident or malfunction of a different type than any evaluated previously in the FSAR?

Answer: No, the test tap was designed and installed in accordance with the prevailing design and installation codes and standards for the intended service and will not impair the operability of the valve.

iii) Does this modification reduce the margin of safety as defined in the bases for the Technical Specifications?

Answer: No, the test method is designed to test the sealing capability of the valve in the same direction that post-accident leakage would occur and the test tap added to the valve will not impair its normal isolation function. Technical Specification Sections 3.0.2, 3.0.4, 4.0.1, 4.0.3, 4.0.5, 3/4.3.2, 4.6.1.2, and 3/4.6.3 and associated bases were reviewed in making this determination.

Modification No.: 5914-1

A. System: 4 KV System Diesel Generators

B. Description:

This modification added a locked-open ball valve in the diesel generator starting air line between the air start manifold and the pressure regulator for the lower main bearing lube oil booster.

C. Reason for Change:

The ball valve will provide a means of isolating air to the main bearing oil booster when it is desirable to use the air system to rotate the diesel to clear it of excess oil. This will avoid evacuating the main bearing oil booster cylinder so that oil remains available in the cylinder for any required emergency start of the diesel engine.

D. Safety Evaluation Summary:

- i) Does this modification increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the FSAR?

Answer: No, because the malfunction of components added by this modification does not affect the function of the diesels or of their associated systems as described in the UFSAR. The added components meet existing safety criteria.

- ii) Does this modification create the possibility for an accident or malfunction of a different type than any evaluated previously in the FSAR?

Answer: No, because the Q-listed, Seismic Category I components added by this modification will not have any adverse impact on the diesels or on any other safety-related system. Failure of the valve or failure to reopen the valve is no worse than the previously analyzed failure of the non-single failure proof lube oil booster cylinder.

iii) Does this modification reduce the margin of safety as defined in the bases for the Technical Specifications?

Answer: No, because the modification does not alter the intended function of the system involved. Technical Specification Section 3/4.8.1 was reviewed in making this determination.

Modification No.: 5938-1

A. System: 480V System

B. Description:

This modification replaced aluminum vertical bus bars with copper bus bars and washers for connection between aluminum horizontal bus to copper vertical bus for both Seismic Class I, safety-related and Nonseismic Class I, non-safety related 480V AC motor control centers (MCCs) manufactured by Eaton/Cutler-Hammer Company.

C. Reason for Change:

Some failures of aluminum vertical bus connections at Eddystone Generating Station and Limerick Generating Station were reported. This modification will increase the reliability of both the safety-related and non-safety related MCCs.

D. Safety Evaluation Summary:

- i) Does this modification increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the FSAR?

Answer: No, this modification has no adverse affect on equipment important to safety. This modification increases the reliability of the MCCs.

- ii) Does this modification create the possibility for an accident or malfunction of a different type than any evaluated previously in the FSAR?

Answer: No, this modification has no adverse affect on equipment important to safety. The material substitution of vertical bus and conical spring washers for safety-related MCCs complies with 10CFR21 requirements.

iii) Does this modification reduce the margin of safety as defined in the bases for the Technical Specifications?

Answer: No, Technical Specification 3/4.8 which governs the 480V AC MCCs does not specifically address the vertical bus material, nor does this material substitution impact the operation of any safety-related system.

Modification No.: 5956-1

A. System: Feedwater

B. Description:

This modification installed General Electric's Zinc Injection Passivation (GEZIP) system on Unit 1.

C. Reason for Change:

The presence of trace amounts of soluble zinc in BWR reactor water has been shown to considerably reduce radiation buildup on primary piping and components. The GEZIP process consists of a skid-mounted injection system for introducing a continuous dilute solution of zinc oxide into the feedwater system.

D. Safety Evaluation Summary:

- i) Does this modification increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the FSAR?

Answer: No, loss of power to the GEZIP system will not cause a loss of feedwater to the reactor via an incorrect valve line-up; check valves have been incorporated into the design of the zinc injection piping to insure that the probability of occurrence of loss of feedwater to the reactor is not increased by this modification. The effect of traces of soluble zinc in the feedwater has been found to have no adverse effects on plant materials or on BWR fuel.

- ii) Does this modification create the possibility for an accident or malfunction of a different type than any evaluated previously in the FSAR?

Answer: No, the GEZIP system is not expected to have any adverse effects on the reactor pressure vessel, fuel cladding, parts of the fuel assembly, or the primary system piping. This modification installs non-safety related equipment in a non-safety related area of the plant.

iii) Does this modification reduce the margin of safety as defined in the bases for the Technical Specifications?

Answer: No, the installation of the GEZIP system, including connections to the feedwater system and the demineralized water system, does not alter the intended function of the systems involved. Technical Specification Sections 3/4.3.9 and 3/4.4.4 and their bases were reviewed in making this determination.

Modification No.: 6036-1

A. System: Core Spray

B. Description:

This modification resized two existing minimum flow orifices, each located in a discharge line common to a pair of Core Spray pumps, and installed four new orifices, one located in each pump's individual minflow discharge piping.

C. Reason for Change:

This modification minimizes pump-to-pump interaction during minimum flow operation and insures that minimum flow requirements are met for each Core Spray pump.

D. Safety Evaluation Summary:

- i) Does this modification increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the FSAR?

Answer: No, Core Spray is used to mitigate the consequences of an accident and is not an accident initiator. A postulated single failure of the new flow orifices would result in an increase or a decrease in the minflow rate, which would cause the Core Spray loop to be inoperable. This has been previously evaluated in the SAR as acceptable.

- ii) Does this modification create the possibility for an accident or malfunction of a different type than any evaluated previously in the FSAR?

Answer: No, only the method of obtaining the required system resistance for proper minflow operation is being changed by the addition of these new orifices and the resizing of the existing orifices.

iii) Does this modification reduce the margin of safety as defined in the bases for the Technical Specifications?

Answer: No, since the short-stroke position of the minflow valves is not altered by this modification, Emergency Core Cooling System (ECCS) response time is unchanged and the margin of safety is unchanged. The bases for Technical Specification Section 3/4.5 were reviewed in making this determination.

Modification No.: 6079-1

A. System: Fuel and Fuel Handling

B. Description:

This modification upgraded the Unit 1 refueling platform.

C. Reason for Change:

To improve the reliability, reduce fuel handling time, and ease future maintenance activities of the refueling platform.

D. Safety Evaluation Summary:

- i) Does this modification increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the FSAR?

Answer: No, no physical changes are being performed which will affect the platform's ability to safely handle fuel assemblies and other components.

- ii) Does this modification create the possibility for an accident or malfunction of a different type than any evaluated previously in the FSAR?

Answer: No, the handling of fuel and the performance of other activities were not altered.

- iii) Does this modification reduce the margin of safety as defined in the bases for the Technical Specifications?

Answer: No, this modification will not affect refueling platform handling activities, hoist load capacities, hoist raise interlocks or the ability to load only rodged cells.

Modification No.: 6104-1

A. System: Containment Atmospheric Control

B. Description:

This modification installed a 3/4 inch drain connection with a single shutoff valve and threaded cap between valves HV-57-105 and HV-57-118 on the low volume exhaust line of the Containment Atmospheric Control (CAC) system at LGS Unit 1.

C. Reason for Change:

The two inch low volume exhaust line piping configuration creates a loop seal which serves no design function. The loop seal collects condensed water which may prevent exhaust of gases through the low volume exhaust line. The drain connection will be used for occasional draining of any accumulated condensation in the loop seal.

D. Safety Evaluation Summary:

- i) Does this modification increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the FSAR?

Answer: No, the addition of the drain connection does not affect pressure boundary integrity of the low volume purge line and containment isolation. This modification does not alter the design function, design criteria, or testing acceptance criteria for the affected piping system. Consequences of a malfunction of the inboard containment isolation valve is not increased because of the leak rate testing which was performed on the drain line isolation valve and the administrative controls which will ensure that the valve remains closed.

- ii) Does this modification create the possibility for an accident or malfunction of a different type than any evaluated previously in the FSAR?

Answer: No, the drain connection is designed to the applicable Code and piping specification requirements to assure maintenance of the pressure boundary integrity. Appropriate testing was performed on the new valve to assure containment isolation. This modification does not alter the design function of the affected piping system and does not add any new equipment of a different type than previously installed.

- iii) Does this modification reduce the margin of safety as defined in the bases for the Technical Specifications?

Answer: No, the drain connection with a normally closed valve was designed and tested in accordance with the applicable Code and piping specification requirements.

Modification No.: 6133-1

A. System: Steam Leak Detection

B. Description:

This modification replaced the Riley Temperature Monitoring Instrumentation associated with the Steam Leak Detection System (SLDS) for Unit 1 with General Electric's Nuclear Measurement Analysis and Control (NUMAC) Leak Detection Monitors (LDMs). This modification also makes changes to the power feeds of the SLDS and replaces Residual Heat Removal (RHR) temperature switch TSH-51-151.

C. Reason for Change:

The Riley Temperature Monitoring System was replaced because it was a source of several Licensee Event Reports (LERs) due to spurious trip signals which had caused system isolations on both units. Also, the Riley ambient and differential temperature transmitter switches required the lifting of the thermocouple leads to perform the monthly functional testing.

D. Safety Evaluation Summary:

- i) Does this modification increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the FSAR?

Answer: No, this modification only replaces the existing analog Riley temperature monitoring instrumentation with more reliable and accurate equipment, lessening the probability of malfunction. No changes to the design function of the SLDS or any other safety-related and important to safety systems were made. This modification is considered an enhancement to the SLDS because the new equipment is more reliable and provides improved accuracy with easily serviceable components.

- ii) Does this modification create the possibility for an accident or malfunction of a different type than any evaluated previously in the FSAR?

Answer: No, there were no changes made to the isolation logic of either the Nuclear Steam Supply Shutoff System (NSSSS) or the Emergency Safeguard Systems (ESS). The installation of the new equipment eliminates some failure modes and spurious operations inherent to the previous instrumentation. Failures will be detected by an automatic self-test function which is a part of the NUMAC LDM design. The NUMAC LDMS have gone through extensive testing to ensure their reliability and accuracy.

- iii) Does this modification reduce the margin of safety as defined in the bases for the Technical Specifications?

Answer: No, the replacement of the analog Riley temperature monitoring instrumentation with the microprocessor based NUMAC LDMS will not affect any of the allowable design limits for the SLDS addressed in the Technical Specifications. Also, station personnel will be able to perform the channel check and the monthly functional test for each individual temperature instrument loop using the NUMAC LDMS as required by the Technical Specifications.

Modification No.: 6135-1

A. System: Fire Protection

B. Description:

This modification extended the existing Turbine Generator Fire Detection and Suppression System to provide fire detection and suppression for the turbine generator bearings and beneath the appearance lagging.

C. Reason for Change:

This modification was to modify and enhance the existing Unit 1 Turbine Generator Fire Detection and Suppression System.

D. Safety Evaluation Summary:

- i) Does this modification increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the FSAR?

Answer: No, the added components are not safety-related and have no impact on safety-related systems. The Turbine Generator Fire Detection and Suppression System is not an initiator of accidents.

- ii) Does this modification create the possibility for an accident or malfunction of a different type than any evaluated previously in the FSAR?

Answer: No, the Turbine Generator Fire Detection and Suppression System and its components are not initiators of accidents. This modification does not introduce any new failure mode for any important to safety equipment of the plant.

iii) Does this modification reduce the margin of safety as defined in the bases for the Technical Specifications?

Answer: No, this modification does not impact any safety features of the plant. The existing Technical Specification commitments related to the plant fire suppression and detection systems are not affected by this modification. Technical Specification Sections 3/4.7.6 and 3/4.3.7.9 were reviewed in making this determination.

Modification No.: 6137-1

A. System: Plant Computers and Samac

B. Description:

This modification added a Radiation Area Access Control (RAAC) system for Unit 1. The RAAC system provides permanent stations outside of nine (9) radiological area access points. Each station provides corporate computer and telephone access and the capacity for future installation of an electronic dosimetry system.

C. Reason for Change:

This modification enhances the radiation monitoring capability of the plant personnel and allows Health Physics (HP) personnel the ability to view and print essential radiological exposure data and Radiation Work Permit (RWP) data.

D. Safety Evaluation Summary:

- i) Does this modification increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the FSAR?

Answer: No, this modification meets design, material, and construction standards applicable to the systems modified. These changes make additions to the plant telephone and security systems, but all components are nonsafety-related and have no impact on safety-related systems. Physical and electrical separation was considered to isolate safety-related systems and components.

- ii) Does this modification create the possibility for an accident or malfunction of a different type than any evaluated previously in the FSAR?

Answer: No, this modification does not create the potential for any type of accident because the components are not accident initiators. This modification does not affect any safety structure or component of the plant.

Modification No.: 6139-1

A. System: Snubbers

B. Description:

This modification is Phase A of the Limerick Snubber Reduction Program. Phase A removes snubbers from Unit 1 anchor to anchor piping systems that have similar piping configurations to corresponding Unit 2 calculations that were a part of the Limerick Unit 2 Snubber Reduction Program. The specific systems involved in this modification are Main Steam (Outside Containment), Diesel Generator, Standby Liquid control, Reactor Pressure Vessel (RPV) Head Vent, Main Steam Drain, and Fuel Pool Drain piping systems.

C. Reason for Change:

This modification is a part of the Limerick Snubber Reduction Program.

D. Safety Evaluation Summary:

- i) Does this modification increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the FSAR?

Answer: No, the small pipe line break is already considered in the probability of the Design Basis Accident. The pipe break effects will not have an adverse impact on the design bases of any equipment important to safety inside the drywell.

- ii) Does this modification create the possibility for an accident or malfunction of a different type than any evaluated previously in the FSAR?

Answer: No, snubbers were not removed from any piping system where equipment or components could not be qualified to withstand the effects of pipe whip and still perform their intended function.

iii) Does this modification reduce the margin of safety as defined in the bases for the Technical Specifications?

Answer: No, the margin of safety as defined in the basis of any Technical Specification is unchanged from previous values, because the effects from a postulated pipe break at the new location is enveloped by previous analyses.

Modification No.: 6168-1

A. System: Feedwater

B. Description:

This modification installed a high point vent on the suction piping of each Reactor Feed Pump (RFP) 1AP101, 1BP101, and 1CP101, downstream of the suction valve of each pump.

C. Reason for Change:

A method to vent entrapped air from RFP suction piping from the suction valves to the pump inlet was needed.

D. Safety Evaluation Summary:

- i) Does this modification increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the FSAR?

Answer: No, the vents were installed per existing design, material, and construction standards applicable to the feedwater system. This modification does not affect any equipment important to safety. This portion of the feedwater system is not safety-related and is not required to be operable following a LOCA.

- ii) Does this modification create the possibility for an accident or malfunction of a different type than any evaluated previously in the FSAR?

Answer: No, this modification installed additional vents in the feedwater system similar to existing vents in the system. Addition of vents to the feedwater system does not create the possibility of malfunction of any equipment important to safety.

- iii) Does this modification reduce the margin of safety as defined in the bases for the Technical Specifications?

Answer: Technical Specifications bases and UFSAR Section 15.0 were reviewed and no applicable section exists.

Modification No.: 6171-1

A. System: Instrument Air

B. Description:

This modification changed the process tap locations for PSL-15-110/210A,B, signal for the Main Control Room (MCR) low pressure alarm, and PT-15-120/220A,B, signal for the MCR pressure indicator, to a common process tap (previously used for PSL-15-140/141 and 240/241) downstream of the Instrument Air Dryer Package on the air header. This tap is also used for the local pressure indicator added by this modification. Process taps for PSL-15-140/141 and 240/241 were changed to the taps used for PSL-15-110/210A,B, thereby maintaining an air receiver low pressure signal to the MCR, as a digital computer point. The old process taps for PT-15-120/220A,B were capped.

C. Reason for Change:

Instrument air header pressure was not adequately monitored in the MCR. A low pressure condition in the instrument air header could exist prior to any indication or alarm in the MCR.

D. Safety Evaluation Summary:

- i) Does this modification increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the FSAR?

Answer: No, this modification does not impact the instrument air system's ability to perform its design basis function. These instruments perform no safety-related function and are used for alarm and indication only. This modification does not introduce a new failure mode nor adversely affect equipment important to safety.

- ii) Does this modification create the possibility for an accident or malfunction of a different type than any evaluated previously in the FSAR?

Answer: No, this modification does not change the function each device performs within the instrument air system. It enables better indication and alarm monitoring of the instrument air header versus the receiver pressures which allows for quicker response and recovery from instrument air trouble. No other equipment important to safety relies on the operability of the devices involved in this modification. These devices have no safety-related function.

- iii) Does this modification reduce the margin of safety as defined in the bases for the Technical Specifications?

Answer: No, the Technical Specification does not address the Instrument Air System. Technical Specification Sections 3/4.3, 3/4.6, 3/4.7, and their bases have been reviewed in making this determination.

Modification No.: 6182-1

A. System: Reactor Water Cleanup

B. Description:

This modification rerouted the Reactor Water Cleanup (RWCU) Precoat Tank overflow line to install a tee and associated valves to run the overflow line to the Dirty Radwaste (DRW) system during backwash of the RWCU Filter Demineralizers (F/Ds). In addition this modification cut and blanked a portion of the recycle line, 2" HBC-132, as a measure to ensure the isolation of the precoat tank during F/D backwash.

C. Reason for Change:

This modification is to eliminate the possibility of a single active failure from contaminating the RWCU Precoat Tank during backwash operations of the RWCU F/D's.

D. Safety Evaluation Summary:

- i) Does this modification increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the FSAR?

Answer: No, this modification does not change the design or the function of either the floor drain system or its collection tank. The drain system does not require or affect the operation of safety related equipment. The removal of a portion of the HBC-132 line does not impact the operation of the RWCU system.

- ii) Does this modification create the possibility for an accident or malfunction of a different type than any evaluated previously in the FSAR?

Answer: No, this modification maintains the original design conditions of the RWCU system. It will not cause a new malfunction of safety related equipment since the floor drain system is passive and the modification is in accordance with all current design standards for the RWCU system.

iii) Does this modification reduce the margin of safety as defined in the bases for the Technical Specifications?

Answer: No, this modification does not change the system in any way and does not reduce the system performance, therefore, the margin of safety as described in the Technical Specifications is maintained.

Modification No.: 6183-J

A. System: Reactor Enclosure Heating, Ventilation, and Air Conditioning (HVAC) and Standby Gas Treatment System (SBGTS)

B. Description:

This modification increased the secondary containment blowout panel actuation setpoints in the Reactor Enclosure (RE) from 0.25 psid to 0.5 psid.

C. Reason for Change:

There was a site event involving actuation of RE blowout panels which resulted in a Licensee Event Report (LER).

D. Safety Evaluation Summary:

- i) Does this modification increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the FSAR?

Answer: No, increasing the panel release setpoint makes a loss of secondary containment less likely. The blowout panels have maintained their Seismic Category I installation criteria. Environmental qualification of important to safety components, equipment, and systems have not been affected. The secondary containment differential pressure due to fan pressurization is less than that due to tornado depressurization.

- ii) Does this modification create the possibility for an accident or malfunction of a different type than any evaluated previously in the FSAR?

Answer: No, the blowout panels are not initiators of accidents. The blowout panels were installed in accordance with Seismic Category I criteria.

iii) Does this modification reduce the margin of safety as defined in the bases for the Technical Specifications?

Answer: No, increasing the secondary containment blowout panel actuation setpoints does not impact any safety features of the plant. Technical Specification Section 3/4.6.5 was reviewed in making this determination.

NCR No.: L-90224

A. System: Compressed Air

B. Description:

This Nonconformance Report (NCR) replaced the copper tubing connecting the backup nitrogen bottle to the service air supply piping connected to the inflatable seals with stainless steel, replaced the brass valves with stainless steel valves to be compatible with the tubing, and installed the missing valves. Inflatable seals which are the Spent Fuel Pool (SFP) gate seals, are not being upgraded because the 1/4 inch copper tubing is acceptable.

C. Reason for Change:

This NCR was issued to restore the design to the original configuration as shown in the P&ID.

D. Safety Evaluation Summary:

- i) Does this modification increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the FSAR?

Answer: No, the Service Air System and the inflatable seals are not initiators of an accident previously evaluated in the UFSAR. The repair meets the design, material, and construction standards applicable to the service air supply to the inflatable seals per the original design. Safety-related systems are not involved in the repair activity.

- ii) Does this modification create the possibility for an accident or malfunction of a different type than any evaluated previously in the FSAR?

Answer: No, the tubing run from the nitrogen bottle to the service air piping does not impact the functionality of the nitrogen bottle. The nitrogen bottles and the inflatable seals will function as originally designed.

iii) Does this modification reduce the margin of safety as defined in the bases for the Technical Specifications?

Answer: The inflatable seals are not discussed in detail in the Technical Specifications. The Technical Specification Section 3/4.6.5 and their bases were reviewed in making this determination.

NCR No.: L-91151

A. System: Residual Heat Removal (RHR)

B. Description:

This activity removes the motor operated valves' (MOV's), HV-51-1F026A and B, maintenance from the Environmental Qualification Report (EQR).

C. Reason for Change:

HV-51-1F026A and B are installed in the steam condensing mode of the RHR system and are normally closed (de-energized). The steam condensing mode of RHR has been eliminated per DCP-0493, thereby deleting the active safety related function of these valves. Investigation revealed that the MOV's are tested by several surveillance tests which are performed when the unit is in OPCON 4 or 5 only. Therefore, the existence of a potentially harsh environment and an Environmental Qualification (EQ) common cause failure is eliminated and an EQR is not necessary.

D. Safety Evaluation Summary:

- i) Does this modification increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the FSAR?

Answer: No, HV-51-1F026A and B have no active safety function because the steam condensing mode of RHR has been deleted per UFSAR Section 5.4.7.1.1.5.

- ii) Does this modification create the possibility for an accident or malfunction of a different type than any evaluated previously in the FSAR?

Answer: No, the non-conformance is related to maintenance tasks not performed as required on HV-51-1F026A and B. These valves do not have an active safety function.

iii) Does this modification reduce the margin of safety as defined in the bases for the Technical Specifications?

Answer: No, Technical Specifications Sections 4.3.2.2, 4.3.3.1, 4.3.3.2, 4.5.1.C.1, 4.5.2.1, and 4.6.4.2.2 were reviewed in making this determination.

NCR No.: L-91236

A. System: Miscellaneous Instrument Systems

B. Description:

This Nonconformance Report (NCR) involved an Instrument Setting Change Request (ISCR) no. 91-047 which requested approval to increase the alarm setpoint of the Unit 1 Loose Parts Monitoring System (LPMS) from three times the background noise level to six times the background noise level.

C. Reason for Change:

The alarm setpoint change was requested to reduce the number of false alarms, thereby increasing operator confidence in the LPMS.

D. Safety Evaluation Summary:

- i) Does this modification increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the FSAR?

Answer: No, the LPMS does not automatically initiate any automatic control, actuation, or trip functions of plant systems or equipment. The LPMS or the information supplied by the LPMS are not solely relied on by plant operators to take safety-related actions.

- ii) Does this modification create the possibility for an accident or malfunction of a different type than any evaluated previously in the FSAR?

Answer: No, increasing the LPMS alert setpoint does not change the functionality of the LPMS, the methods by which the LPMS identifies and locates loose parts and conveys that information to plant operators, or the failure modes of the LPMS.

iii) Does this modification reduce the margin of safety as defined in the bases for the Technical Specifications?

Answer: No, the LPMS will continue to provide monitoring capability of the primary system to detect loose parts in accordance with current Technical Specifications and consistent with regulatory guidance. Technical Specification 3/4.3.7.10 and its bases were reviewed in making this determination.

LG92-00122

A. Reactor Vessel

B. Justification:

Nonconformance Report (NCR) refers to the analysis of miscellaneous objects lost in the Reactor Vessel.

C. Reason for Change:

This was to review the cumulative affects of miscellaneous objects to determine that there is no compromise made for safe reactor operation.

D. Safety Evaluation Summary:

- i) Does this modification increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the FSAR?

Answer: No, the addition of these objects and the cumulative affects of other previously lost objects in the reactor do not affect any accident initiators. The lost objects will not adversely affect the chemical or metallurgical environment, will not block control rod operation, will not cause fuel bundle flow blockage, will not adversely affect Residual Heat Removal (RHR) system operability, and will not cause damage to other reactor internal components.

- ii) Does this modification create the possibility for an accident or malfunction of a different type than any evaluated previously in the FSAR?

Answer: No, the lost objects will not create a chemical or corrosion concern and will not create the potential for damage to reactor internal components.

- iii) Does this modification reduce the margin of safety as defined in the bases for the Technical Specifications?

Answer: No, reactor water chemistry limits and reactor performance will be unaffected.

Test No.: SP-T-008

A. System: Feedwater

B. Description:

This test performs a feedwater flow measurement using radioactive sodium (Na24) tracer at Limerick Generating Station Unit 1.

C. Reason for Change:

This test is performed for on line flow measurements using a radioactive tracer to verify whether there is any discrepancy in the feedwater flow measured by the venturis.

D. Safety Evaluation Summary:

- i) Does this modification increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the FSAR?

Answer: No, the injection of sodium nitrate (NaNO_3) has no significant effect on the materials of the reactor or fuel cladding. The test is done under normal operation of the unit. The introduction of Na24 causes only negligible increase in the reactor coolant activity.

- ii) Does this modification create the possibility for an accident or malfunction of a different type than any evaluated previously in the FSAR?

Answer: No, the effects of such a small quantity of sodium nitrate on the components of reactor vessel, fuel cladding, and components of feedwater system are negligible. The increase in main steam line radiation is within the normal operating limits.

iii) Does this modification reduce the margin of safety as defined in the bases for the Technical Specifications?

Answer: No, the reactor coolant chemistry and activity remains well within allowable limits and the main steam line radiation increase is negligible. Safety Limits and Limiting Safety Systems settings Technical Specifications and bases (2.2.1), Reactor Coolant Chemistry Technical Specification and bases (3/4.4.4), Reactor Coolant Specific-Activity Technical Specifications and bases (3/4.4.5), and UFSAR Sections 5.2.3 and 15.0 were reviewed in making this determination.

Modification No.: 5342-2

A. System: Condensate Filter Demineralizers

B. Description:

This modification installed new inlet and outlet isolation valves for the condensate filter demineralizers during a plant shutdown.

C. Reason for Change:

This modification provides positive means of isolation, as needed, and enables on-line maintenance of the existing valves which control the flow through the condensate filter demineralizers.

D. Safety Evaluation Summary:

- i) Does this modification increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the FSAR?

Answer: No, the new isolation valves do not impact the normal operating conditions of the condensate filter demineralizers. This modification does not change, degrade, or prevent the response of active or passive systems.

- ii) Does this modification create the possibility for an accident or malfunction of a different type than any evaluated previously in the FSAR?

Answer: No, this modification does not affect equipment important to safety or safety related systems. This modification meets the seismic specifications for this system and the original design specification for materials and construction practices.

iii) Does this modification reduce the margin of safety as defined in the bases for the Technical Specifications?

Answer: No, this modification does not involve a change in the initial system conditions or response time which affect the course of an accident analysis supporting the bases of the Technical Specifications. Technical Specifications 3/4.4 and 3/4.7 were reviewed in making this determination.

Modification No.: 5515-2

A. System: Feedwater

B. Description:

This modification changed the type of coupling installed between the Reactor Feed Pump 2B-P101 and its driver turbine 2B-S105.

C. Reason for Change:

This modification replaced the existing gear-type coupling with a dry coupling to eliminate Reactor Feed Pump (RFP) vibration that was experienced during continuous operation of the existing Unit 1 gear-type couplings.

D. Safety Evaluation Summary:

- i) Does this modification increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the FSAR?

Answer: No, the RFP, its driver turbine, and associated components, such as the coupling, are not safety-related equipment. Failure of the coupling does not compromise any safety-related system or component and does not prevent a safe shutdown of the plant. This modification reduces the probability of a loss of feedwater accident by improving the reliability of the coupling connecting the RFP to its driver turbine.

- ii) Does this modification create the possibility for an accident or malfunction of a different type than any evaluated previously in the FSAR?

Answer: No, the only accidents which could result from a failure of the coupling and resultant loss of feedwater flow have already been analyzed in FSAR Section 15.1.1, 15.2.7, and 15.9.6.3.3.n.

iii) Does this modification reduce the margin of safety as defined in the bases for the Technical Specifications?

Answer: No, the RFP coupling has no Technical Specification requirements. Technical Specification 3/4.3.9 was reviewed in making this determination.

Modification No.: 584.42

A. System: Reactor Enclosure Heating, Ventilating, and Air Conditioning (HVAC) and Standby Gas Treatment System (SBGTS)

B. Description:

This modification removed the trip capability of the low temperature switches TSL-76-205 and TSL-76-215 for the Unit 2 Reactor Building and Refueling Floor supply fans.

C. Reason for Change:

This modification prevents spurious Reactor Enclosure and Refueling Floor HVAC supply fan trips caused by stratification of the cold supply air. Spurious tripping of these fans causes unnecessary startup of the SBGTS. The temperature switches require manual resetting after tripping.

D. Safety Evaluation Summary:

- i) Does this modification increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the FSAR?

Answer: No, the function of the low temperature switches is replaced by Station Procedures. Active or passive equipment that respond to an accident will not be changed or degraded by this modification.

- ii) Does this modification create the possibility for an accident or malfunction of a different type than any evaluated previously in the FSAR?

Answer: No, the reactor enclosure and refueling floor supply fans have no safety-related function. The original design intent of the reactor enclosure and refueling area supply fans are not affected by this modification.

iii) Does this modification reduce the margin of safety as defined in the bases for the Technical Specifications?

Answer: No, this modification does not affect the safety-related part of the reactor enclosure and refueling area HVAC systems. Technical Specifications Sections 3/4.3.2 and 3/4.6.5 and their bases were reviewed in making this determination.

Modification No.: 5956-2

A. System: Feedwater

B. Description:

This modification installed General Electric's Zinc Injection Passivation (GEZIP) system on Unit 2.

C. Reason for Change:

The presence of trace amounts of soluble zinc in BWR reactor water has been shown to considerably reduce radiation buildup on primary piping and components. The GEZIP process consists of a skid-mounted injection system for introducing a continuous dilute solution of zinc oxide into the feedwater system.

D. Safety Evaluation Summary:

- i) Does this modification increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the FSAR?

Answer: No, loss of power to the GEZIP system will not cause a loss of feedwater to the reactor via an incorrect valve line-up; check valves have been incorporated into the design of the zinc injection piping to insure that the probability of occurrence of loss of feedwater to the reactor is not increased by this modification. The effect of traces of soluble zinc in the feedwater has been found to have no adverse effects on plant materials or on BWR fuel.

- ii) Does this modification create the possibility for an accident or malfunction of a different type than any evaluated previously in the FSAR?

Answer: No, the GEZIP system is not expected to have any adverse effects on the reactor pressure vessel, fuel cladding, parts of the fuel assembly, or the primary system piping. This modification installs non-safety related equipment in a non-safety related area of the plant.

iii) Does this modification reduce the margin of safety as defined in the bases for the Technical Specifications?

Answer: No, the installation of the CEZIP system, including connections to the feedwater system and the demineralized water system, does not alter the intended function of the systems involved. Technical Specification Sections 3/4.3.9 and 3/4.4.4 and their bases were reviewed in making this determination.

Modification No.: 6097-2

A. System Plant Computers and Samac

B. Description:

This modification upgraded the Safety Parameter Data System (SPDS) portion of the Plant Monitoring System (PMS) to make the screen/curve display agree with the Transient Response Implementation Plan (TRIP) procedures.

C. Reason for Change:

This modification upgraded the Unit 2 PMS SPDS to reflect the revision of the BWR Owner's Group Emergency Procedure Guidelines (EPGs), Revision 4.

D. Safety Evaluation Summary:

- i) Does this modification increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the FSAR?

Answer: No, this modification does not affect the Class 1E input modules to PMS. A failure of PMS can not render a malfunction of the Class 1E input modules to PMS due to its circuit isolation capability.

- ii) Does this modification create the possibility for an accident or malfunction of a different type than any evaluated previously in the FSAR?

Answer: No, the circuit isolation capability of Class 1E PMS input modules will not be affected, ensuring that no failure of PMS can be reflected back into the safety systems.

iii) Does this modification reduce the margin of safety as defined in the bases for the Technical Specifications?

Answer: No, SPDS will be operational during all modes of reactor operation defined in Technical Specifications table 1.2. The operability of SPDS does not constitute a LCO for operation because hard-wired Class 1E instrumentation is available in the Control Room if SPDS is inoperable.

Modification No.: 6108-2

A. System: DC Systems

B. Description:

This modification replaced the underrated fuses in the 125/250V DC Motor Control Centers (MCCs) and panels, and added a second set of Class 1E fuses/fuse blocks for the High Pressure Coolant Injection/Reactor Core Isolation Cooling (HPCI/RCIC) nonsafety related pump motors and new fuse holders on MCC 20D203, Compartments 01, 02, 03.

C. Reason for Change:

The 125/250V DC MCCs and panels were replaced with properly rated fuses capable of meeting the design requirements for voltage rating and interrupting capability.

D. Safety Evaluation Summary:

- i) Does this modification increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the FSAR?

Answer: No, this change will have no impact on the accident analysis described in the FSAR Chapter 15. The replacement of underrated fuses in the MCCs and panels bring this equipment into compliance with the original design intent. This modification does not degrade any system structure or component reliability and therefore all systems, structures and components perform as previously designed.

- ii) Does this modification create the possibility for an accident or malfunction of a different type than any evaluated previously in the FSAR?

Answer: No, the installation of properly rated fuses, new fuse blocks, and series connected fuses meets the original design criteria with no effect on the SAR accident analysis, and brought this equipment into compliance with the original design intent for the DC Power Distribution System.

iii) Does this modification reduce the margin of safety as defined in the bases for the Technical Specifications?

Answer: No, the changes do not alter the intended function of the systems involved, nor do they affect the safe shutdown of the plant as described in the SAR. Technical Specification Section 3/4.8.2 and 3/4.8.3 were reviewed in making this determination.

Modification No.: 6115-2

A. System: Electro Hydraulic Control (EHC)

B. Description:

This modification added hydraulic accumulators, valve manifolds and associated one inch piping and fittings to the EHC System Fluid Actuator Supply (FAS) for each of the four main turbine control valves. Also, FAS tubing routed from the EHC unit to the control valves were replaced with schedule 80 stainless steel piping and associated hanger material.

C. Reason for Change:

This modification provides increased hydraulic damping of the EHC system and improves the quality of the welded joints.

D. Safety Evaluation Summary:

- i) Does this modification increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the FSAR?

Answer: No, once the EHC system has tripped, the accumulators are isolated from the trip circuit, because they are outside of the trip boundary. The accumulators will not prevent the EHC system from performing its design function. This modification will lower the probability of turbine trip events.

- ii) Does this modification create the possibility for an accident or malfunction of a different type than any evaluated previously in the FSAR?

Answer: No, the EHC system is not safety-related and its failure does not directly affect any equipment important to safety. This modification does not introduce modes of failure that have not been previously considered.

iii) Does this modification reduce the margin of safety as defined in the bases for the Technical Specifications?

Answer: No, because this modification greatly reduces the probability of EHC system weld failures and subsequent loss of EHC, there will be a corresponding increase in past safety margins due to a more reliable EHC system. Technical Specification Bases 3/4.3.1, 3/4.3.8, and 2.2 were reviewed in making this determination.

Modification No.: 6120-2

A. System: Reactor Water Cleanup

B. Description:

This modification replaced the existing 4" diameter Reactor Water Cleanup valve 44-HV-2F039 with another valve that is a 3" diameter, but using an improved disc design.

C. Reason for Change:

The Reactor Water Cleanup valve 44-HV-2F039 had been found to leak excessively during the Local Leak Rate Test.

D. Safety Evaluation Summary:

- i) Does this modification increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the FSAR?

Answer: No, the valve meets or exceeds the original valve purchase order requirements for material, design, testing, inspection and installation as specified in the USFAR. The new valve does not affect other systems since its function or method of function has not changed.

- ii) Does this modification create the possibility for an accident or malfunction of a different type than any evaluated previously in the FSAR?

Answer: No, the check valve continues to function as originally designed. The new valve has been evaluated to have no impact on Reactor Water Cleanup system flow or functional requirements. No other modifications are being made to any safety related equipment or equipment important to safety.

- iii) Does this modification reduce the margin of safety as defined in the bases for the Technical Specifications?

Answer: No, the new valve is designed to the same valve design specifications, qualification and function as the valve it replaces.

Modification No.: 6182-2

A. System: Reactor Water Cleanup

B. Description:

This modification rerouted the Reactor Water Cleanup (RWCU) Precoat Tank overflow line to install a tee and associated valves to run the overflow line to the Dirty Radwaste (DRW) system during backwash of the RWCU Filter Demineralizers (F/Ds).

C. Reason for Change:

This modification is to eliminate the possibility of a single active failure from contaminating the RWCU Precoat Tank during backwash operations of the RWCU F/D's.

D. Safety Evaluation Summary:

- i) Does this modification increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the FSAR?

Answer: No, this modification does not change the design or the function of either the floor drain system or its collection tank. The drain system does not require or affect the operation of safety related equipment.

- ii) Does this modification create the possibility for an accident or malfunction of a different type than any evaluated previously in the FSAR?

Answer: No, this modification maintains the original design conditions of the RWCU system. It will not cause a new malfunction of safety related equipment since the floor drain system is passive and the modification is in accordance with all current design standards for the RWCU system.

iii) Does this modification reduce the margin of safety as defined in the bases for the Technical Specifications?

Answer: No, this modification does not change the system in any way and does not reduce the system performance, therefore, the margin of safety as described in the Technical Specifications is maintained.

Test No.: SP-T-009

A. System: Feedwater

B. Description:

This test performs a feedwater flow measurement using radioactive sodium (Na^{24}) tracer at Limerick Generating Station Unit 2. A similar test was done for Unit 1. This review is based on some of the actual data of Unit 1.

C. Reason for Change:

This test is performed for on line flow measurements using a radioactive tracer to verify whether there is any discrepancy in the feedwater flow measured by the venturis.

D. Safety Evaluation Summary:

- i) Does this modification increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the FSAR?

Answer: No, the injection of sodium nitrate (NaNO_3) has no significant effect on the materials of the reactor or fuel cladding. The test is done under normal operation of the unit. The introduction of Na^{24} causes only negligible increase in the reactor coolant activity.

- ii) Does this modification create the possibility for an accident or malfunction of a different type than any evaluated previously in the FSAR?

Answer: No, the effects of such a small quantity of sodium nitrate on the components of reactor vessel, fuel cladding, and components of feedwater system are negligible. The increase in main steam line radiation is within the normal operating limits.

iii) Does this modification reduce the margin of safety as defined in the bases for the Technical Specifications?

Answer: No, the reactor coolant chemistry and activity remains well within allowable limits and the main steam line radiation increase is negligible. Safety Limits and Limiting Safety Systems settings Technical Specifications and bases (2.2.1), Reactor Coolant Chemistry Technical Specification and bases (3/4.4.4), Reactor Coolant Specific-Activity Technical Specifications and bases (3/4.4.5), and UFSAR Sections 5.2.3 and 15.0 were reviewed in making this determination.

Modification No.: 0949-0

A. System: Communications

B. Description:

This modification upgraded the existing power supplies to the plant telephone and radio systems.

C. Reason for Change:

This modification increases the availability of the plant telephone and radio systems.

D. Safety Evaluation Summary:

- i) Does this modification increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the FSAR?

Answer: No, those components installed by this modification will not alter or affect the function of any components required for safety.

- ii) Does this modification create the possibility for an accident or malfunction of a different type than any evaluated previously in the FSAR?

Answer: No, this modification upgraded power supplies to Dimension 2000, Prelude, ENS, and the plant radio system and is in accordance with the existing design criteria for these systems. This modification is an improvement to the communication systems and does not adversely affect any safety features of the plant.

- iii) Does this modification reduce the margin of safety as defined in the bases for the Technical Specifications?

Answer: No, the Technical Specifications do not address the power supplies to the plant communication systems. Technical Specifications Sections 3/4.7.7, 3/4.8, and 3/4.9.5 were reviewed in making this determination.

Modification No.: 5993-0

A. System: Communications

B. Description:

This modification upgraded the present radio communications system between the Main Control Room, Remote Shutdown Panel Room, and Operational Support Center.

C. Reason for Change:

The radio communications system was upgraded to one that will survive and operate during a loss of power or a fire in any given area of the plant as described in the Fire Protection Evaluation Report (FPER) Appendix R.

D. Safety Evaluation Summary:

- i) Does this modification increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the FSAR?

Answer: No, failure of any component associated with this modification will not affect any safety features of the plant. This change improved the radio communications system of the plant and was implemented in accordance with the existing design criteria for the subject system.

- ii) Does this modification create the possibility for an accident or malfunction of a different type than any evaluated previously in the FSAR?

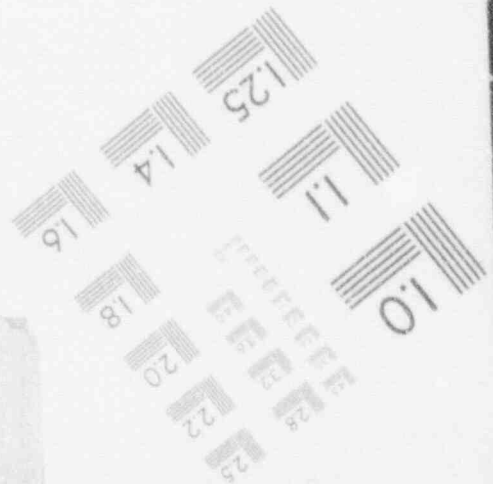
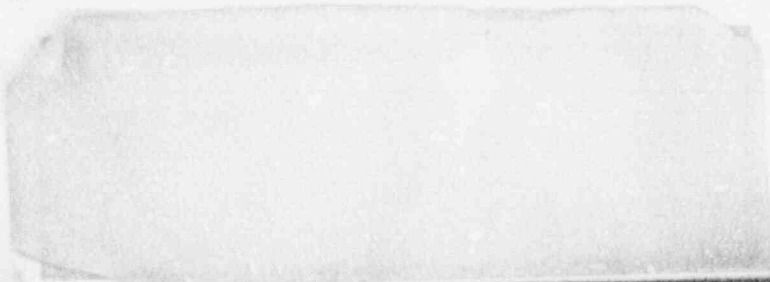
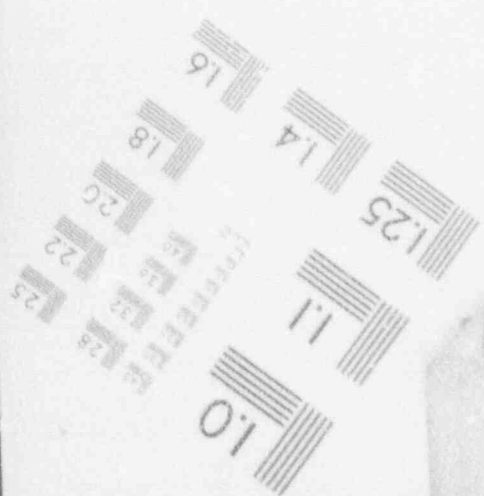
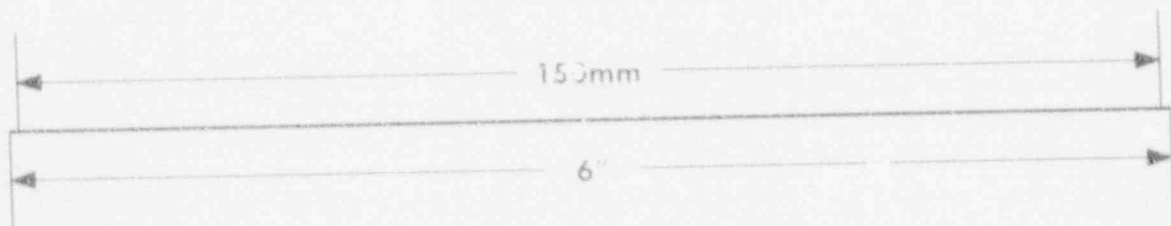
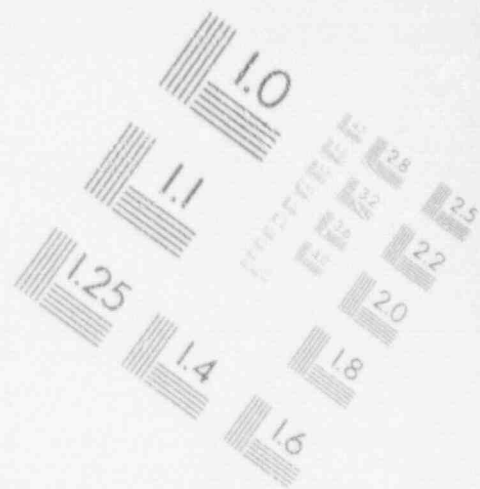
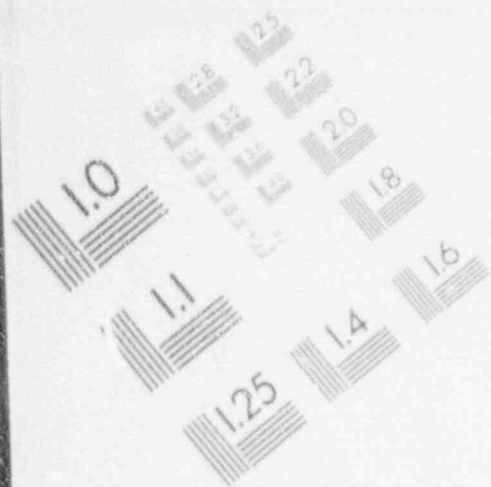
Answer: No, this modification was implemented in accordance with the existing design criteria for the radio communications system and does not introduce a new mode of failure for any safety-related equipment of the plant.

- iii) Does this modification reduce the margin of safety as defined in the bases for the Technical Specifications?

Answer: No, this modification does not alter the intended function of the radio communications system.

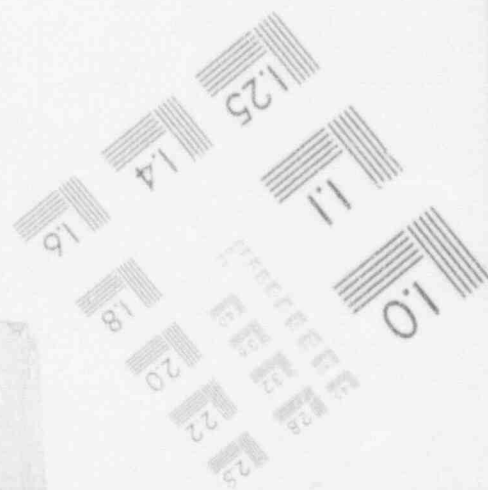
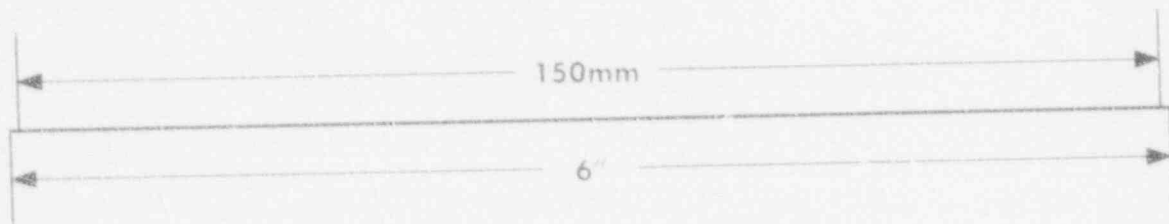
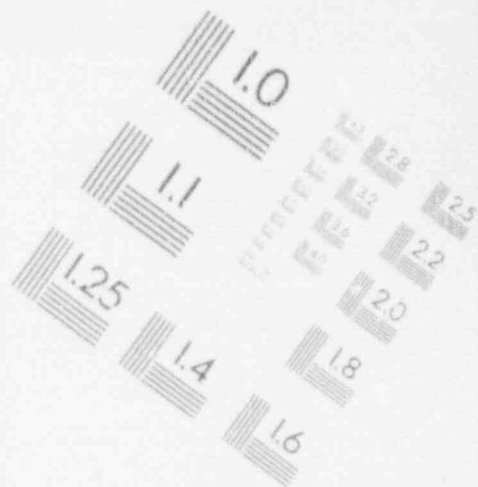
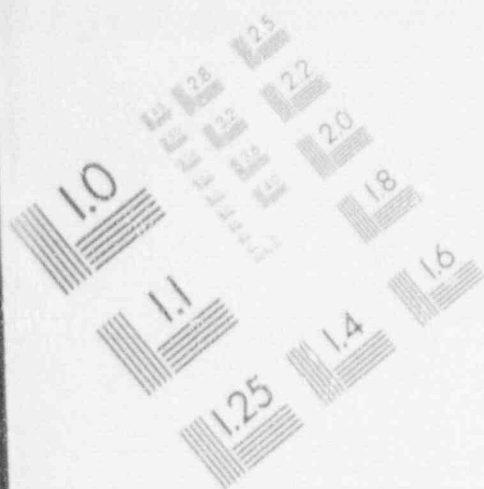
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IMAGE EVALUATION
TEST TARGET (MT-3)



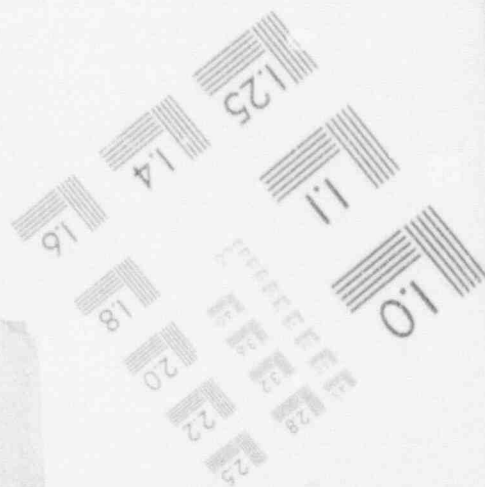
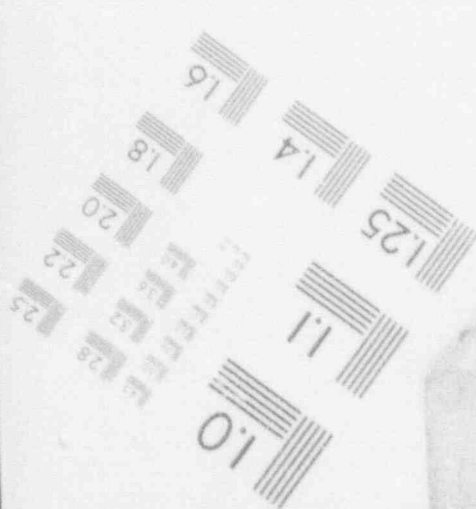
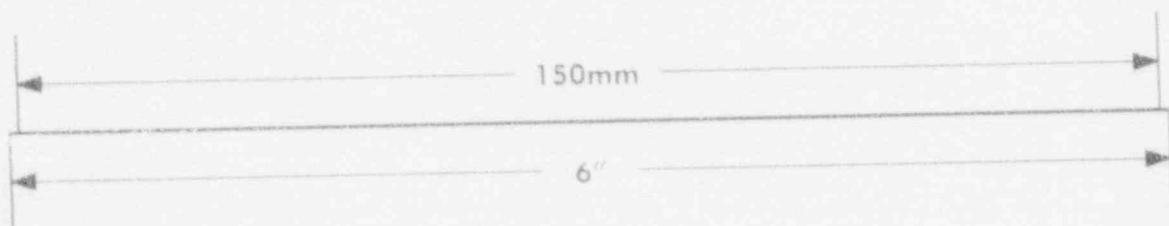
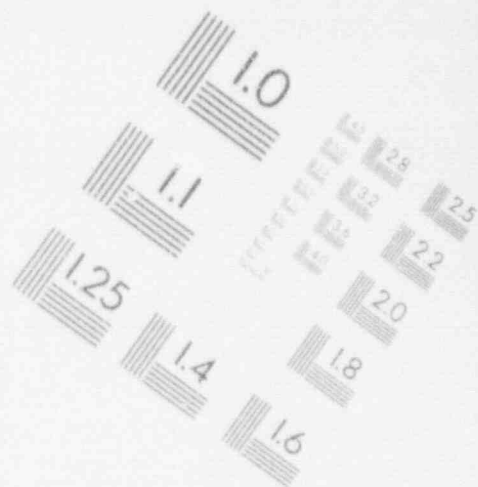
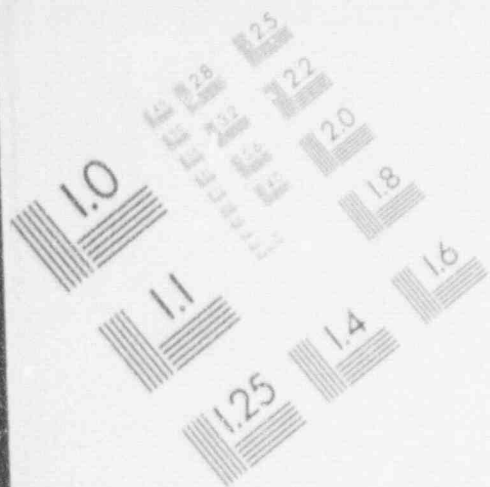
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IMAGE EVALUATION
TEST TARGET (MT-3)



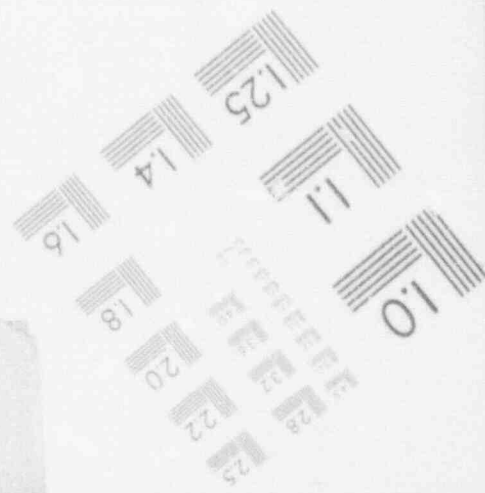
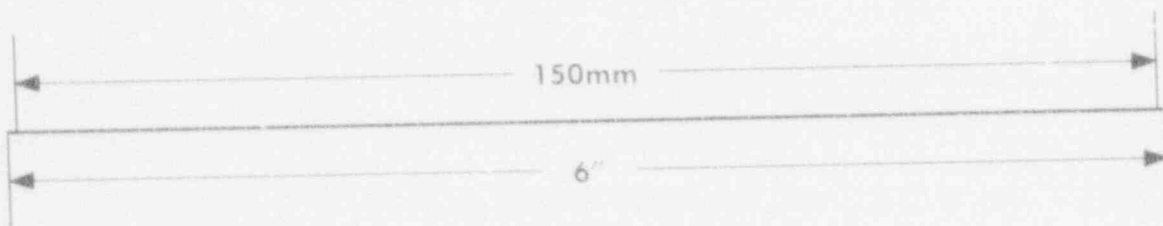
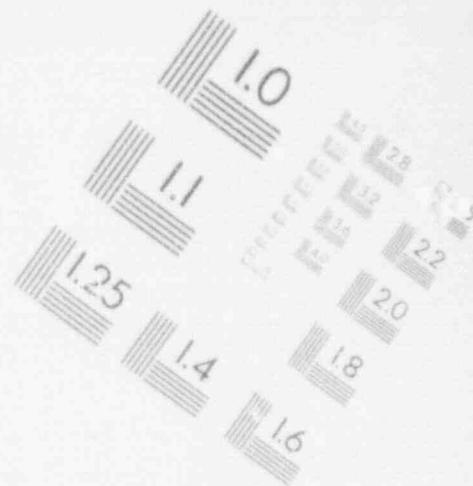
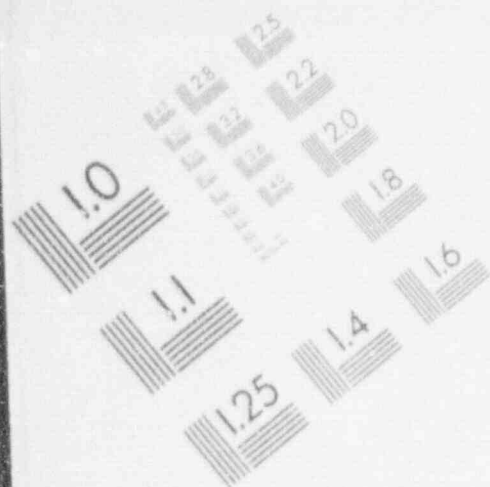
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IMAGE EVALUATION
TEST TARGET (MY-3)



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IMAGE EVALUATION
TEST TARGET (MT-3)



Modification No.: 6011-0

A. System: Communications

B. Description:

This modification extended portions of the onsite communication systems to the offsite Limerick Training Center. Telephone, radio, and public address system equipment were installed in the Limerick simulator to parallel communications with the main control room.

C. Reason for Change:

This modification was necessary to satisfy a corporate management commitment that all Limerick Generating Station emergency drill exercises would be performed from the simulator in lieu of the main control room.

D. Safety Evaluation Summary:

- i) Does this modification increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the FSAR?

Answer: No, this modification will not cause any impact or malfunction to plant communications or any other plant system. No equipment that is important to safety was modified or is affected by this change.

- ii) Does this modification create the possibility for an accident or malfunction of a different type than any evaluated previously in the FSAR?

Answer: No, none of the equipment installed is safety-related and does not affect anything that is safety-related.

- iii) Does this modification reduce the margin of safety as defined in the bases for the Technical Specifications?

Answer: No, this modification does not adversely affect the capability for safely shutting down the plant. The Technical Specifications do not address the equipment or functions involved in this modification.

Modification No.: 6050-0

A. System: Structures

B. Description:

This modification installed new facilities to support: snubber testing, personnel anti-contamination clothing storage/issue, Unit 1 and 2 Condensate Ion Chromatography, and hot tool storage/issue.

C. Reason for Change:

These activities were previously housed in temporary facilities, which must be removed to allow Unit 1 and 2 Deep Bed Demineralizer installation.

D. Safety Evaluation Summary:

- i) Does this modification increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the FSAR?

Answer: No, this modification is not safety-related and has no impact on safety-related components.

- ii) Does this modification create the possibility for an accident or malfunction of a different type than any evaluated previously in the FSAR?

Answer: No, this modification adds nonsafety-related facilities and utilities in nonsafety-related areas and has no impact on systems or structures important to safety.

- iii) Does this modification reduce the margin of safety as defined in the bases for the Technical Specifications?

Answer: The snubber testing requirements described in Technical Specification Section 3/4.7.4 will not be impacted by the new Snubber Test Facility. Although Fire Suppression System changes are being made in the Turbine Building, these changes will not affect Technical Specifications, Section 3/4.7.6 commitments.

Modification No.: 6141-0

A. System: Fire Protection

B. Description:

This modification tied the Limerick Training Center Fire Protection System into the Limerick Station Fire Protection System.

C. Reason for Change:

This modification was necessary to provide adequate fire protection at the Training Center.

D. Safety Evaluation Summary:

- i) Does this modification increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the FSAR?

Answer: No, no safety-related systems are affected by this change. This UFSAR figure will not impact the design or operation of any safety-related equipment of the plant.

- ii) Does this modification create the possibility for an accident or malfunction of a different type than any evaluated previously in the FSAR?

Answer: No, no safety-related systems are affected by this change.

- iii) Does this modification reduce the margin of safety as defined in the bases for the Technical Specifications?

Answer: No, the UFSAR figure change does not alter the intended function of the Fire Protection System. Technical Specification Section 3/4.7.6 was reviewed in making this determination.

Modification No.: 9084-0

A. System: Plant Computers

B. Description:

To provide data collection of river flow information to Unit 1.

C. Reason for Change:

To provide river flow information and transmit data to the Control Room for Unit 1. Also, revise the data links between Limerick Generating Station and the Perkiomen and Bradshaw pumping stations.

D. Safety Evaluation Summary:

- i) Does this modification increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the FSAR?

Answer: No, the equipment is not safety-related. The design of this modification is in accordance with the applicable system design criteria.

- ii) Does this modification create the possibility for an accident or malfunction of a different type than any evaluated previously in the FSAR?

Answer: No, the addition of data and the modification of data links do not degrade safety-related components or systems.

- iii) Does this modification reduce the margin of safety as defined in the bases for the Technical Specifications?

Answer: No, this modification does not change the operation or function of safety related systems. Technical Specification Section 3/4.7 was reviewed in making this determination.

NCR No.: L-91014

A. System: Control Rod Drive Hydraulics

B. Description:

This Nonconformance Report (NCR) allows the Use-As-Is of Robertshaw scram valve pairs until part replacements can be completed during a normal maintenance schedule.

C. Reason for Change:

A letter from General Electric stated that Robertshaw has been supplying essentially commercial grade scram valves, pressure indicators, and parts since the expiration of their "N" stamp in 1985.

D. Safety Evaluation Summary:

- i) Does this modification increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the FSAR?

Answer: No, with two exceptions (the heavy hex nut and bonnet nut) the scram valve parts are identical in design, materials, and construction and throughout all tests and actual operations to date, they have performed in an identical manner. Through analytical and experimental analysis, the two exceptions have been proven by General Electric to be capable of performing their safety function. The scram valves obtained from Robertshaw after expiration of their "N" stamp program have proven to be functional equivalents of the components available previously.

- ii) Does this modification create the possibility for an accident or malfunction of a different type than any evaluated previously in the FSAR?

Answer: No, use of the existing scram valves cannot create any type of accident other than that described in the UFSAR. No new type of malfunction of the scram valves other than that previously evaluated in the SAR can be created by using the components installed.

iii) Does this modification reduce the margin of safety as defined in the bases for the Technical Specifications?

Answer: No, system response time and all other operational parameters are unchanged. This is supported by results obtained through surveillance testing. Technical Specifications Bases for Sections 3/4.1.3 were reviewed in making this determination.

NCR No.: L-91073

A. System: Service Water

B. Description:

This Nonconformance Report (NCR) proposed that the venting of noncondensables accumulating in the Service Water System (SWS) be done manually.

C. Reason for Change:

Manual venting eliminates debris restricting the flow from cracked open vent valves that have been experienced with the continuous venting approach.

D. Safety Evaluation Summary:

- i) Does this modification increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the FSAR?

Answer: No, the SWS is not safety-related and is not required to mitigate any accidents evaluated in the SAR. Failure of the SWS does not compromise any safety-related system or component, nor does it prevent a safe shutdown of the plant.

- ii) Does this modification create the possibility for an accident or malfunction of a different type than any evaluated previously in the FSAR?

Answer: No, improper venting is possible with either the continuous or the manual venting methods during abnormal conditions. No SWS equipment is safety-related and the proposed revision will not change the existing SWS equipment functional capability.

iii) Does this modification reduce the margin of safety as defined in the bases for the Technical Specifications?

Answer: This revision does not change the design basis or functional capability of the SWS or equipment and does not adversely affect any safety-related systems, structures, or components. Technical Specifications requirements and basis applicable to this revision are not affected.

NCR No.: L-91169

A. System: Emergency Service Water (ESW) and Residual Heat Removal (RHR)

B. Description:

The use-as-is disposition allows the use of PYCO temperature elements (TEs) and requires that the environmental qualification report (EQR) be revised to reflect the as-built configuration.

C. Reason for Change:

The manufacturer and model number of TE-051-105A,B and TE-051-007A,B were found to be different from those stated in the EQR.

D. Safety Evaluation Summary:

- i) Does this modification increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the FSAR?

Answer: No, the TEs are properly designed and qualified for their intended safety function and are equivalent to the TEs listed in the EQR.

- ii) Does this modification create the possibility for an accident or malfunction of a different type than any evaluated previously in the FSAR?

Answer: No, the TEs are of similar design. They are environmentally qualified and qualified for the intended safety function.

- iii) Does this modification reduce the margin of safety as defined in the bases for the Technical Specifications?

Answer: No, the TEs are equivalent to the TEs listed in the EQR with regard to function and qualification. Environmental qualification reports 16436-82N (PYCO) and 548-8854-2 (WEED) have been reviewed in making this determination. Also, Technical Specification Section 3.7.1.1 was reviewed.

Test No.: S12.8.B

A. System: Emergency Service Water (ESW), Residual Heat Removal Service Water (RHRSW)

B. Description:

This activity injects Betz Clam Trol (CT-1) into the ESW/RHRSW wet pit located inside the spray pond pump house by either manual addition or by use of a chemical injection system.

C. Reason for Change:

This process is to minimize and to mitigate biological fouling and possible microbiologically induced corrosion (MIC) from fouling the RHR Heat Exchanger tubes on the service water side.

D. Safety Evaluation Summary:

- i) Does this modification increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the FSAR?

Answer: No, if an intrusion of the chemical into the Radwaste System were to occur, the product is completely non-exchangeable and would be processed through plant demineralizers systems. Also, if the total expected storage volume of CT-1 (500 gal.) would inadvertently get released to the spray pond, the spray pond available volume of 28.9 million gallons would result in dilution that would further be diluted by cooling tower blowdown or detoxification agents. The only components in direct contact with the undiluted chemical is the injection/skid equipment. These components have no safety-related function and their failure has no impact on RHRSW operation. There is no modification of equipment important to safety nor are any affected by this activity.

- ii) Does this modification create the possibility for an accident or malfunction of a different type than any evaluated previously in the FSAR?

Answer: No, this activity does not impact nor adversely affect any other cooling system needed for safe shutdown of the plant or accident mitigation. The presence of CT-1 in the system does not affect the ability of the RHRSW System or the spray pond to perform their design function. The use of CT-1 at the intended dosage and duration has been reviewed and has been found to be non-detrimental to the equipment.

- iii) Does this modification reduce the margin of safety as defined in the bases for the Technical Specifications?

Answer: No, the chemical treatment of the heat exchangers is not governed by any Technical Specification. Technical Specifications Sections 3/4.7, 3/4.4, and 3/4.9 and their bases were reviewed in making this determination.