



LIMERICK GENERATING STATION

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

ANNUAL PLANT MODIFICATION REPORT
JULY 1, 1990 THROUGH JUNE 30, 1991

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
JUNE 30, 1991

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, 1991, including changes made to the facility as described in the FSAR.

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 FSAR was not increased, and (ii) a possibility for an accident or malfunction of a different type than any evaluated previously in the FSAR was not created, and (iii) the margin of safety as defined in the basis for any Technical Specification was not reduced.

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Modification No.: 0555-2

A. System: 047 Control Rod Drives/HCU

B. Description:

This modification installed a one-ton jib crane on the Limerick Generating Station Unit 2 Reactor Building at elevation 253'.

C. Reason for Change:

The jib crane is needed to transfer CRD's from the CRD cart on the removal track extension to a transfer cask.

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, all archives met design, material and construction standards applicable to the system and structure modified. No active or passive system as described in UFSAR is affected by this modification. There is no adverse effect on any safety-related structures as a result of 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, this modification added safety related commodities in a safety related area but had 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: No, an existing spare 3-hour fire rated damper was temporarily opened to install power feed cable and compensatory measures were taken per Tech Spec. Section 3/4.7.

Modification No.: 0670-1

A. System: Control Rod Drive Supply

B. Description:

This modification replaced the hydraulic control unit inlet scram valve teflon seat rings with Tefzel seat rings.

C. Reason for Change:

The teflon seat rings were replaced because teflon flakes have been found to obstruct flow through the CRD cooling water orifices and cause high CRD mechanism operating temperatures.

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 Tefzel seat rings have been qualified for BWR 6 application in the same Robertshaw scram inlet valve as used at Limerick. The BWR 6 application is more severe than the Limerick application.

- 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 Tefzel seat rings have been qualified for BWR 6 application in the same Robertshaw scram inlet valve.

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

Answer: No, because the Tefzel material is qualified for use in the valve and in service conditions more severe than at Limerick. The Technical Specification basis reviewed to make this determination is 3.1.3 (control rods).

Modification No.: 0801-1

A. System: Miscellaneous

B. Description:

This modification added test connections upstream and downstream of excess flow check valves located in instrument sensing lines in the following systems:

MSIV Leakage Control, Nuclear Boiler, Nuclear Boiler Vessel Instrumentation, Reactor Recirculation Pump, RWCU, RCIC, RHR, Core Spray and HPCI.

C. Reason for Change:

To allow functional testing of the excess flow check valves without system pressure.

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 this modification made no functional changes to the system; it operates exactly as before. The added piping and valves were purchased, installed, and tested to the requirements of the codes and specifications governing the existing system. Therefore, no increase in probability of an accident or malfunction of equipment important to safety exists as a result of reduced seismic, or quality control requirements. This modification maintains the systems capability to function as presently 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, because this modification did not introduce any new hazards. Since there is no functional change to the system, no accidents or malfunctions of a different type than previously evaluated could occur with the present system design.

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

Answer: No, because the function of the applicable systems are unaffected by this modification.

Modification No.: 5342-2

A. System: 016 Condenser Filter Demineralizers

B. Description:

This modification installed new inlet and outlet isolation valves for the condensate filter demineralizer vessels.

C. Reason for Change:

This modification provided a positive means of isolation and enables on-line maintenance of the existing valves which control the flow through the 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 did not affect equipment important to safety. The new valves do not impact normal operation of the condensate filter demineralizers. This modification did not change, degrade or alter the active or passive response described or assumed in the UFSAR.

- 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 did not delete or modify system protection features, downgrade support system performance or reduce redundancy or independence.

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

Answer: No, this modification did not involve a change in test or experiments which would result in exceeding acceptance limits. Nor did it 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.

Modification No.: 5493-1

A. System: Plant Process Radiation Monitoring

B. Description:

This modification added a test switch and test jacks on the front of the indicator trip unit chassis of the refueling floor ventilation and reactor enclosure ventilation radiation monitors RISH-26-1K609 A,B,C,D and RISH-26-1K601 A,B,C,D.

C. Reason for Change:

To permit surveillance testing in a more reliable and convenient manner.

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 this modification provided test facilities for the Reactor Enclosure and Refueling Floor Radiation Monitors to permit the performance of surveillance testing in accordance with existing requirements in a more reliable and convenient manner. This modification has been done in accordance with the existing design requirements applicable to the Process Radiation Monitoring including but not limited to seismic qualification. The design and installation of this modification did not impact the performance or decrease the existing degree of reliability of the safety-related trip function of the radiation monitors. The radiation monitors continued to monitor the reactor enclosure and refueling area exhaust air and upon detection of the appropriate high radiation levels, generate a trip signal to the Secondary Containment Isolation System. The design of this modification is such that the radiation monitors cannot be left in the test configuration with the trip signal bypassed. Therefore, this modification did not increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the FSAR. FSAR section 11.5.1, 9.4.2 and 7.3 have been reviewed in making this determination.

- 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 this modification met all the design requirements applicable to the original design. The modification to the radiation monitors was utilized for the testing of the units during surveillance testing. The test jacks were relocated to the front of the unit to reduce the difficulty in installing the test meter. Electrically the test jacks monitor the same point as the existing design. The test switch replaced a pair of test jacks currently on the back of the unit. The test switch was bypassed by the Trip Test Switch for the normal operating condition so it would not affect the monitor. With the Trip Test Switch in the "operate" position the radiation monitors continued to detect high radiation levels and provided a high radiation output signal regardless of the position of the test switch. For these reasons this modification did not create the possibility of an accident or malfunction of a different type than previously evaluated in the FSAR.

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

Answer: No, because this modification is only for installing test circuits to allow surveillance testing to be more conveniently performed. It did not change the function of the equipment in any way and, therefore, did not reduce the margin of safety provided by the existing design. Tech. Spec. Section 3/4.3.2, 3/4.6.5.2.1 and 3/4.6.5.2.2 were reviewed in making this determination.

Modification No.: 5551-1

A. System: Reactor Enclosure HVAC & SBGTS
Control Enclosure HVAC
Structures

B. Description:

This modification provided various steel rigging supports attached to the existing steel structures, in both the control and reactor enclosures, areas 8, 15 and 16 between elevations 269' and 331'.

C. Reason for Change:

These steel attachments will support the special rigging equipment required for the maintenance activities related to the Bettis actuators mounted on the automatic isolation and recirculation valves in the Reactor Enclosure area HVAC 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, all added steel meets design criteria for seismic category IIA plant structural components. All other miscellaneous devices to be used, will meet NUREG 0612 Sec. 5.1.1 criteria. These changes do not affect the function or operation of any safety-related systems or components in 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, all added steel meets design criteria for seismic category IIA plant structural components. All other miscellaneous devices to be used, will meet NUREG 0612 Sec. 5.1.1 criteria. These changes do not affect the function or operation of any safety-related systems or components in the plant.

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

Answer: No, the margin of safety was not reduced as defined in the Tech Spec basis for 3/4.6.5.2.1, 3/4.6.5.2.2 or 3/4.7.2, concerning the design of the support structures for rigging equipment.

Modification No.: 5763-1

A. System: 480V System

B. Description:

This modification replaced the class IE AC contactor coils 42-22322 and 42-22422 with DC coils.

C. Reason for Change:

Replacing the AC coils with DC coils for the two contactors prevents opening of the contactors during undervoltage conditions. The AC contactors, in the original design, would open during a voltage dip and as a result, the 120V distribution panel fed through the contactors would experience a loss of voltage. A loss of these panels is not desirable since they feed power to the auxiliary boiler system, the feedwater system, the radwaste system and other systems supporting normal operation of the plant.

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 this modification enhances plant reliability as it prevents contactor drop out on momentary voltage dips. The modification does not affect the safety function of the contactors, nor does it affect the performance or operation of any other safety or non-safety related equipment. FSAR Section 8.3.1.1.2 and Figure 8.3-2 were reviewed in making this determination.

- 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 this modification did not reduce the equipment protection provided by the existing design. Safety functions of the affected equipment remain unchanged. The non-class IE instrument AC power panels will still be shed from the bus via shunt trips per original design.

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

Answer: No, because the changes made per this modification do not affect the basis of any sections of the Technical Specifications. The Technical Specification Sections 3/4.8.3 and 3/4.8.4 were reviewed in making this determination.

Modification No.: 5791-1

A. System: RHR

B. Description:

This modification replaced four (4) existing 1st stage orifices and installed two (2) new 2nd stage orifices integral with 15 degree upturned piping end spool-pieces on the RHR test return lines.

C. Reason for Change:

To reduce the amount of throttling of test return line globe valves to prevent pump runout at the required flowrate during RHR system testing and suppression pool cooling operation, and to reduce suppression pool temperature stratification.

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 addition of orifices and upturned piping end pieces in the suppression pool did not change the way in which the RHR system operates; did not degrade the suppression pool cooling ability of the RHR system and did not have any effect on the criteria used in determining the types of postulated accidents. No new accident types were created 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, because the design and installation of the 2nd stage orifices and upturned piping end pieces met original design and installation requirements. No new types of equipment failure were created by these additions.

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

Answer: No, because the upturned piping end pieces that were installed to alleviate suppression pool temperature stratification improved the ability to ensure that the limiting condition for operation specified in 3.6.2.1(a)(2)(a) (the maximum average suppression pool temperature shall not exceed 105°F during testing which adds heat to the pool) by promoting better pool water mixing and a more uniform bulk average temperature.

Modification No.: 5816-1

A. System: 047 Control Rod Drive - HCU

B. Description:

This modification installed new check valves in each of the headers to the HCU's (drive, cooling, charging, exhaust) between the main control station and the vent valve. These valves constitute a new isolation boundary. Each check valve station consists of two check valves, a block valve and two test connections. This allows each check valve to be tested individually instead of during the critical path ILRT.

C. Reason for Change:

This modification was implemented in order to improve the performance of the integrated leak testing at Limerick Unit 1. This mod allows for individually testing check valves instead of testing during critical path ILRT.

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 piping included within the new boundary is designed and analyzed to the same standards and specifications as the original. The piping added to the original boundary also falls within the envelope analyzed by NUREG 0803. Consequently, there is no increase in the probability of occurrence or the consequences of an accident or malfunction of equipment as previously evaluated in the FSAR.

- 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 purpose, function, and operation of the system are unchanged by the modification. Therefore, no new accident type is created.

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

Answer: No, Tech Spec. Section 3.6.3 Table, 3.6.3-1, and the associated bases have been reviewed. Local leak rate testing of each new valve station will continue to ensure that the isolation provisions necessary to be consistent with the analysis will be met.

Modification No.: 5914-2

A. System: 4 KV System Diesel Generators

B. Description:

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

C. Reason for Change:

To 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 avoids 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 station personnel's adherence to the air barring procedure assured the valve was locked open after air barring. The added components met safety criteria, therefore, adequate assurance was provided so that there was no increase in probability of occurrence or malfunction of equipment. The malfunction of components added by this modification does not affect the function of the diesels nor of their associated systems as described in the FSAR. There are two solenoid air start valve trains installed on each diesel. Each train supplies air to half of the cylinders. If one valve train fails i.e. loss of air by the added ball valve, the other valve train supplies sufficient starting air. The Q-listed, seismic category "I" components added by this modification do not have any adverse impact on the diesels nor on any other safety related system. The procedure for air barring and the requirement to lock the valve open provided adequate assurance.

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

Answer: No, because this modification replaced a small section of tubing with a manual valve, fittings, and tubing of similar or equal type and grade, and did not change any base line design requirement. The possibility of a malfunction of a different type than any previously evaluated in the FSAR is avoided by station personnel's adherence to the procedure for air barring which controls the position of valve and the requirement to lock the valve open. Therefore, the probability of malfunction of this equipment will not be increased.

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

Answer: No, because this modification added a locked open ball valve into the diesel engine air start system. This modification did not change any baseline design requirement of electrical power systems that would reduce the margin of safety as required by the Technical Specification. Section 3/4.8.1 was reviewed in making this determination.

Modification No.: 5938-1

A. System: 480 Volt AC System

B. Description:

This modification replaced aluminum vertical bus with copper bus, and Belleville washers between aluminum horizontal bus to copper vertical bus sections in seismic safety related and non-seismic, non-safety related MCC's.

C. Reason for Change:

To prevent additional bus failures. Two bus failures have occurred at the aluminum-copper interface due to overheating resulting from high/cyclic loads combined with dissimilar metals.

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 sole effect of changing the aluminum vertical bus to copper and conical spring washers from carbon steel to 301 stainless steel will be to increase the reliability of both the safety-related and non-safety related MCC's because the copper bus has a higher current capability and is capable of more rapidly dissipating heat, and the stainless steel conical spring washer has higher compression and torque values. FSAR Section 8.3 was reviewed in making this determination.

- 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 copper bus is already utilized per the original design in the incoming sections of the MCC's and has a higher current carrying capability. The proposed material substitute of vertical bus and conical spring washers for safety-related MCC's complies with 10CFR21 requirements and will not change the function of the MCC's. FSAR Section 8.3 was reviewed in making this determination.

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

Answer: No, because the purpose of the Tech Spec governing 480V AC MCC's is to ensure sufficient power will be available to supply the safety-related equipment required for the safe shutdown of the facility and the mitigation and control of accident conditions within the facility. The material substitution does not adversely impact the ability of the safety-related MCC's to perform their intended function. Tech Spec Section 3/4.8 was reviewed in making this determination.

Modification No.: 5994-1

A. System: Reactor Core Isolation Cooling

B. Description:

This modification installed an emergency manual transfer switch which enables the RCIC steam supply inboard containment isolation valve, HV49-1F007, to be powered and controlled from a Division 1 emergency source.

C. Reason for Change:

To permit the valve to be opened in the event of a fire that requires the RCIC system for safe shutdown, but which has caused the valve to spuriously close with subsequent loss of Division 3 AC power.

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 this modification only affects operation of the RCIC inboard isolation valve, its normal power source (Division 3) and its emergency power source (Division 1). All components are Class 1E, environmentally and seismically qualified, and installed in accordance with Class 1E and seismic requirements. No accident evaluated in the FSAR can be caused by failure of equipment added by this modification nor are the consequences of an accident evaluated in the FSAR increased. FSAR Sections 3.10, 3.11, 5.4.6, 7.1.1, 7.1.2, 7.4.1, 8.1.6, 8.3.1, and 15 were reviewed in making this determination.

- 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 modification maintains the design functions, the separation criteria, divisional power requirements, seismic requirements and environmental qualification requirements of the RCIC and RSP except for the brief time of the power transfer during a fire event or testing of the transfer switch when separation and divisional power requirements are not met. During the brief time when these requirements are not met, electrical protection devices and administration procedures ensure that a fault in the Division 3 circuitry will not affect the Division 1 power supply and energization of the valve's Division 3 control circuitry from a Division 1 source in control panels is limited to the RSP. FSAR Sections 3.10, 3.11, 5.4.6, 7.1.1, 7.1.2, 7.4.1, 8.1.6, 8.3.1, and 15 were reviewed in making this determination.

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

Answer: No, because neither RCIC nor RSP are solely used to ensure the compliance with the safety limits defined in the Unit 1 Technical Specifications. The modifications do not affect any setpoints or instrument accuracy and drift requirements defined in the Unit 1 Technical Specifications. The design function and intent of RCIC and RSP are not affected by this modification; therefore, the modification does not cause the plant to operate outside the normal operating mode. Unit 1 Technical Specifications 3/4.3.2, 3/4.3.5, 3/4.3.7, 3/4.7.3, 3/4.8.3 and Tables 3.3.7.4-1, 3.8.4.1-1 and their basis were reviewed in making this determination.

Modification No.: 5995-1

A. System: High Pressure Coolant Injection (HPCI)

B. Description:

This modification installed an emergency shutdown switch at the remote shutdown panel (RSP), 10C201, to permit the HPCI system to be shut down quickly during spurious HPCI operation when normal HPCI shutdown circuits are disabled.

C. Reason for Change:

To assure HPCI shutdown capability and RCIC availability in case of a fire that requires the RCIC system for safe shutdown.

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 although there is a slight increase in the probability of HPCI unavailability, the ECCS still complies with the single failure criterion and the probability of having a single failure of the ECCS is not significantly increased. Therefore, an unreviewed safety question with respect to the probability of failure of equipment important to safety was not created by this modification. All components are Class 1E, seismically qualified and installed in accordance with Class 1E and seismic requirements. During normal operation, the emergency shutdown switch is locked in the "NORMAL" position, required to allow HPCI operation. Administrative procedures will limit the time the HPCI emergency shutdown switch is in the OFF position during testing to an absolute minimum. Therefore, the increase in the probability of a failure of the ECCS to operate when required is insignificant.

- 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 modification maintains the design functions, the separation criteria, divisional power requirements, seismic requirements and environmental qualification requirements of the HPCI and RSP. Thus, the plant will operate within the envelope of analyzed conditions and the modification does not create the possibility of an accident or malfunction of a type other than that previously evaluated in the SAR. FSAR Section 15 was reviewed in making this determination.

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

Answer: No, because neither HPCI nor RSP are solely relied upon to ensure compliance with the safety limits defined in the Unit 1 Technical Specifications. The HPCI system, as a subsystem of the ECCS system, is not required to meet the single failure criterion by itself. The remaining ECCS subsystems are capable of performing all ECCS functions should the HPCI system become inoperative. The modification does not affect any setpoints or instrument accuracy and drift requirements defined in the Unit 1 Technical Specifications. Unit 1 Technical Specifications 3/4.3.2, 3/4.3.3, 3/4.3.7.4, 3/4.5.1 and associated tables were reviewed in making this determination. In addition, this modification complies with the separation criteria, divisional power requirements, seismic requirements, and environmental qualification requirements for HPCI and the RSP. The design function and intent of HPCI and the RSP will not be affected by this modification; therefore, this modification will not cause the plant to operate outside the presently defined operating constraints.

Modification No.: 5998-1

A. System: Reactor Water Cleanup

B. Description:

This modification installed a disconnect switch in the 480V power cable for the Reactor Water Cleanup Bypass Valve, HV44-1F031.

C. Reason for Change:

The disconnect switch prevents the inadvertent opening of the valve during a fire condition, thereby limiting the blowdown flow rate from the Reactor Pressure Vessel to the main condenser or the equipment drain collection tank during normal plant 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, because this modification does not increase the possibility of operational transients, abnormal operational transients or any other design basis accidents. The modification does not cause RWCU system to be operated outside its design or operating limits. This modification does not introduce a new mode of failure for the RWCU system nor does it degrade any system, structure or component reliability. The original design specification for the materials and construction practices is met.

- 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 this modification does not require any configuration where an accident initiator not considered in the SAR is created. This modification does not change any components in the RWCU system which could fail in a different mode than what was previously evaluated in the SAR. The addition of a disconnect switch does not add any variables to the RWCU system which would create a different mode of failure than previously evaluated.

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

Answer: No, because this modification does not adversely affect any considerations covered in the Technical Specification. Testing or operation of the RWCU system is not impacted as a result of this modification. This modification does not affect any of the limiting conditions for operation or surveillance requirements related to the Reactor Coolant System as described in the Technical Specifications.

Modification No.: 6006-1

A. System: Residual Heat Removal

B. Description:

This modification installed a new pressure switch on instrument rack 10C027 which is wired in series with the valve opening relay for the Outboard RHR Shutdown Cooling Isolation Valve, HV51-1F008.

C. Reason for Change:

To prevent a postulated fire-induced "valve open" signal from causing both valves, HV51-1F008 and HV51-1F009, to open simultaneously while the reactor vessel is at a pressure greater than the design capabilities of the low pressure RHR piping.

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 new pressure switch and associated wiring are qualified, Seismic Category I, and are Class 1E electrical components. This modification does not cause the RHR system to be operated outside of its design or operating limits. It brings the RHR shutdown cooling system into compliance with the regulatory requirements concerning high/low pressure boundary violations. This modification does not impact any active or passive systems during an accident, or the evaluation of radiological consequences of an accident, as previously described in the SAR.

- (i) 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 this modification does not change or add any components in the system which could fail in a different mode than what was previously evaluated in the SAR. No failure mode of this switch would create an accident different from that already analyzed in the FSAR, Chapter 15.

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

Answer: No, because the addition of the pressure switch, does not affect the capability of the RHR system to remove decay heat from the reactor pressure vessel, and does not affect any of the automatic valve closure signals, or the overpressurization interlock required for valve HV51-1F008 to perform its safety functions. The Technical Specification Sections 3/4.3.1, 3/4.3.2, 3/4.3.3, 3/4.3.4, 3/4.3.7, 3/4.4.9, 3/4.6.3, 3/4.7.7, 3/4.8 and 3/4.9.11 were reviewed for potential impact on the margin of safety.

Modification No.: 6026-2

A. System: Control Rod Drive Supply

B. Description:

This modification added a CRD water sample and analysis system to the 20S292 Sample Panel.

C. Reason for Change:

To facilitate continuous monitoring and recording of dissolved oxygen and conductivity levels of the water entering the Control Rod Drives (CRD).

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 this change involved the addition of a nonsafety-related continuous monitoring system to sample water from a nonsafety-related CRD hydraulic process line. Its function or malfunction would not restrict the function of any systems required for safe shutdown. This change provides continuous monitoring of water quality and detects water quality that is not within specification, thereby ensuring the high quality of the water coming in contact with safety-related reactor components. FSAR Section 4.6, "Functional Design of Reactivity Control Systems"; 9.3, "Process Auxiliaries"; and 11.2, "Liquid Waste Management Systems"; were reviewed in making this determination.

- 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 this change involved the addition of a nonsafety-related continuous monitoring system to sample water from a nonsafety-related CRD hydraulic process line. Its function or malfunction would not restrict the function of any systems required for safe shutdown. This change provides continuous monitoring of water quality and detects water quality that is not within specification, thereby ensuring the quality of the water coming in contact with safety-related reactor components. Since the sample stream is not returned to the CRD water line, no degradation in the quality of the water entering the CRDs can occur due to this modification. FSAR Sections 4.6, "Functional Design of Reactivity Control Systems"; 9.3, "Process Auxiliaries"; and 11.2, "Liquid Waste Management Systems"; were reviewed in making this determination.

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

Answer: No, because operation of the CRD hydraulic system is not affected by this modification. The affected portion of the CRD hydraulic system has no safety function and is not addressed in the Technical Specifications. The sampling system installed has no safety-related function. Since the sample stream is not returned to the CRD water line, no degradation in the quality of the water entering the safety-related portion of the CRD system can occur due to this modification. Technical Specification Sections 2.2, 3/4.1.3, 3/4.1.4, 3/4.3.6, 3/4.3.7, 3/4.4.4, 3/4.11.1, 3/4.11.2 and 6.15 that address CRDs, water chemistry, sampling and control of radioactive wastes were reviewed to make this determination. There are no other Technical Specifications applicable to this modification. Sample panel analyzer CIT-23-206 will have to be temporarily deenergized to replace the existing erasable programmable read only memory (EPROM) chip with a new reprogrammed EPROM chip for continuous monitoring of conductivity and dissolved oxygen. However, in the event that EPROM change out process exceeds 4 hours, Reactor Water Cleanup inlet conductivity grab sample must be taken to meet the chemistry requirements per Technical Specification 3/4.4.4.

Modification No.: 6029-0

A. System: RHR Service Water

B. Description:

This modification replaced the existing RHRSW pump discharge pressure switches with the same manufacturer and model number, but with the calibrated range reduced from 0-300 PSIG to 0-160 PSIG.

C. Reason for Change:

To protect the RHRSW pumps for two unit 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, because this modification makes no functional changes to the RHRSW system. Replacing the existing pressure switches with pressure switches calibrated to a reduced calibration range increased the accuracy of the instrument. This ensures that the RHRSW system is operated in accordance with its origin 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, because this modification made no functional changes to the RHRSW system. Replacing the existing pressure switches with pressure switches calibrated to a reduced calibration range increased the accuracy of the instrument. This ensures that the RHRSW system is operated in accordance with its original design requirements. The replacement pressure switches have been dynamically and environmentally qualified to the same specification as the existing pressure switches, therefore there is no degradation in the ability of the pressure switches to perform their safety-related function. The reduced calibrated range of the replacement pressure switches is acceptable since the RHRSW pump is tripped off before full scale is attained.

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

Answer: No, because by providing a more accurate pressure switch, this improved the margin of safety as defined in the basis for Technical Specification Section 3/4.7.1, since it helped ensure operability of the RHRSW pumps. Technical Specification Section 3/4.7.1 and its design basis were reviewed in making this determination.

Modification No.: 6030-1

A. System: Liquid Rad Collection

B. Description:

This modification consisted of the removal of annunciator wiring and installation of an electrical jumper as a replacement for motor operated valve (MOV) HV-61-102 motor overload or loss of control voltage relay contact 49X-21502.

C. Reason for Change:

Jumper was installed to bypass valve HV-61-102, to allow control room annunciator for valves HV-61-112 and HV-61-132 to function correctly.

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 it allows the alarm for HV-61-112 and HV-61-132 to function as designed. It also removes annunciator wiring from the breaker cubicle for valve HV-61-102 which currently performs no operational function. FSAR Section 7.3.1.1.2 has been reviewed in making this determination.

- 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 removal of annunciator wiring and the addition of the electrical jumper to bypass the breaker cubicle for HV-61-102, will not create the possibility of an accident or malfunction of equipment not previously evaluated in the FSAR.

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

Answer: No, because installation of the electrical jumper will not reduce the margin of safety or any Technical Specification. Operability requirements for the drywell leak detection system and the affected PCIV's per section 3/4.4.3 and 3/4.6.3 will continue to be met following implementation of these changes.

Modification No.: 6040-1

A. System: Residual Heat Removal

B. Description:

This modification installed a new suppression pool temperature indication loop at the remote shutdown panel which meets Appendix R requirements.

C. Reason for Change:

To ensure suppression pool water temperature indication is available at the remote shutdown panel to support a Method "R" shutdown of the unit as described in the FPER.

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 no increase in operational transients or any other design basis accidents will occur due to this modification. The new temperature indication loop is designed as a Class 1E, Division 1 system and conforms to all applicable criteria for physical separation, redundancy and divisionalization. This modification does not affect the operation of any safety-related equipment of the plant, nor does it introduce a new failure mode for the subject temperature indication loop.

- 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 this modification does not delete or modify remote shutdown system protection features, downgrade the support system performance necessary for reliable operation of equipment, reduce system redundancy or independence, or impose more severe testing requirements than previously described in the SAR. This modification has no impact on RHR system operation and improves the suppression pool temperature monitoring capability during the event of a fire.

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

Answer: No, because this modification does not adversely affect any considerations covered in the Technical Specifications. The changes do not alter the intended function of the affected systems involved and allows for a method "R" shutdown of the plant as described in the FPER. This modification does not affect any of the limiting conditions for operation or surveillance requirements related to the suppression chamber water temperature as described in Technical Specification Section 3/4.6.2. Technical Specifications 3/4.3.7., 3/4.6.2, 3/4.7.7, 3/4.8, 3/4.9.11 and their bases were reviewed in making this determination.

Modification No.: 6041-1

A. System: H2/O2 Analyzers (CAC)

B. Description:

This modification installed a new Division I Suppression Pool Level Monitoring System (SPLMS) instrument loop designed for use with safe shutdown methods A, C and R. This modification also designated the existing Division II SPLMS instrument loop for use with safe shutdown methods B and D.

C. Reason for Change:

To ensure that suppression pool water level indications are available at the Remote Shutdown Panel to support safe shutdown methods A, C and R. Also, the existing Division II suppression pool level indication in the Main Control Room supports safe shutdown methods B and D.

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 this modification enhances the plant safe shutdown capability in the event of a fire by providing a new suppression pool water level indicator at the Remote Shutdown Panel. The original functional intent of the SPLMS capability, as described in FSAR Section 7.5.1.4.2.18, remains unchanged.

- 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 this modification does not adversely affect the operation of any safety-related equipment of the plant. This change did not introduce a new failure mode for the existing systems associated with safe shutdown methods A, B, C, D and R.

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

Answer: No, because the changes implemented by this modification did not involve any physical change to the two channels of suppression pool level instrumentation (indicators LI-052-140A & B and their associated transmitters) that are relied on for post-accident monitoring and did not compromise the availability of these instrument channels. Therefore, the addition of a new suppression pool level indicator on the Remote Shutdown Panel enhanced the remote shutdown capability of the plant without adversely affecting any safety features.

Modification No.: 6074-2

A. System: Fuel and Fuel Handling

B. Description:

Control rod blade and defective fuel storage rack
installation in the Unit II spent fuel pool.

C. Reason for Change:

A special purpose storage rack is necessary to enable the
performance of refueling outages.

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 spent fuel storage racks will not be affected by placement of the special storage rack in the fuel pool. Fuel storage racks are designed for rack-to-rack contact during design basis events without loss of structural integrity. The special storage rack will not impose more severe conditions on the fuel racks than what has already been analyzed.

The refueling platform is used for rack component placement and retrieval. Any one of the three platform hoists will be utilized for the operations. The fuel handling system will not be affected by the rack's placement. The special storage rack is susceptible to the same types of handling system malfunctions as is the spent fuel storage racks. The response of the special storage rack to these events is equivalent to the responses of the fuel storage racks. The special storage rack can withstand a fuel assembly impact without the loss of its structural integrity or the formation of a critical geometry that could adversely affect the rack's criticality analysis.

Since the special storage rack would contain components that would normally have been in the fuel pool, no increased consequences will be realized by having the rack available for component storage.

In addition to those items already addressed, the consequences of the placement and use of the special storage rack in the fuel pool will not differ from what was previously analyzed and discussed in Paragraph III.A.2 of this review.

The placement and use of the special storage rack in the fuel pool will have no adverse effect on the spent fuel storage racks, the fuel pool or the refueling platform. Therefore, the consequences of a malfunction of equipment important to safety previously evaluated in the SAR will not be increased.

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

Answer: No, because the special storage rack passively contains and supports the rack stored items. The special storage rack is functionally similar and operationally equivalent to the spent fuel storage racks that currently exist in the fuel pool. The special storage rack will remain functional following design basis accidents and events.

The special storage rack will not experience any malfunctions different from those previously analyzed and evaluated for the fuel storage racks currently in use in the fuel pool.

By placement and use of the special storage rack in the fuel pool, no new structural loads are being imposed on the fuel pool, no new radiation fields are being created and no new operating requirements are being established.

The placement and use of the special storage rack in the fuel pool will have no adverse effect on the spent fuel storage racks, the fuel pool or the refueling platform. Therefore, no malfunctions of a different type than any previously evaluated will be created.

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

Answer: No, because the placement and use of the special storage rack in the fuel pool will not reduce the margin of safety as defined in the bases of Technical Specification 3/4.9.9. At least 22 feet of water will be maintained over the top of irradiated fuel assemblies stored in the special storage rack. Therefore, sufficient water depth will be available to remove 99 percent of the assumed 10 percent iodine gas activity that would be released from the rupture of an irradiated fuel assembly.

Modification No.: 6085-0

A. System: Miscellaneous

B. Description:

This modification provided human factors enhancement of the LGS Unit 1 and 2 Average Power Range Monitor (APRM) Panels 10C608 and 20C608 located in the auxiliary Equipment Room (Area 8, Elevation 289'-0).

C. Reason for Change:

To provide separate access doors for APRM Channels A and B in order to avoid an unintended scram.

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 this modification does not increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the UFSAR. Modification of the APRM panel door for channels A and B provides administrative control over access to either channel while surveillance testing is being performed on one of the channels. This modification does not affect or cause any change to test routines or sequences.

- 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 this modification does not create the possibility for an accident or malfunction of a different type important to safety previously evaluated in the UFSAR. LGS UFSAR Sections 7.1.2.1.4, 7.6.1.4, and 7.6.2.4 were reviewed for impact by this modification.

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

Answer: No, because this modification does not reduce the margin of safety as defined in the basis of any Technical Specifications. Technical Specification Sections, Unit 1 and 2, 3/4.2.2 and 3/4.3.1 were reviewed in making this determination. This modification will not affect either APRM Setpoints or Reactor Protection System Instrumentation.

Modification No.: 6108-2

A. System: DC System

B. Description:

This modification replaced underrated fuses in 125/250V DC MCC's and panels with properly rated fuses capable of meeting the design requirements for voltage rating and interrupting capability. This modification also added a second set of fuses/fuse blocks for the HPCI/RCIC nonsafety-related pump motors.

C. Reason for Change:

To meet 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, because this modification allowed this equipment to be brought into compliance with the original design intent of the DC Power distribution system. This modification did not degrade or prevent the responses of active or passive systems in any accident as discussed in the SAR. This modification does not result in any design configuration where an accident initiator not considered in the SAR is created.

- 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 use of properly rated fuses restores equipment and cable protection to within design requirements. Use of redundant fuses on the non-Class 1E HPCI and RCIC condenser and vacuum pumps assures Class 1E/non-Class 1E independence.

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

Answer: No, because the changes as described by the modification did not alter the intended function of the systems involved, nor did they affect the safe shutdown of the plant. These changes did not negatively affect Technical Specification considerations, limiting conditions or surveillance requirements.

Modification No.: 6109-1

A. System: DC Power Distribution System

B. Description:

This modification provides replaced underrated fuses in certain 125/250V DC MCC's and panels with properly rated fuses capable of meeting the design requirements for voltage rating and interrupting capabilities.

C. Reason for Change:

This modification brought equipment into compliance with original design intent for the DC power distribution 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, because this change had no impact on the accident analysis described in the FSAR. This modification brought the equipment into compliance with the original design intent for the DC Power Distribution 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, because this modification did not result in any configuration where an accident initiator not considered in the SAR is created. This modification did not reduce system redundancy or independence, or impose more severe testing requirements, than previously evaluated in the SAR.

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

Answer: No, because this modification did not adversely affect any considerations covered in the Technical Specifications, nor does it affect any of the limiting conditions for operation or surveillance requirements related to the 125/250V DC Power Distribution System as described in Technical Specifications.

Modification No.: 6115-2

A. System: EHC

B. Description:

This modification added hydraulic accumulators, valve manifolds and associated one inch piping and fittings to the Electro Hydraulic Control (EHC) System Fluid Actuator Supply (FAS) for each of the four (4) main control turbine control valves.

C. Reason for Change:

To provide increased hydraulic damping of the EHC system and improve 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, because the accumulators are being installed downstream of the valves that control EHC fluid to the main turbine. These valves perform their accident function by altering the flow of EHC fluid to the turbine and/or bypass valves. Once the EHC system has tripped, the accumulators are isolated from the trip circuit because they are outside of the trip boundary. Therefore, the reserve pressure capacity and fluid in the accumulators will have no effect.

- 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 EHC system is not safety related and its failure does not directly affect any equipment important to safety. Also, since the equipment associated with this modification will not adversely alter the operational characteristics of the EHC system, there will be no degradation of the event sequences involving EHC operation and no change in the previously assumed safety system performance levels.

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

Answer: No, because Modification No. 6115-2 will not affect the operation of the EHC system or any safety related functions. Additionally, because this modification reduced the probability of EHC system weld failures and subsequent loss of EHC, there was 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.: 6120-1

A. System: Reactor Water Cleanup

B. Description:

This modification replaced the existing 4" diameter Reactor Water Cleanup check valve HV44-1F039 with a 3" check valve that contains an improved disc design.

C. Reason for Change:

The original 4" valve had a one-piece disc design which was found to leak excessively during Local Leak Rate 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, because changing the disc of check valve HV44-1F039 from a one-piece disc to a two-piece design has not changed the basic function of the valve. The new valve meets or exceeds the original valve purchase order requirements for material, design, testing, inspection and installation as specified in the UFSAR. The probability of increasing the potential of containment leakage through the new valve is not expected since the method of operation of the valve 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 PSAR?

Answer: No, because this modification merely replaced a 4" valve with a new 3" valve. No other modifications were made to any safety-related equipment or equipment important to safety. The check valve will continue to function as originally designed and any malfunctions are not expected to be different since both valves share the same operating method, qualification, and design.

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

Answer: No, because no new operating conditions have been added which could change the operation of any affected isolation valve. Technical Specification 3.6.1.2 was reviewed and it was determined that the margin of safety is enhanced by the new valve due to improvement in the disc seating, and consequently, an increased probability of meeting the combined leakage rate of 0.60 L/s. Also, since the RWCU flow rate is not impacted, the margin of safety defined in Technical Specification 3.4.4 for reactor water chemistry, is not reduced.

Modification No.: 6120-2

A. System: Reactor Water Cleanup

B. Description:

This modification replaced the existing 4" diameter Reactor Water Cleanup check valve HV44-2F039 with a 3" check valve that contains an improved disc design.

C. Reason for Change:

The original 4" valve had a one-piece disc design which was found to leak excessively during Local Leak Rate 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, because changing the disc of check valve HV44-2F039 from a one-piece disc to a two-piece design has not changed the basic function of the valve. The new valve meets or exceeds the original valve purchase order requirements for material, design, testing, inspection and installation as specified in the UFSAR. The probability of increasing the potential of containment leakage through the new valve is not expected since the method of operation of the valve 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, because this modification merely replaced a 4" valve with a new 3" valve. No other modifications were made to any safety-related equipment or equipment important to safety. The check valve will continue to function as originally designed and any malfunctions are not expected to be different since both valves share the same operating method, qualification, and design.

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

Answer: No, because no new operating conditions have been added which could change the operation of any affected isolation valve. Technical Specification 3.6.1.2 was reviewed and it was determined that the margin of safety is enhanced by the new valve due to improvement in the disc seating, and consequently, an increased probability of meeting the combined leakage rate of 0.60 La. Also, since the RWCU flow rate is not impacted, the margin of safety defined in Technical Specification 3.4.4 for reactor water chemistry, is not reduced.

Modification No.: 6126-1

A. System: Control Rod Drive Supply

B. Description:

This modification replaced HV46-115A, isolation valve to the Reactor Recirculation pump 1AP201 seal purge with an equivalent valve.

C. Reason for Change:

The original valve had in-body seat damage that could not be repaired and the original valve model was unavailable.

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 replacement of this valve with an equivalent valve does not change the plant, as described in the UFSAR. No UFSAR commitments or analysis were affected.

- 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 replacement valve performs the same function as the previous valve.

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

Answer: No, because this valve and its operation and test requirements are not addressed in, or covered by, the Technical Specifications.

Modification No.: 6127-2

A. System: Fuel Pool Cooling & Cleanup & Refuel Pool

B. Description:

This modification relocated one fuel pool liner drain isolation valve 53-2026F and its piping termination point to a DRW floor drain funnel outside of Room 585.

C. Reason for Change:

Once spent fuel is stored in the spent fuel pool, this room will become a high radiation area and subsequent entry on a daily basis will not be acceptable.

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 FSAR does not describe the physical location of the fuel pool liner drain isolation valves and the relocated drain meets the original design standards and system function requirements. FSAR Sections 9.1.2.2.2.1, 9.1.2.3 and Figure 9.1-3, Sheet 3 were reviewed in making this determination.

- 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 MDCP only physically relocates one fuel pool liner drain isolation valve and piping termination point. FSAR Sections 9.1.2.2.2.1, 9.1.2.3 and Figure 9.1-3, Sheet 3 were reviewed in making this determination.

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

Answer: No, because the work performed by this MDCP does not have any impact on the fuel pool liner drain system operation, nor does it affect any considerations in the Technical Specifications.

Modification No.: 6131-0

A. System: RHR Service Water

B. Description:

This modification added a cleanout connection at the end of each of the twenty-eight spray pond header pipes.

C. Reason for Change:

To provide access for maintenance personnel to remove corrosion products.

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 added cleanout connection meets the design, material, and construction standards applicable to the subject piping per the original design. This modification provides the capability for maintenance personnel to conduct periodic in-place cleaning of nozzles to flush corrosion product buildup from the system, thus ensuring the proper functioning of the spray nozzles. UFSAR Sections 9.2.2, 9.2.3, 9.2.6 and Chapter 13 were reviewed in making this determination.

- 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 this modification does not introduce a new failure mode for the subject piping or systems involved. UFSAR Sections 2.5, 3.2, 3.5, 3.6, 3.7, 3.8, 9.2.2, 9.2.3, 9.2.6, 14, and 15 were reviewed in making this determination.

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

Answer: No, because during the use of the cleanout connections, the appropriate Technical Specification LCO will be entered depending on whether the network is isolated from the loop. Therefore, the margin of safety will not be reduced. Sections 3/4.0.5, 3/4.4.8, and 3/4.7.1 and their bases were reviewed in making this determination.