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November 4, 1998

U.S. Nuclear Regulatory Commission  
Document Control Desk  
Washington, D.C. 20556



Gentlemen:

ULNRC-3915

**DOCKET NUMBER 50-483  
UNION ELECTRIC COMPANY  
CALLAWAY PLANT  
FACILITY OPERATING LICENSE NPF-30  
10CFR50.59 SUMMARY REPORT**

In accordance with 10CFR50.59(b)(2), this letter transmits a report which summarizes written safety evaluations of changes, tests, and experiments approved and implemented for activities at Callaway Plant from January 1, 1997 through June 30, 1998.

Very truly yours,

A handwritten signature in cursive script that reads "Alan C. Passwater".

Alan C. Passwater  
Manager, Corporate Nuclear Services

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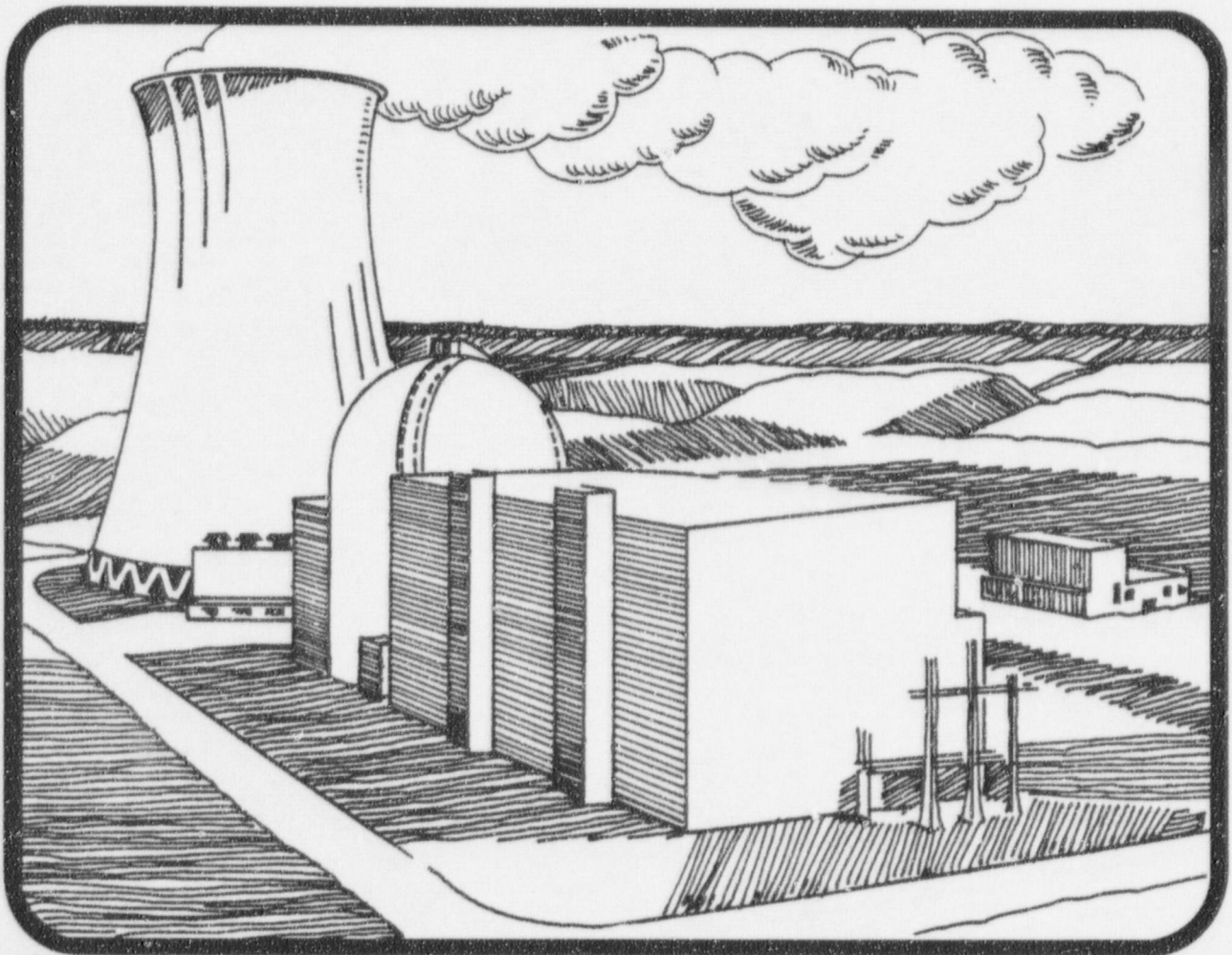
**UNION ELECTRIC COMPANY  
CALLAWAY PLANT**

**10CFR 50.59 SUMMARY REPORT**

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**JANUARY 1997 — JUNE 1998**





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# CFR 50.59 SUMMARY REPORT FOR CALLAWAY PLANT

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4-Nov-98

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## EXECUTIVE SUMMARY

In accordance with 10CFR50.59(b)(2), the following report was prepared, which summarizes written safety evaluations of changes, tests, and experiments approved and implemented for activities at Callaway Plant.

The report covers all written safety evaluations that were implemented from January 1, 1997 through June 30, 1998.

During this period there were 198 changes, tests, and experiments implemented that required a written safety evaluation. Based on these evaluations, we have concluded:

- The probability of occurrence or consequences of an accident or malfunction of equipment important to safety previously evaluated in the Final Safety Analysis Report has not increased.
- That an accident or malfunction of equipment important to safety of a type different than those evaluated previously in the Final Safety Analysis Report has not been created.
- The margin of safety as defined in the basis for any Technical Specification is not reduced.

Therefore, all items reported herein were determined not to involve an unreviewed safety question.

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# CFR 50.59 SUMMARY REPORT FOR CALLAWAY PLANT

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## REFERENCE/ABBREVIATION KEY

CN — FSAR Change Notice.

### MODIFICATION PACKAGES (Design Changes)

- CMP — Callaway Modification Package
- RMP — Restricted Modification Package
- EMP — Exempt Modification Package

OL — Operating License Change (Tech. Spec.)

### PROCEDURES

- CDP — Chemistry Departmental Procedure
- CTP — Chemistry Technical Procedure
- ETP — Engineering Technical Procedure
- FPP — Fire Protection Procedure
- OTA — Annunciator Response Procedure
- OTO — Off-Normal Operating Procedure

RFR — Request for Resolution

SOS — Suggestion – occurrence – solution

TM — Temporary Modification

TSI — Technical Specification Interpretation

FSAR and Technical Specification changes are also reported under 10CFR50.71 and 10CFR50.90 as applicable.



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### CN 96-014

#### Incorporate Technical Specification Interpretation #25 into the FSAR.

This change notice incorporated practices formerly addressed by Technical Specification Interpretation #25, which specified the following two items.

1. The refueling machine primary overload cutoff is set at 200 pounds above heaviest fuel assembly/insert combination being moved and the load reduction trip is set 200 pounds below the lightest combination.
2. The window of time specified for the load test and interlock surveillances was extended to permit performing them after removal of the reactor vessel head.

An additional editorial clarification in reference to the required 1000 pound load indicator is included. The load protection interlocks are intended to prevent damage to the fuel assembly skeleton components (grid straps) and are not required to protect the safety design bases of the FSAR or to prevent or mitigate fuel handling accident analyzed in the FSAR. This change did not create an unreviewed safety question.

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### CN 96-024

#### Incorporate Technical Specification Interpretation #55 into Chapter 16.

This change notice incorporated Technical Specification Interpretation #55 into Section 16.11.2.7 to provide clarification of the section. The test frequency of the analog channel operational test for the waste gas instrumentation was also changed to a quarterly surveillance versus monthly. These changes did not affect the operation of the waste gas system which serves no safety related function. The gas system has no interactions with any equipment required for safe shutdown of the plant or to mitigate the consequences of an accident. There was no unreviewed safety question created as a result of these changes.

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### **CN 96-045**

#### Change hydrostatic test requirements for occupant use fire hose.

This CN changes the hydrotesting frequency for occupant use fire hose from 'every three years' to 'five years after installation and three years thereafter' and revises hydrotest pressures for consistency between FSAR sections. These changes removed inconsistencies between FSAR sections and made the FSAR agree with the 1993 edition of NFPA 1962 chapter 5 section 5.1. These changes did not change the design, function, or operation of the fire protection system. No unreviewed safety question was created by implementation of these changes.

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### **CN 96-052**

#### Correction of FSAR Section 11.2.5 & 11.3.5 for consistency with FSAR Table 3.2-5

FSAR Change Notice 96-052 changes the wording in FSAR-SP Section 11.2.5 and 11.3.5 to be consistent with UE's position on USNRC Regulatory Guide 1.143, Position 4.4 and as described in FSAR-SP Sections 11.2.2 and 11.3.2, respectively. Liquid and Gaseous Radwaste systems' integrity is assured by either intermittent or continuous operation. No unreviewed safety question was created by these changes.

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### **CN 96-066**

#### Delete requirement for 2 condenser vacuum pumps running during normal operation.

This change notice removed the statement in the FSAR that required two mechanical condenser vacuum pumps be running continuously with a third pump on standby. The vacuum pumps are used to remove air and non-condensable gases from the condenser during plant startup, cooldown, and normal operation. Depending on operating conditions, condenser vacuum may be maintained by one vacuum pump. Operation of one pump will not affect safe operation of the plant. As stated in the FSAR, the condenser evacuation system serves no safety function and has no safety design basis. This change did not create an unreviewed safety question.

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### CN 96-067

Remove isolation function of RCP seal water supply isolation and check valves.

This change notice removed the containment isolation function of reactor coolant pump (RCP) seal water supply isolation valves (BBHV8351A,B,C &D) and RCP seal water supply check valves (BBV0118, 148, 178, & 208) from the FSAR Active Valve Table (FSAR Tables 3.9(B)-16 & 3.9(N)-11). These changes were based on RFR's 2929A, 2359I, and 5353G evaluations which determined that these valves performed no active safety function for containment isolation. This was supported by FSAR Chapter 18.2 which classifies the associated penetration as essential penetrations since they are required to remain available for a boration flowpath to achieve a safety related cold shutdown. Therefore, no unreviewed safety question was create by this change.

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### CN 96-075

Correct Component Cooling Water system operation discription in the FSAR.

This FSAR Change Notice resolved discrepancies between CCW system operation as described in the FSAR and current plant operating procedures and parameters. These changes more accurately describe the operation of the CCW system as supported by design basis documents. No unreviewed safety question was created by these changes.

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### CN 97-002

Remove reference to radiation monitors in the TSC and EOF.

This FSAR change notice will update the FSAR so that it is in agreement with the Radiological Emergency Response Plan . The area radiation monitors located in the Technical Support Center (TSC) and Emergency Operation Facility (EOF) were replaced with portable monitors that have alarm setpoints for both dose rate and integrated dose. In addition the continuous radio-iodine monitors were replaced with continuous air monitors. The monitors provide an indication of airborne radioactive material collected on a particulate filter and alarm at a pre-designated level, at which time portable sampling for iodine will be performed. The new radiation monitors will provide the same or greater protection to the individuals located within the TSC and EOF. No unreviewed safety question was created by this change.

Ref: Radiological Emergency Response Plan, Rev. 21

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### CN 97-012

#### Revise the water inventory design basis of the condensate storage tank.

This change notice revised the water inventory design basis of the condensate storage tank (CST). Failure of the CST to provide an adequate supply of water to the auxiliary feedwater system has already been accounted for in LOCA and non-LOCA analyses. Therefore, changing the bases to no longer reflect the LOCA and non-LOCA criteria for auxiliary feedwater performance will not create the possibility of an accident or malfunction of a different type that previously evaluated in the safety analysis report. This was found to be satisfied by the essential service water system(ESWS) which will automatically provide the safety related backup source of water to the auxiliary feedwater system. A review of the FSAR and its SER indicate that this configuration has always been acceptable to the NRC staff, and the NRC likewise concluded that the CST performs no safety related functions.

This configuration was also reviewed against Appendix 8.3A of the FSAR and found to be consistent with previously reviewed and accepted response to the NRC on Station Blackout. All FSAR Chapter 15 LOCA and non-LOCA transients were reviewed and none were found to be affected by the proposed change, as all the transients requiring actions of the AFS assume the ESWS will provide the safety related water supply.

This evaluation found that the proposed change does not adversely affect or endanger the health or safety of the general public and the change did not create an unreviewed safety question.

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### CN 97-013

#### Removal of requirement for radioactivity monitoring upstream of emergency filter

This change notice removed the requirement for radioactivity monitoring upstream of the emergency exhaust filters. The monitors available for monitoring upstream of the filter units were designed to measure normal plant effluent and have a limited range that would be exceeded during an accident. The evaluation determined it was acceptable to remove this requirement from the FSAR. Monitoring upstream of the filter units is not necessary to mitigate or reduce the affects of an accident and does not provide any unique capability beyond what currently exists by monitoring downstream of the filter units. Therefore, this change did not create an unreviewed safety question.

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### CN 97-033

#### Replace radiation monitor BM-RE-52 with BM-RE-25 for ESW/SW inleakage monitoring

This change notice determined that it was acceptable to use radiation monitor BM-RE-25 in place of BM-RE-52 for determining the potential for inleakage of radioactivity into the Essential Service Water (ESW)/Service Water (SW) systems. The use of monitor BM-RE-25 will provide the same or better indication of the potential for inleakage from the steam generator blowdown system to the ESW/SW systems as that provided by BM-RE-52. This change did not affect any plant structures, systems or components required for safe shut down of the plant. Therefore, the changes requested in this change notice did not create an unreviewed safety question.

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### CN 97-045

#### Clarification of FSAR surveillance requirements in Section 16.6 and 16.11.

This change notice clarified the FSAR surveillance interval to assure that the 25% maximum allowable extension is not exceeded. The change notice did not change or affect plant operations, equipment or any of the accident analysis. The evaluation concluded that this change would not cause any unanalyzed event or a reduction in safety, therefore an unreviewed safety question was not created.

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### CN 97-047

#### Revise gas channel response times for GK-RE-0004 and GK-RE-00005.

This change notice revised the response time listed in Table 7.3-7 for the gaseous channels of GK-RE-0004 and GK-RE-0005 from less than 3 seconds to less than 5 seconds. This change is required since the original PSAR response time were not update in the FSAR with the actual response time for the monitors installed during plant construction. A review of the accident analyses identified two accident types where these monitors are relied on to generate an isolation signal. Both accidents were reanalyzed using the 5 seconds response time and the radiological consequences were determined to be bounded by the current LOCA analysis. The evaluation determined that the change would not adversely affect or endanger the health or safety of the general public and did not create an unreviewed safety question.

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### CN 97-052

#### Remove Table 1.7-1 from the FSAR.

This change notice removed Table 1.7-1 from the FSAR. This table contains a list of electrical, instrumentation, and control drawings that were provide to the NRC for their use in evaluating the electrical power systems design prior to issuance of the Operating License. Upon issuance of the Operating License, the information contained in this table became historical. Removal of this information is an administrative change to remove obsolete historical information that is no longer needed in the FSAR. This change did not affect any plant structures, systems or components. Therefore, no unreviewed safety question was created by removal of this table from the FSAR.

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### CN 97-058

#### Containment sump level and flow monitoring system changes.

FSAR Section 5.2.5.2.3, Containment Sump Level and Flow Monitoring System is changed as follows: from "the minimum detectable change in the containment normal sump level is 3 gallons..." to "The minimum detectable change in the containment normal sump is 5 gallons...". The editorial change is to reflect the as-built condition of the containment normal sump level element. Regulatory Guide 1.45 states, "The sensitivity and response time for each leakage detection system in Regulatory Position 3 above employed for unidentified leakage should be adequate to detect a leakage rate, or its equivalent, of one gpm in less than one hour". Union Electric complies as described in section 5.2.5.2.3, which states, "The minimum detectable change in the containment normal sump level is 3 gallons and in the instrument tunnel sump level is 7 gallons". Contrary to this statement, the normal sump level instrumentation is capable of detecting a minimum 5 gallon change in the normal sump level, not a 3 gallon change. The Reactor Coolant Pressure Boundary Leakage Detection Systems is not adversely impacted due to the level element having a sensitivity of 5 gallon change per half-inch of float travel. The level indication is capable of performing all of its safety functions; therefore the installed level element volume change sensitivity did not create an unreviewed safety question.

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### CN 97-067

Change section 16.10 LCO action requirement from a "or" to a "and" connective.

This change notice changed Section 16.10 Limiting Condition For Operation (LCO) action requirement from a "OR" connective to a "AND" connective. This change was made to make the LCO action requirement agree with the bases for the special test exception. The Digital Rod Position Indication (DRPI) system is a non-safety indication only system. The FSAR special test exception bases specifically permits the digital DRPI system to be inoperable during rod drop time measurements and surveillances as long as only one shutdown or control bank is withdrawn. The withdrawing of one shutdown or control bank in modes 3, 4, or 5 will not increase the consequences of an accident previously evaluated. Therefore this change did not create an unreviewed safety question.

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### CN 97-071

Allow the use of BEACON for analyzing flux maps.

This FSAR change notice allowed the use of the computer code BEACON to generate core power distribution information. Previously, this information was generated by the INCORE computer code. The major differences in the methodology are: 1) with INCORE, core power distribution predictions are made before the beginning of the fuel cycle based on nominal plant conditions and burnup distributions, whereas with BEACON, the predictions are based on core model generated using core conditions at the time the incore measurements are made; and 2) with INCORE, power in unmeasured fuel assemblies is calculated by correcting the predicted power with weighted correction factors from nearby fuel assemblies, whereas with BEACON the power is calculated using a surface spline fit. Changing the computer code which calculates core power distribution did not adversely affect the assumptions used in any of the accident analysis. It was determine that no unreviewed safety question was created by this change.

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### CN 97-075

Allow for lifting leads during testing of NIS and AFW LSP swapover channels.

FSAR Change Notice 97-075 added clarification to Section 7.0 of the FSAR on when lifted leads are used in the course of surveillance testing. The change notice adds clarification that lifted leads may be used in three cases where it is not practicable to avoid their use. These tests are the functional tests of the auxiliary feedwater pump suction pressure channels, incore/excore calibration of the power range neutron monitoring channels and 18 month calibrations of the source, intermediate, and power range neutron monitor channels. The formal safety evaluation concluded that sufficient precautions are used in the respective test procedures to preclude adverse events that can occur when lifted leads are used. This change did not create an unreviewed safety question.

Ref: RFR 18260, Revision A

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### CN 98-013

Change responsibilities for planning and critiquing fire brigade drills.

This change notice revised Section I.3.c of Appendix 9.5E to change the responsibility of reviewing and critiquing fire drills from the Superintendent, Training to Plant Management. These changes were required to make this section consistent with FSAR Section 9.5.1.8.1.4 which was previously changed. This change did not alter any assumptions used in accident analyses, nor did it alter any physical or operation changes to equipment important to safety. No unreviewed safety question was created by this change.

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### CMP 89-1026

Installation of Swagelok fittings upstream and downstream of valve SJHV0020.

CMP 89-1026 authorized use of 3/8" compression fittings at specific locations within the Nuclear Sampling System (SJ). FCN 5 to this CMP addressed the use of Swagelok compression fittings upstream and down stream of valve SJHV0020. Use of these fittings greatly increases the ease of replacing 1" Valcor valves and reduces associated man-rem. This change will meet the design, material and installation requirements of the FSAR and ASME code. No unreviewed safety question was created by this change.

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### **CMP 92-1037**

#### Add Thermowells to Emergency Diesel Generator Heat Exchangers

This modification will add thermowells to the Emergency Diesel Generator heat exchangers to allow for a more accurate method of measuring temperature for performance monitoring. The changes will not significantly impact flow through the affected piping. The material will be purchased to the same quality level as the original plugs. No unreviewed safety question is created by this modification.

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### **CMP 93-1018**

#### Install an uninterruptible power supply in the Gai-Tronics system.

This modification added an uninterruptible power supply (UPS) in series with power feed PN07. This UPS will allow the Gai-Tronics system to remain operational for up to 4 hours following station blackout events. All of the equipment, cables and conduit installed is non-safety related and does not modify or effect any safety related equipment. This change did not create an unreviewed safety question.

Ref: FSAR CN 96-042

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### **CMP 93-1051**

#### Modify Emergency Diesel Generator temperature control valve.

This modification added manual hand wheels to emergency diesel generator lube oil and jacket water cooling system temperature control valves. This will allow for manually adjusting valve position in the event the self contained automatic function of the valves fail to actuate. The addition of the manual operator to the valves did not effect the automatic function of the valves. The safety design basis for the lube oil and jacket water cooling systems remained unchanged by this modification. This modification did not create an unreviewed safety question.

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### **CMP 94-1007**

#### Replace Manual Valves in ESW System with Stainless Steel Valves

This modification replaced 14 manually operated valves in the Essential Service Water and Containment Cooling systems with equivalent valves fabricated from improved materials. The valves will have resistance to wear and corrosion and will improve reliability of the systems. The new valves are built to the same code as the original valves and there is no change to the function of the equipment. No unreviewed safety question is created by this modification.

REF: FSAR CN 95-037

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### **CMP 94-1015**

#### Add fiber-optic penetration modules in Electrical Penetration ZS-240.

This modification directed the installation of fiber-optic modules in a containment electrical penetration. This was a new type of penetration module and introduced a new media for communications. The intended applications for these modules are not part of any safety related system. The fiber-optic modules were purchased under the electrical penetration specification with new requirements added to address the physical details of the fiber connections. The portion of the electrical penetration specification that addresses the pressure boundary requirements and the applicable testing standards were applied to the new modules without exception. This action did not alter or reduce the integrity of the containment pressure boundary.

No unreviewed safety question was created by this change.

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### **CMP 94-1020**

Relocate digital rod position indication power supplies to a separate enclosure.

This change relocated the Digital Rod Position Indication (DRPI) power supply equipment located in the control room Digital Rod Position Indication system to a separate enclosure. This modification will permit the monitoring, testing, and replacement of the DRPI power supplies to be less intrusive to control room operations. The relocation of the DRPI power supply will not affect any plant systems important to safety and will not alter the main control board visual display. No unreviewed safety question was created by these changes.

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### **CMP 95-1013**

Removal of Bladders From Recycle Holdup Tanks

This modification removed the bladders on the RHUTS, close the vents that are open to associated rooms, and install vacuum breakers to the tanks. No safety related equipment is directly or indirectly involved in this modification. Tank leakage or rupture (the only credible accidents associated with the RHUTS) would be contained by the Radwaste Building and radiation levels would remain within acceptable limits. No unreviewed safety question is created by this modification.

Ref: CN 96-001

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### **CMP 95-1021**

Add volts per hertz protection and exciter blown fuse indication to Emerg. D/G.

This change provides for the installation of a volts per hertz relay in the emergency diesel generator panels NE 106 and NE 107. The primary function of the relay is to prevent over-excitation during normal testing operation of the diesel generator and specifically during abnormal shutdowns during test runs. This change also provides for the installation of a current unbalance relay with associated current transformers to indicate the presence of a blown fuse by associated unbalanced current condition during exciter/generator operation. These modifications will enhance the protection of the emergency diesel generators and enhance their reliability.

The design conforms to all regulatory guides and industry standards applicable to Callaway Plant. The modification meets all criteria for the Class 1E Power System and the new and existing components meet Seismic Category 1 requirements. This change will not impact the function or operation of the emergency diesel generators during an accident. There were no unreviewed safety questions associated with this modification.

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### **CMP 95-1026**

Add Vent Valve to RHR Pump Seal Cooler Return Line.

This modification adds a 3/8" manual valve, quick connect fittings, and associated hardware to a 5/8" RHR pump seal cooler return line. The valve will be used to vent the cooler in a controllable manner. The valve will be ASME Class 2. Components downstream of the valve are non-pressure retaining and will be isolated during normal operations. This new configuration has been verified to maintain stresses below specified Code limits. No unreviewed safety question is created by this modification.

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### **CMP 95-1028**

Add drain valve to "B" reactor coolant pump seal water injection line.

This change installs a manual drain assembly to the seal water injection line for the "B" reactor coolant pump. This drain valve will be used when maintenance is performed on the pump during plant shutdowns. The addition of this permanent drain eliminates the need to install a temporary drain fixture to allow maintenance and results in improved ALARA.

The new and modified piping and components are designed to meet existing system design requirements. The reactor coolant system has been analyzed as acceptable considering this change. The reactor coolant system is not adversely impacted, and remains capable of performing all its safety functions, therefore no unreviewed safety question was created.

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### **CMP 95-1035**

Replace Carbon Steel with Stainless Steel/Eliminate Unused Vents/Drains for ESWS

This modification replaces plain carbon steel piping/components with stainless steel piping and eliminates unused vents and drains within the Essential Service Water (ESW) system and related interconnecting systems using ESW as a cooling medium. This design meets the original design for the systems. The installations will meet ASME Class 3 requirements. The replacement material is superior to carbon steel in resistance to pipe-wall corrosion. The elimination of unused vents will reduce the potential for air entrapment in the system. No unreviewed safety question is created by this modification.

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### **CMP 96-1009**

Reroute conduit 4U3003 to allow the removal of TSI firewrap.

This RFR rerouted conduit 4U3003 to provide the required 20 foot separation from the redundant train equipment. This change allowed the removal of the firewrap from the conduit. The rerouted conduit was designed and installed using the same design criteria as the original conduit. The operation and control of the associated valve remained unchanged. No unreviewed safety question was created by this change.

Ref: FSAR CN 96-069

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### **CMP 96-1012**

#### Construct a radioactive material storage building on the Auxiliary Building roof

This modification added a permanent radioactive material storage building on a portion of the Auxiliary Building roof at plant elevation 2047'-2". The building was designed structurally to withstand design basis structural loading conditions. The building does not enclose any safety related equipment. Revision B to the modification package modified the HVAC cooling system from a split freon system to a fan coil unit design utilizing the non-safety chilled water system. There was no impact on the existing design basis of the plant. The addition of this facility posed no operability concerns and an unreviewed safety question did not exist.

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### **CMP 96-1019**

#### Installation of a new globe style valve at location BGTV0130.

This change replaced the existing butterfly valve at location BGTV0130 with a globe style valve. BGTV0130 regulates the temperature of reactor coolant system letdown flow by controlling the amount of component cooling water flow through the letdown heat exchanger. The modified piping and new valve are designed to meet existing system requirements. The component cooling water and chemical and volume control systems were analyzed acceptable considering this change. The component cooling water and chemical and volume control systems were not adversely impacted, and remain capable of performing all their safety functions. No unreviewed safety question was created by this change.

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### **CMP 96-1023**

Add an additional sight glass on ABHV0014 and ABHV0020 hydraulic reservoir.

CMP 96-1023 added a second sight glass to the hydraulic reservoirs on main steam isolation valves ABHV0014 and ABHV0020. The sight glass are not safety related, and the new sight glasses are identical to the existing ones. Therefore, the probability of a malfunction of equipment is not increased. Further the consequences of a malfunction of equipment important to safety is unaffected. An operable main steam isolation valve contains all the hydraulic fluid necessary for its safety function inside the safety related accumulators, not in the non-safety related reservoirs.

Since the probability or consequences of a malfunction of equipment important to safety is unaffected by this change, and the margin of safety defined in Technical Specifications is unaffected this modification did not result in an unreviewed safety question.

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### **CMP 96-1024**

Upgrade the Refueling Machine control system.

This modification replaced the existing control system with a micro-processor based system. The new control system utilizes a PLC to provide control and monitoring of the refueling machine movements and a PC for graphical interface with the refueling machine operators. The new control system is designed to be fail safe and meet all requirements for safe fuel movement. This change did not constitute an unreviewed safety question.

Ref: FSAR CN 97-100

Procedure ETP-KE-ST002, Rev. 0

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### CMP 96-1025

Modify cont. recirculation sump isolation valves to prevent pressure locking.

This change installed air expansion pipes attached to the packing leakoff line from the bonnet of each containment recirculation sump isolation valve. These pipes will provide sufficient free volume to allow for water expansion in order to prevent the occurrence of thermally induced pressure locking.

The residual heat removal and containment spray Class 2 valves, piping and associated systems were analyzed as acceptable considering this change. These systems were not adversely impacted, and remain capable of performing all their safety functions. No unreviewed safety question was created by this change.

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### CMP 96-1027

Add a level transmitter to the heater drain tank.

This change replaced the existing level switch with a new level transmitter. The new level transmitter, like the previous level switch, is magnetically coupled to the heater drain tank level indicator and does not require a pressure boundary breach. The new transmitter provides output to the plant computer for remote monitoring and replacement of tank high level alarm. The systems involved are non-safety. The installation and operation of the new heater drain tank level transmitter will have no adverse impact on any safety related component. This change did not result in an unreviewed safety question.

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### CMP 96-1028

#### Design upgrade of the fuel transfer system.

This modification upgraded the fuel transfer system. The upgrades included converting the drive system from a constant speed chain drive to a variable speed cable drive system that increased the transfer car speed. The change also replaced the relay logic control panels with programmable logic controllers and the obsolete solenoid valves on the hydraulic skids for the upender with different, but functionally equivalent models. Revision B directed the installation of new cabling and raceway for the fuel transfer system upgrade. The application of these new cables are not part of any safety related system. FCN04 allowed the use of redundant secondary fuses instead of a secondary circuit and a primary circuit fuse in low voltage control circuits as an equivalent protection scheme for electrical penetration protection. The FSAR commitment for complying with Regulatory Guide 1.63, Rev. 2 was also changed by this FCN. FCN08 approved the routing of coaxial signal cables in the same conduit as the Gai-Tronics communication cables on the refueling machine which is a deviation from the FSAR. This deviation did not present a new risk during plant operations since the refueling machine cables are not used except when the plant is shutdown for refueling operations. In a worst case failure, if power was interrupted to the refueling machine, the refueling machine would fail in a safe "as is" condition.

This modification did not change or impact the safety related function of the fuel transfer system which is to provide containment isolation. All the cable changes were to non-safety related circuits.

Associated with this modification are FSAR changes which eliminate the need for a continuous operator at the Reactor Building console and which allow the use of bypasses during system operation. No unreviewed safety question was created by these modifications.

Ref: FSAR CN 97-101  
FSAR CN 97-083  
FSAR CN 98-023  
FSAR CN 98-033  
Plant Procedure ETP-KE-ST001, Revision 0

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### **CMP 96-1031**

#### Install level controller for heater drain tank alternate drain valve.

This modification installed a separate controller for the alternate heater drain tank line valve, AFLCV0716, to the condenser. Additionally, a main control board annunciator is added to indicate heater drain pump trouble to alert the operator of a pump trip. The safety evaluation identifies that the change did not reduce the ability of the feedwater heater extraction drains and vents systems to perform its intended function.

The addition of the separate level controller or the plant annunciator will not challenge any plant systems important to safety or create any accident scenarios not previously analyzed in the FSAR. The change did not create an unreviewed safety question.

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### **CMP 96-1032**

#### Replacement of RCP vibration monitor system and data collection capability.

CMP 96-1032 replaced the RCP vibration monitor rack equipment located in the control room with a newer model of similar equipment. The RCP vibration system is classified as non-safety related equipment and its replacement will not effect any system, structure, or component that is safety related. The replacement of the RCP vibration system with newer technology will not challenge any plant system important to safety or create any accident scenarios not previously analyzed in the FSAR. No unreviewed safety question was created by this change.

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### **CMP 97-1002**

#### Install replacement "B" Essential Service Water pump.

This modification installed a new essential service water pump with a slightly larger impeller. FCN01 addressed the increased pump performance beyond current designed performance. The FCN also addressed the installation of alignment lugs on the pump to aid in motor to pump alignment. These lugs are used during maintenance and have no operational affect when the pump is returned to operable status. When the pump was fabricated, the discharge elbow of the pump was constructed of a thicker material than originally specified by the manufacturer. The new elbow was evaluated by the manufacturer and found not to result in pump loads greater than original design limits. Finally this FCN addressed the replacement of studs in the discharge flange and sole plate to pump connection one stud at a time while the pump remains operable. None of the changes identified resulted in exceeding existing design limits, thus original margins of safety are satisfied. This change did not result in an unreviewed safety question.

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### **CMP 97-1006**

#### Modify Hot Machine Shop into a Laundry Decontamination Facility.

Modification of the Hot Machine Shop into a Laundry Decontamination Facility represents only a change to the method of decontamination as well as the volume of material decontaminated, because the buildings basic function will remain unchanged in that it will continue to be a decontamination facility. All liquid radioactive waste generated as a result of the operation of the Laundry Decontamination Facility will continue to be processed through the same systems as has been used in the past, therefore, there is no change to that process. All systems required to support this facility were already located in the building and serve no safety-related function. The new monitored release point for the dryer exhaust has been evaluated per Appendix B to the License and found that with the design controls placed on the equipment that potential radioactive releases will be maintained within allowable limits and ALARA. No unreviewed safety question was created by this modification.

Ref: Plant Procedure APA-ZZ-01003, Revision 9  
FSAR CN 98-021

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### **CMP 97-1025**

#### Reroute the pre-lube piping to the "B" Essential Service Water Pump.

This change rerouted the piping from the Essential Service Water (ESW) pre-lube tank to ESW pump "B". The purpose of this change was to reduce manpower requirements during Refuel 9. In addition to rerouting the pipe, it will be changed to stainless steel to increase its corrosion resistance. The pre-lube piping supplies water to the bearings of the ESW pumps when the pump is not running. While this is required to minimize wear during normal operations, it is not required during emergency conditions. The change in piping routing did not significantly affect the flow to the bearings, therefore this change would not increase the probability of a malfunction of equipment important to safety. Further, the changes made by this modification has no adverse affect on the consequences of an accident or malfunction of equipment important to safety. This change did not result in an unreviewed safety question.

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### **CMP 97-1028**

#### Revise limit switch settings on the limitorque operator for valve FCHV0312

This modification revised the limit switch settings to increase the valve open stroke time of valve FCHV0312. The time increase is needed to ensure the proper coordination between the essential service water to turbine driven auxiliary feed pump suction supply valves and the turbine driven auxiliary feed pump steam admission valve. The safety evaluation indicated there were no nuclear safety concerns associated with this change and no unreviewed safety question was created.

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### **CMP 97-1033**

#### Install vent assembly on discharge of the centrifugal charging pumps.

This modification installed a manual vent assembly to the high point of each of the high head safety injection pump's discharge line. The valve will be opened manually under local operator control for Technical Specification required venting, or to support maintenance on the system. The addition of these permanent vents will ensure compliance with Technical Specification requirements, and result in improved ALARA compared to the current method of venting.

The modified piping and new components are designed to meet existing system design requirements. The Chemical and Volume Control System (CVCS) has been analyzed as acceptable considering this change. The CVCS is not adversely impacted, and remains capable of performing all its safety functions, therefore an unreviewed safety question was not created .

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### **CMP 97-1037**

#### Install isolation valve on Essential Service Water piping.

This modification installed an isolation valve in the Essential Service Water (ESW) supply piping to the auxiliary feedwater system, the penetration room cooler, and CKA01A. This valve will be used to isolate downstream portions of the piping system without requiring the upstream portion to be drained. Normal operations will have this valve in the locked open position such that operationally, this change will not affect the system performance. This modification meets the same construction code requirements as the existing system. Therefore, the probability of a malfunction is not increased over what currently exists for this system. The credible failure modes of the valves associated with this modification are not any different than those for existing valves in the piping system. Therefore, the consequences of a malfunction of equipment important to safety is unaffected by this modification. The valve is a passive component that will not affect the Technical Specifications for the ESW system or the downstream systems supplied by ESW. This change did not create an unreviewed safety question.

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### **CMP 97-1039**

#### Increase motor size on valves ENHV0001 and ENHV0007.

This modification changes the size of the motors on ENHV0001 and ENHV0007 to allow for the adoption of EPRI generic DP thrust values, which account for thermal binding and pressure locking issues. This is in support of actions committed to for closure of NRC Generic Letter 89-10.

The motor was changed from a 10 ft-lb torque to a 15 ft-lb torque size. This increase in size is needed to show that adequate torque is available to support the higher EPRI generic DP thrust values. All calculations documenting the design indicate that this change was acceptable. The new motors are qualified to the same specifications as the old motors. This change did not create an unreviewed safety question.

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### **CMP 98-1009**

#### Upgrade insulation on steam generator blowdown sample lines.

This change installed Foamglas insulation on the penetration piping inside containment for penetrations 83, 84, 85, and 86. Steam generator blowdown piping between valves BMV0193-V005; V0192-V016; V0191-V027 and V0190-V038 and the RHR suction lines between the 8701/8702 valves was also changed to Foamglas. The current Nukon insulation will not retain its design thermal characteristics during a DBA, whereas the Foamglas insulation will. The change in insulation will maintain the thermal characteristics and weight values within the current design values. FCN01 added a relief valve downstream of EMV0219 to ensure that the pressure in the SI test header does not increase beyond the hydrostatic test pressure of the adjoining safety related isolation valves. The probability or consequences of a failure of equipment important to safety is not increased by these changes. None of the changes resulted in exceeding existing design limits, thus original margins of safety are satisfied. This change did not create an unreviewed safety question.

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### **CMP 98-1014**

#### Cycle 10 core reload design.

Revision A applied to the Cycle 10 reload design and operation up to a cycle burnup of 60 EFPD. FCN01 revised the reload design to include analysis related to fuel reconstitution of two fuel assemblies. FCN02 revised the Cycle 10 COLR to incorporate additional w(z) factors to account for a range of measured axial offsets in Cycle 10. The Cycle 10 reload design satisfies all of the applicable safety parameter limits and acceptance criteria, and was evaluated using standard reload design and approved fuel rod design models and methods. These evaluations concluded that there was no unreviewed safety question related to core design for operation through Cycle 10.

Ref: FSAR CN 97-079

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### **EMP 96-3001**

#### Addition of defeat switches for the turbine low vacuum trip circuits.

This modification added three switches for defeating the low vacuum turbine trip functions. The switches are added to allow on-line calibration of the vacuum switches. On line calibration minimizes the temperature effects of the calibration and moves work out of outages. One defeat switch was provided for the vacuum trip logic on each turbine exhaust hood. Also, a new main control board annunciator window is added to alert the operators when any of the switches are in the trip defeat position. The safety evaluation identifies that this change did not reduce the ability to trip the turbine on low vacuum, the low vacuum trip circuits are not relied on to perform safety functions, and the low vacuum trip circuits are not relied on to mitigate the effects of any analyzed accidents. This change did not create an unreviewed safety question.

Ref: FSAR CN 97-032

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### **EMP 97-3001**

#### Revise the main turbine load rates.

This modification changes the load rates for the EHC load rate circuits to 0.05, 0.166, 1, and 1/2%/min with the 1/2%/min being the default value for synchronization of the generator and when the turbine is taken off of the load limiter. The EHC system has no safety related function and has no safety related design basis. This change did not result in an unreviewed safety question.

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### **EMP 97-3005**

#### Install new lighting transformer and power panel in Turbine Building.

EMP 97-3005 installs a lighting transformer and lighting panel in the Turbine Building 2000' elevation. This lighting panel will supply electrical power for the environmental trailer and portable diesel generator located outside on the west side of the Turbine Building. The equipment addition to the non-safety related system did not affect the probability of occurrences or consequences of accidents previously evaluated in the FSAR and no unreviewed safety question is created.

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### **RMP 92-2009**

#### Upgrade Integrated Leak Rate Test Instrumentation

This modification replaces the existing Integrated Leak Rate Test (ILRT) instrumentation. These changes will improve the quality of the test data but will not change the conduct of the ILRT as described in FSAR section 6.2. This modification will change the instrumentation and method of data transmission for the ILRT as shown on FSAR Figure 6.2.6-1. However the data obtained from the new instrumentation will conform to the same test criteria as the previous tests. Therefore, there is no unreviewed safety question.

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### RMP 93-2026

#### Install Corrosion Rate Monitoring Equipment in Cold Lab Wet Panel

This modification installs a tee and a conductivity cell and indicator within the process sampling system. These changes are made to facilitate corrosion rate determination for the Moisture Separator Reheater (MSR) drain tank and conductivity measurement of demineralized water. The Process Sampling System is non-safety related and is not associated with any accident analyses. No new accident initiators are created and the consequences of previously analyzed accidents are unaffected. No unreviewed safety question is created by this modification.

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### RMP 93-2031

#### Permanently remove several process radiation monitors from service.

This modification eliminated three process radiation monitors in the Radwaste building that are no longer used. These monitors are HF-RE-0045, HE-RE-0016, and GH-RE-0022. This change will also eliminate the automatic controls for valve HERCV0016 since they come from the radiation monitor. This modification had no effect on the probability of a tank rupture in the Radwaste Building, nor will it affect the materials in any tank. These monitors are not used for effluent monitoring, so this modification does not reduce the monitoring capability of the plant. Therefore, this modification does not reduce the level of plant safety and an unreviewed safety question does not exist.

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### RMP 93-2035

#### Replace turbine lube oil mist eliminator.

This change replaced the main turbine lube oil mist eliminator with a more efficient unit. The change also rerouted the associated piping as required for installation of the new unit. All systems and components associated with this change are non safety related and have no safety design basis. This change does not interface with a system or component that is safety related. No unreviewed safety question was created by this change.

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### RMP 93-2037

#### Replace Packaged Sewage Treatment Plant with Lagoon System

This modification replaces the existing packaged sewage treatment plant with a three cell, flow through, sewage treatment lagoon system. Per FSAR (Site Addendum) 9.2.4.1.1, the Sanitary Waste Water System serves no safety function and has no safety design basis. Because there is no change to the collection system or collection points, this modification will not change the non-safety-related status of this system. This change poses no operabililty concerns and does not result in an unreviewed safety question.

Ref: CN 96-035

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### RMP 95-2016

#### Install test connection in the Nitrogen Relief Valve discharge header.

This modification installed test connections on the non safety related relief valve header on the Turbine Driven Aux. Feedwater Control Valves / Main Steam Atmospheric Relief Valves Nitrogen Accumulators. This change allows any nitrogen leaking back through the accumulator check valves during testing to be vented outside of the building instead of into the room. This change did not create an unreviewed safety question.

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### RMP 95-2017

#### Route instrument air dryer blowdown to an existing atmospheric discharge line.

This modification rerouted the instrument air dryer regeneration flow from the current local discharge at the air dryer skid to a discharge line that exits the turbine building. This modification to non-safety, non-special scope, non-Technical Specification equipment has been evaluated and did not constitute an unreviewed safety question.

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### RMP 96-2001

Add separate CST/DI water makeup valves to Aux. Steam condensate tank.

This change improved the method of level control to the Aux. Steam Condensate Recovery and Storage Tank, TFB02. The change removed one control valve and added separate control valves on each feed to the tank. The valves are throttled and opened as needed depending on demand from the tank. This modification did not affect or interface with any safety-related components or systems and does not have any safety design basis associated with the portions of the system affected by the modification. No unreviewed safety question was created by this change.

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### RMP 96-2005

Replace unit vent flow transmitter.

This change provided a replacement unit vent flow transmitter that is more accurate and reliable than the existing unit. The new flow transmitter provides the same unit vent flow input to the unit vent radiation monitor as the old transmitter. The flow transmitter is non safety and does not affect the ability of safety related systems to perform their functions. This change does not reduce the level of plant safety and an unreviewed safety question was not created.

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### RMP 96-2006

Remove the high pressure feedwater heater shell side drains.

This modification removed the high pressure feedwater heaters shell side drains to the miscellaneous condensate drain tank. These drains are not being used and have been a maintenance concern in the past. This change did not affect or interface with any safety related components or systems and does not have any safety design basis associated with the portions of systems affected by the modification. No unreviewed safety question was created by this modification.

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### RMP 97-2002

Replace tube bundle in the #1C low pressure feedwater heater.

This modification replaced the number 1C low pressure feedwater heater tube bundle with a new U-tube design. The new design replaced a straight tube design which had fixed tube sheets on both ends. The existing design had inherent design concerns which lead to several material failure mechanisms within the heater. This modification will not affect or interface with any safety related components or systems and does not have any safety design basis associated with the portions of systems affected by the modification. This change did not create an unreviewed safety question.

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### RMP 97-2003

Install conductivity cell into each of the 6 condenser hotwell outlet lines.

This modification provides a means to monitor all six condenser hotwells at the same time in order to determine location of possible tube leaks, six conductivity cells will be installed in each of the condenser hotwell outlet lines. Revision A provides for the installation of the conductivity wells and elements only. The Process Sampling System and Condenser System are non-safety related and not associated with any accident analysis. No unreviewed safety question was created by this change.

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### RMP 97-2005

Replace a hose between HFYS0004 and FHF09 with a hard pipe.

This modification replaced the hose between strainer HFYS0004 and separation tank FHF09 with hard piping. This eliminated the house keeping concerns and the area tripping hazard associated with the use of a rubber hose that ran across the floor and other equipment in the area. This piping was installed in a non-seismic, non-group D augmented, and non-safety related portion of the secondary waste system in the radwaste building. If this line fails, the resulting area impacted would not result in the degradation of equipment important to safety. No unreviewed safety question was created by this modification.

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### RMP 97-2008

Install a steam piping system from main steam to #7 high pressure heaters.

This modification routed main steam to the shell side of the #7 high pressure feedwater heaters to provide feedwater preheating during startups. The increased feedwater temperature will enhance steam generator water level control and preclude the control problems that have resulted in six feedwater isolation events. This modification is to non-safety, non-special scope, and non-Technical Specification equipment. The change was evaluated and did not result in an unreviewed safety question.

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### OL 1179

License Transfer for Merger with CIPS

This amendment request revised Union Electric Company's Facility Operating License No. NPF-30 for Callaway Plant to add a footnote after the words "Union Electric Company" in paragraph 1.A to indicate that Union Electric has entered into a merger agreement with CIPSCO Incorporated which provides for Union Electric to become a wholly-owned operating company of Ameren Corporation, a registered holding company under the Public Utility Holding Company Act of 1935, as amended ("the 1935 Act"). This request amends the License, such that after the merger, Union Electric will continue to own and operate Callaway Plant as an operating company subsidiary of Ameren. This change is strictly administrative in nature and has no effect on plant operations. No unreviewed safety question is created by this amendment.

This change was approved by NRC via Amendment 120 dated February 13, 1998.

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### OL-1174

#### Changes to RTS and ESFAS Delta-T Function Units.

This amendment incorporates changes to setpoints and allowable values in Technical Specification Tables 2.2-1, 4.3-1 and 3.3-4, as well as their associated bases. This amendment will preclude occurrences such as repeated alarms, rod blocks, and partial reactor trips that continue to occur during routine surveillance tests, especially during the beginning of cycle operation following refueling outages. The amendment besides reducing the potential for distracting operator attention away from more safety significant evolutions, will also eliminate the requirement to reduce power during surveillance testing in order to avoid reactor trips, since the channel being tested is placed in a tripped condition. These changes were approved by NRC via Amendment 125 on April 13, 1998.

These changes were implemented by Callaway Modification Package 97-1035, Revision A.

Ref: CMP 97-1035, Rev. A  
Technical Specification Interpretation 66

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### OL-1181

#### Reduce single failure trip potential for main feedwater and bypass valves.

This amendment application revises the Final Safety Analysis Report (FSAR) to incorporate a design modification to the facility that will reduce the single failure trip potential for the main feedwater and bypass valves. The modification changes the main feedwater control and bypass valve trip solenoid valve configuration from series to parallel. De-energization of both solenoid valves is required to close the applicable control or bypass valve. These changes were approved by NRC via Amendment 115 on August 13, 1996.

REF: FSAR CN 95-043  
CMP 92-1051

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### OL-1184

Revise the MSFIS automatic actuation logic and actuation relays surveillance.

This amendment revised Technical Specification Table 3.3-3 Functional Units 4.b.2 and 5.a.2 to make the number of Main Steam and Feedwater Isolation System (MSFIS) channels consistent with the solid state protection system, added a clarifying note, deleted action statements and changed Table 4.3-2 Functional Units 4.b.2 and 5.a.2 slave relay quarterly test to a monthly staggered actuation logic test. These changes were approved by NRC via Amendment 123 on March 25, 1998.

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### OL-1185

Essential Service Water System Surveillance changes.

This amendment revises the Technical Specification to remove the requirement that Surveillance Requirements 4.7.4.b and 4.7.4.c associated with testing of the Essential Service Water (ESW) system are performed while the plant is shutdown. This change will allow online testing of the ESW system valves and pump start features. These changes were approved by the NRC via Amendment 121 on February 24, 1998.

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### OL-1188

Organizational change in support of an executive title change and a retirement.

This amendment revised the title "Senior Vice President, Nuclear" to "Vice President and Chief Nuclear Officer." The change was necessary following a reorganization that took place on May 1, 1997, in which the position of Vice President, Nuclear Operations was eliminated. The staff that reported directly to that position now reports to the Vice President and Chief Nuclear Officer. These organizational changes were approved by NRC via Amendment 122 on March 23, 1998.

Ref: FSAR CN 97-021  
OQAM, Revision 19  
RERP, Revision 21

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### OL-1189

#### Feedwater Isolation changes.

This amendment application revises the Technical Specification to change feedwater isolation engineering safety features actuation system (ESFAS) functions in Technical Specification Tables 3.3-3, 3.3-4, and 4.3-2. These changes were approved by NRC via Amendment 126 on April 23, 1998.

These changes were implemented by Callaway Modification Package 96-1016, Revision A.

Ref: FSAR CN 97-028  
CMP 96-1016, Rev. A

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### OL-1191

#### Revise Technical Specification 3/4.4.9, Pressure/Temperature Limits.

This amendment modifies the plant heatup and cooldown curves and the maximum allowable power operated relief valve setpoint for cold overpressure protection. On March 30, 1998, the NRC staff approved the request for exemption from the requirements of 10CFR50.60, "Acceptance Criteria for Fracture Prevention for Light Water Nuclear Power Reactors for Normal Operation" in order to apply the American Society of Mechanical Engineering (ASME) Code Case N-154, "Low Temperature Overpressure Protection." The Code case was used in developing the cold overpressure mitigation system setpoints.

These changes were approved by NRC via Amendment 124 on April 2, 1998.

Ref: Technical Specification Interpretation 65

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### CDP-ZZ-00200

#### Chemistry schedule and water specs.

Revision 56 to the procedure changed the operating reactor coolant system pH program to a constant 7.1 pH for Cycle 10. Revision 57 change the procedure to implement post Cycle 9 use of ammonia as a reactor coolant system additive. These revisions to the procedure were evaluated by Westinghouse to their effects on nuclear safety. These evaluations concluded that there was no unreviewed safety question related to the operation of the plant with the identified reactor coolant system chemistry regimes.

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### CTP-BG-06060

#### Chemical addition to the CVCS via the Aux. Building SJ sample station.

This procedure provides direction for using the sample system sink for the addition of chemicals to the reactor coolant system. The SJ chemical addition tank was connected to the non safety related portion of the chemical and volume control system letdown sample leg piping downstream of the demineralizers. The chemical additions are administratively controlled by this procedure. The chemicals being added have previously been approved and used in the reactor coolant system. All current accident analysis as documented in the FSAR remain valid and there is no adverse affects on any safety related equipment. No unreviewed safety question was created by this procedure revision.

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### ETP-BB-01339

#### Steam generator in-situ pressure test.

Revision 2 to the procedure incorporated Westinghouse procedure STD-FP-1997-8053 into the Callaway procedure system for use during Refuel 9. This procedure provides the instructions for performing the in-situ pressure testing of 11/16 inch steam generator tubes. The performance of this procedure would not adversely affect the steam generator pressure boundary or the safety of the plant. No unreviewed safety question was created by this revision to the procedure.

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### ETP-SE-ST001

#### Nuclear instrument startup testing.

Revision 16 to procedure ETP-SE-ST001 eliminated the requirement to set the power range neutron high flux trip setpoint to 20% during physics testing and added a 10% conservatism to the intermediate range trip setpoint verification values. Technical Specification 3.10.3.b requires each operable channel to have a trip setpoint of less than or equal to 25%. The Power Range Low Flux Trip of 25% satisfies this requirement when Physic Testing is performed. The applicable accidents in FSAR Chapter 15 take credit for the Low Flux Trip. In previous revisions of this procedure the high flux trip was set to 20% in addition to the low flux trip at 25%. This conservatism is not required to meet Technical Specification 3.10.3.b or the assumptions of the FSAR. No unreviewed safety question was created by this procedure change.

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### ETP-ZZ-ST012

#### Room temperature monitoring.

Revision 4 reinstated procedure ETP-ZZ-ST012 which was previously deleted in 1992 due to limited usage. The performance of this procedure requires that the HVAC system be secured while the safety related equipment in the associated room is operating. The temperature is monitored during the test to ensure the FSAR temperature limits are not exceeded. The procedure is only performed while the train opposite that being tested is operable. This evaluation determined that the testing associated with this procedure would not make the safety related equipment in the room inoperable. No unreviewed safety question was created by this procedure revision.

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### ETP-ZZ-ST017

#### Operation at reduced reactor coolant system pH.

This evaluation addresses the plant impact of Revision 1 to this procedure which decreases reactor coolant system pH in an attempt to improve core axial offset behavior. The issues addressed in this evaluation include the effect of a crud burst on the reactor coolant system and chemical and volume control system components and on core reactivity and axial offset. The evaluation concluded that no unreviewed safety question was created by this procedure change.

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### FPP-ZZ-00000

#### Guidelines for writing prefire strategy procedures.

Revision 3 deleted the listing of the values of the specific combustible loading in fire areas from the Fire Preplan and replaces the information with a category of combustible loading for an area and the types of combustible loading for an area. This change did not affect the fire fighting strategies as outlined in the fire preplan. As stated in Operating License Section 2.C(5)(d), "the licensee may make changes to the approved fire protection program without prior approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire." Safe shutdown is not affected by this procedure revision. This change did not create an unreviewed safety question.

Ref: Plant procedure FPP-ZZ-00001, Revision 5  
Plant procedure FPP-ZZ-00002, Revision 3  
Plant procedure FPP-ZZ-00003, Revision 3  
Plant procedure FPP-ZZ-00005, Revision 2  
Plant procedure FPP-ZZ-00006, Revision 2  
Plant procedure FPP-ZZ-00007, Revision 2  
Plant procedure FPP-ZZ-00008, Revision 2

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### OTA-RL-RK062

#### Annunciator response procedure, windows 62A through 62F.

This evaluation determined that Revision 4 to plant procedure OTA-RL-RK062 which added instructions for operator response to an inadvertent Fuel Building Isolation Signal when the emergency exhaust ventilation system is required to be in SIS configuration is appropriate. Placement of these instructions in the plant procedure is consistent with the design of the system. The use of operator actions to mitigate the consequences of this low probability event will not affect the safety of the plant or the public. This procedure revision did not create an unreviewed safety question.

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### OTO-ZZ-00001

#### Control room inaccessibility

Revision 15 made changes to the procedure to improve efficiency and to clarify the procedure for safe shutdown of the plant in the event of a Control Room evacuation due to fire. Changes were made to the procedure and to the FSAR to satisfy corrective actions for SOS 97-0451. References to SLNRC 84-109 were removed from the FSAR since the letter is not up to date with current procedure revision. These changes did not create an unreviewed safety question.

Ref: FSAR CN 97-054  
RFR 18842, Revision A

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### TSI 79

#### Steam Generator Atmospheric Steam Dump Valves.

Technical Specification Interpretation 79, Revision 0 alters Technical Specification 3.7.1.7 to require four steam generator atmospheric steam dump valves to be operable. This requirement made the Technical Specifications agree with the licensing basis steam generator tube rupture analysis assumptions. This evaluation showed that this change would not result in an unreviewed safety question.

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### RFR 00138

Increase stroke time for three Essential Service Water system valves.

This RFR approved an increase in the allowable stroke time for three Essential Service Water (ESW) system valves. The increased stroke time makes these valves consistent with nine other ESW valves of the same model, size and function. The valves function to isolate the non-safety Service Water system from the ESW system on receipt of a SIS or loss of offsite power. The evaluation performed concluded that the ESW system remains capable of performing all its safety functions. Therefore allowing the stroke time to increase from 30 to 35 seconds for the three valves did not create an unreviewed safety question.

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### RFR 03863

Add vent and drain hoses to combustible loading information program.

Revision C to this RFR approved an increase in combustible loading for rooms in Fire Areas A-1, A-2, A-4, A-24, A-25, F-2, and F-3. The total additional loading must be more than 10,000 BTU/sq. ft. before requiring an FSAR update. Not all the listed fire areas exceeded an additional loading of 10,000 BTU/sq. ft.. However, these areas were updated also in the reference FSAR CN.

The combustible loading for the affected rooms remains very low for the building design and protection provided. These fire areas are separated from adjoining fire areas by 3-hour fire barriers. The increase in combustible loading did not change, degrade, or prevent actions described or assumed in accident analysis. Therefore, no unreviewed safety question was created by this change.

Ref: FSAR CN 97-053

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### **RFR 05837**

#### Encapsulation of valve ABV0143 to eliminate leakage.

Revision B allowed the installation of an encapsulation on valve ABV0143 (Steam dump upstream isolation valve). The encapsulation is similar in design to that of MP 88-3037, which was designed for ABV0137 (identical valve and service conditions).

This change will meet the original design codes for the system, the probability or consequences of an accident, or a malfunction of equipment important to safety is not altered by this change. Additionally, this change has no impact upon Technical Specifications, therefore does not affect the margin of safety. This valve is not safety related and will have no affect on the operation of safety related equipment. This modification did not involve an unreviewed safety question.

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### **RFR 07299**

#### Approve new bracket switch assembly for Valcor valves.

Revision F approved Valcor Bracket Terminal Block Assembly (BTBA) S1140-11-89 for use in Valcor solenoid valves on a generic basis. This is considered an equivalent replacement of the assemblies currently installed. The new assembly includes a vernier adjustment assembly which allows finer and easier reed switch adjustments than the old configurations. It is concluded that use of the new BTBA's did not adversely impact the function of the Valcor solenoid valves. The valve will remain capable of performing their originally assumed functions. This RFR revision did not create an unreviewed safety question.

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### **RFR 08236**

Modify the end connection of vent locations on the SI and RHR system.

Revision B modifies the end connection of nine vent locations on the Safety Injection (SI) and Residual Heat Removal (RHR) systems. Revision C modified an additional vent on the Safety Injection system located at the high point on the boron injection header. The existing end termination was either a blind flange or a threaded pipe cap. These RFR revisions approved the installation of a 3/8" tubing valve with a quick connect downstream.

In the vent assemblies, the first valve provides the ASME Code boundary for these Class 2 systems. The existing blind flange, which is being modified, is not an ASME Code component, but serves as a non-safety boundary in the event the upstream valve experiences seat leakage.

The modified vent assemblies are designed to meet existing system design requirements. The SI and RHR systems have been analyzed as acceptable considering this change. The systems are not adversely impacted, and remain capable of performing all their safety functions. No unreviewed safety question was created by this change.

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### **RFR 09350**

Correct design oversight for CMP 91-1037.

Revision B initiated a minor modification to correct a design oversight from CMP 91-1037. Revision A. This minor modification will correct a logic card jumper configuration to inhibit the white light feature for the RK045 annunciator window during Steam Line Isolation Signal (SLIS) Emergency Safety Features System (ESFS) actuations. This change did not adversely affect the operation of ESFS equipment or the RK system. This change did not create an unreviewed safety question.

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### **RFR 09780**

Determine maximum allowable Control Building penetration.

This RFR determined the maximum allowable penetration size for the control building wall adjoining the auxiliary building wall is 32.97 sq. Inches and for the control building exterior walls adjoining the outside atmosphere is 111.2 sq. inches. Penetrations in excess of 32.97 sq. inches between the control building and the auxiliary building or penetrations in excess of 111.2 sq. inches between the control building and the outside atmosphere will be evaluated on a case by case basis by an RFR which will be evaluated by the on-site review committee prior to work performance. The design basis for the control room emergency ventilation system to ensure the habitability of the control room for operation personnel following any credible accident will not be compromised. This evaluation was considered conservative because the amount of inleakage used in determining the penetration size, 900 CFM, was less than the assumed inleakage of 945 CFM used in determining the post-LOCA control room dose. The maximum allowable penetration size for the control building exterior walls was include in plant procedures to provide the proper administrative control for these new penetration limits. This evaluation did not result in an unreviewed safety question.

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### **RFR 10656**

Evaluate storage of health physic equipment in the radwaste tunnel.

Revision C to this RFR allowed the storage of protective clothing in the radwaste pipe tunnel (Room 7134). This area does not contain any equipment required for safe shutdown of the plant. This change in combustible loading did not alter any assumptions previously made in accident analysis. This change did not create an unreviewed safety question.

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### RFR 10753

#### Add Fire Brigade Storage Room on 2061'-6" of Communications Corridor.

This RFR added a fire brigade storage room in the Communications Corridor in the 2061'-6" elevation. The purpose of the room is to store equipment and supplies necessary for the fire brigade to fight fires at the plant. The storage of this material will not impact any safety equipment due to the 2 foot concrete wall separating this area from any safety related equipment. This change did not adversely affect the Fire Protection Plan, Seismic II/I Program, or any other plant program. This change did not create an unreviewed safety question.

Ref: FSAR CN 96-063

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### RFR 10782

#### Evaluate throttle valve operation during heatup or cooldown (TSI 50)

Revision C evaluated the concerns regarding the Auxiliary Feedwater pumps and discharge valves operation during plant heatup and cooldown. And the logic behind claming only the Essential Service Water as the water supply in a loss of off-site power event. The Auxiliary Feedwater system and all of its related components are fully functional when it is being used as the primary water supply in this role. There are no concerns that this mode of operation will cause an accident or equipment malfunction. The Essential Service Water system is the water source during a seismic event or loss of off-site power event because the condensate storage tank is not a safety qualified source. An analysis of the auxiliary feedwater system was done in revision B to RFR 14020. This RFR evaluated Auxiliary Feedwater system using the Essential Service Water as a water supply and determined it was fully operable with the system meeting its required function. The Auxiliary Feedwater system was the originally design water supply for the plant on plant heatup and cooldown. The system was designed to handle the plant requirement under these conditions; this is an acceptable method of operating this system. There are no adverse conditions that existed or presently exist that could prevent the Auxiliary Feedwater system or any of its related components from fulfilling their required function when used for this application. This evaluation did not result in an unreviewed safety question.

Ref: FSAR CN 98-040

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### RFR 13477

Modify stator cooling water storage tank vent test line.

Revision B evaluated the effects of installing an additional test connection isolation valve on the stator cooling water tank vent test line. In order to provide for draining of the vent test connection, the existing test connection isolation valve will be used as a drain. An additional valve will be installed at the test port which is at a higher elevation than the existing valve. This valve will provide isolation for the pressure indicator which is installed during testing periods. The Stator Cooling Water system is non-safety related and not associated with any accident analysis. This minor modification did not create an unreviewed safety question.

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### RFR 14020

Evaluate operation of turbine driven aux. Feedwater pump under certain accident.

Revision B addressed operability of the turbine driven auxiliary feedwater pump during the first 12 seconds after a main feedwater line break. This event was the bounding case for operability. This evaluation showed the pump is operable in that an adequate suction supply is available to support pump operation until the essential service water suction supply valves open at 12 seconds. Therefore no unreviewed safety question exists.

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### RFR 14421

Approve the use of ABC fire extinguishers on carts in safety related areas.

Revision F of this RFR approved the use of ABC fire extinguishers on two wheel carts for use in the safety related areas of the plant. In addition, the location of fire extinguishers were changed for 7 fire areas that were described in the FSAR. This change improved the fire protection program since the fire extinguishers are standardized such that extinguishers are located in hallways and near exits, where practical. The change to fire extinguisher location did not change, degrade, or prevent actions described or assumed in an accident. This change did not create an unreviewed safety question.

Ref: FSAR CN 97-055

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### RFR 15587

Evaluate scaffold storage in reactor building.

Revision L approved the relocation of scaffold pickboards in the Reactor Building from elevation 2068' to 2000'. The pickboards are needed to provide a more efficient location for mobilizing scaffold material during outage activities. Permanent storage of scaffold pickboards within the Reactor Building did not affect plant safety. This change also did not adversely affect the seismic II/I program or CAZITS program. No unreviewed safety question was created by this change.

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### RFR 15830

Fabricate and install rigging device for ESW pump bay work.

Revision B to this RFR involved the addition of rigging jibs, located over the access hatches to the Essential Service Water (ESW) pump bays. These jibs were used for rigging of equipment and personnel safety retrieval. The jibs served no safety related function. The only interface to a safety related item, was the installation of expansion anchors into the safety related wall of the ESW pump house. The authorized rigging loads on the jibs are less than 1000 lbs., which are not significant and the anchors were installed per plant procedures to insure that no unauthorized cutting of rebar occurred. The jibs are in a location where no safety related equipment could be impacted due to jib failure, thus a Seismic II/I concern did not exist. Because these jibs did not adversely impact any safety related system, structure or component an unreviewed safety question did not exist.

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### RFR 16086

Evaluate argon bottle storage with welding machines.

RFR revision D approved permanent storage of argon bottles with the welding machines storage locations previously approve by revisions A and C to this RFR. Permanent storage of argon bottles with the welding machines, which were previously approved, did not affect plant safety. This change also did not adversely affect the Fire Protection Program, Seismic II/I Program, or any other plant program. No unreviewed safety question was created by this change.

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### RFR 16327

Evaluate control room breathing air requirements.

RFR revision B changed the types of SCBA units used in the Control Room to improve operator versatility. The change also reduced the quantity of air stored in the Control Room envelope. The quantity of air stored in the Control Room envelope still exceeds licensing requirements. This change allows the operators to remain at their posts for a much longer period of time and is therefore an overall improvement in safety. This change did not create an unreviewed safety question.

Ref: FSAR CN 97-091

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### RFR 16435

Modify the Control Room GAI-TRONICS paging circuit.

RFR 16435 B approves the rewire of a Gai-Tronics handset such that only pages made on party line 1 will be heard in the Control Room. The RFR results in a change to FSAR section 9.5.2.2.1 which discusses the Gai-Tronics system. These changes do not result in an unreviewed safety question.

Ref: FSAR CN 92-019

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### RFR 16701

Evaluate the acceptability of tensioning 12 of the 24 RCP main flange studs.

Revision B to RFR 16701 approved a change that allowed the refuel pool to be flooded and core reload to commence after tensioning 12 of the 24 Reactor Coolant Pump (RCP) main flange studs following the replacement of RCP internals during a refuel outage. The approval allows the reduced number of evenly spaced studs to be installed in either "no mode" or "Mode 6". The evaluation determined that gasket crush loading is acceptable and that the design stud load given in the stress report bounds the reduced loading associated with Mode 6 conditions. This disposition requires that all RCP flange studs be installed prior to Mode 5. No unreviewed safety question was created by this change.

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### **RFR 16740**

#### Evaluate seismic adequacy of Thermo-Lag material installation.

The use of Thermo-Lag to satisfy the requirements of IEEE-384-74 has been evaluated and found to be acceptable. Also, underlying components which have Thermo-Lag installed to meet the IEEE requirements have been evaluated and found to be acceptable: i.e., the underlying components will not fail during a seismic event because actual stresses are less than allowable stresses. As such, an operability concern does not exist. An unreviewed safety question does not exist, nor is the margin of safety impacted as a result of using Thermo-Lag to satisfy the requirements of IEEE-384-74. OL Condition 2.C.(5) is not impacted because the proposed changes have no adverse affect on the ability to achieve and maintain safe shutdown in the event of a thermal short.

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### **RFR 16776**

#### Evaluate the storage of additional gas cylinders in Auxiliary Building.

This RFR initiated a minor modification to install an additional bottle rack to store one bottle each of carbon dioxide, carbon monoxide, and nitrogen on the 2047 elevation of the Auxiliary Building. This additional storage will ensure availability of the control building toxic gas analyzers GK AIS0222 and GK AIS0223.

This evaluation determined the minor modification did not increase the consequence or probability of occurrence of an accident or malfunction of equipment important to safety previously evaluated in the FSAR, nor create the possibility for an accident or malfunction of a different type than previously evaluated in the FSAR. In addition, this evaluation determined the modification did not reduce the margin of safety as defined in the basis for any Technical Specification, or create an unreviewed safety question.

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### **RFR 16812**

Evaluate storage of step ladders in Auxiliary Building at elevation 2030'.

This RFR found it to be acceptable to allow a ladder to be stored on the platform at elevation 2030'-0" of the Auxiliary Building, thereby eliminating a potentially dangerous situation with respect to people handling a ladder, and also to the equipment in the area if a ladder were dropped or fell against sensitive equipment. The ladder storage connections and location have been qualified to Seismic II/I requirements and therefore will not catastrophically fail during a seismic event. An unreviewed safety question was not created, nor is the margin of safety impacted as a result of these changes.

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### **RFR 17044**

Review inconsistencies between the EQ Categories and other programs for various

This RFR reviewed inconsistencies between the EQ Categories and other programs (CEL, QLIST, IST Program, and FSAR Active Component Tables) for various valves. As a result it was determined the categories should be changed for certain valves. The changes reflect actual plant conditions and make the categorization consistent with other plant programs. These administrative changes did not represent an unreviewed safety question.

Ref: FSAR CN 98-057

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### RFR 17096

#### Cycle 9 COLR and safety evaluation revisions.

Revision E incorporates the new  $W(z)$  factors and  $F_q$  penalty factors into the Cycle 9 COLR. Due to the beginning of Cycle 9 axial offset being more negative than predicted,  $F_q$  violations have occurred. As a result, Westinghouse has regenerated the Cycle 9  $W(z)$  factors and  $F_q$  factors to more accurately reflect the core behavior at the end of Cycle 8. As stated in Westinghouse Letter 97SCP-G-0001, the Cycle 9 Reload Safety Evaluation remains valid for this COLR revision.

Revision F incorporated additional  $W(z)$  factors to be used when the axial offset is more than 2.7% more negative than predicted. As stated in Westinghouse Letter 97SCP-G-0015, the Cycle 9 Reload Safety Evaluation remains valid for this COLR revision up to a cycle burnup of 11000 MWD/MTU if the measured-predicted axial offset continues to exceed -3%.

Revision G revised the Cycle 9 COLR to incorporate additional  $W(z)$  factors to be used when axial offset is more than 10.3% more negative than predicted. As stated in Westinghouse Letter 97SCP-G-0020, the Cycle 9 Reload Safety Evaluation remains valid for this COLR revision up to a cycle burnup of 11000 MWD/MTU if the measured-predicted axial offset continues to exceed -3%.

Revision I applied to the Cycle 9 COLR, Revision 4, which allows linear interpolation between two of the  $W(z)$  sets closest to the actual measured-predicted axial offset difference, versus a single set of  $W(z)$ 's. As stated in Westinghouse Letter 97SCP-G-0029, the Cycle 9 Reload Safety Evaluation remains valid for this COLR revision up to a cycle burnup of 13660 MWD/MTU if the measured-predicted axial offset continues to exceed -3%. This burnup value assumes a 7% rod worth uncertainty, which is the generic licensed uncertainty value for Westinghouse fueled cores with AgInCd RCCA (WCAP 9217).

Revision J documented Westinghouse safety evaluation that determined that the axial offset anomaly did not represent an unreviewed safety question and, hence, did not adversely affect safe plant operations. Also, Callaway had not violated the prescribed Technical Specification limits and had not entered the Action Statement for LCO 3.2.1. Based on the evaluation of the AOA condition as described and using the boron concentration model assumptions for the assessment, it was concluded that the plant can continue to operate for the remainder of Cycle 9 as long as adequate shutdown margin is maintained.

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Revision L implemented Cycle 9 COLR, Revision 5, which incorporates a change to the RAOC bands from +13/-17 to +6/-17 and includes new  $W(z)$  data based on the new RAOC bands at measured-predicted AFD values of -10.3% and -14%. As stated in Westinghouse Letter 97SCP-G-0037, the Cycle 9 Reload Safety Evaluation remains valid for this COLR revision up to a cycle burnup of 13660MWD/MTU or up to the burnup at which excess shutdown margin is lost, if earlier than 13660MWD/MTU.

Revision M incorporated the revision of the Cycle 9 rod insertion limits. The change to the rod insertion limit curves was incorporated into the Cycle 9 COLR, Revision 6. Shutdown margin was gained with the modification of the rod insertion limits. These changes in shutdown margin were incorporated in revisions to the NDR and the PCNDR. As stated in Westinghouse Letter 97SCP-G-0042, the cycle 9 Reload Safety Evaluation remains valid for this COLR revision up to a cycle burnup of 13660 MWD/MTU or up to the burnup at which excess shutdown margin is lost, if earlier than 13660 MWD/MTU.

Revision N applied to the data provided by and methodology utilized by Westinghouse for performing shutdown margin (SDM) calculations. Westinghouse created a 3D ANC model that includes the affect of the axial offset anomaly, with this model being depleted to match the measured core axial offset behavior at Callaway. Shutdown margin calculations were performed for several burnups up to 12600 MWD/MTU. The shutdown margin calculation data was provided using rodworth uncertainty values of 10%, 7%, and 3%. WCAP-9217, "Results of the Control Rod Worth Program," supports the generic use of a 7% uncertainty on N-1 rodworth for cores with AgInCd control rods. As stated in Westinghouse letter 97SCP-G-0047, the results can be used to ensure that shutdown margin calculations are met so that the conclusions of the Cycle 9 Reload Safety Evaluation remain valid.

Revision O revised the Cycle 9 rod insertion limits. The changes to the rod insertion limit curves have been incorporated into the Cycle 9 COLR. Additional excess shutdown margin was gained with the modification of the rod insertion limits. These changes in shutdown margin were incorporated in revisions to the Nuclear Design Report and PCNDR. As stated in Westinghouse Letter 97-SCP-G-0054, the conclusions of the Cycle 9 Reload Safety Evaluation remains valid as long as the assumptions for the Cycle 9 Axial Offset Anomaly Safety Evaluation are met.

Revision P updated the safety evaluation documented in Revision J to this RFR to address additional concerns with respect to shutdown margin. This revision was required due to the continued impact of the axial offset anomaly on Cycle 9. Based on the axial offset anomaly conditions and using the boron concentration model assumptions for the assessment, it was



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determined that the plant could continue to operate for the remainder of Cycle 9 as long as adequate shutdown margin is maintained and the total negative reactivity worth of boron in the crud remains less than or equal to 1500 pcm.

Revision Q revised the rod worth uncertainty used in shutdown margin calculations for Cycle 9. The rod worth uncertainty reduction is based on comparisons of startup physics testing rod worth measurements for the current and past cycles, and verifying that the measurement process in use is sufficient to ensure valid measurements with a minimum of process error being introduced. The rod worth uncertainty on the total rod worth is revised from 7% to 3%, but the N-1 rod worth, i.e. the stuck rod worth will not assume any uncertainty. The use of a 3% rod worth uncertainty on the total rod worth and no uncertainty on the stuck rod worth will provide a conservative basis when determining shutdown margin for Cycle 9, and will not impact the margin to safety as defined in the Technical Specifications since the minimum shutdown margin of 1300 pcm will continue to be maintained. This evaluation concluded that there was no unreviewed safety question as documented in Westinghouse letter 97SCP-G-0081.

Revision R revised the Cycle 9 rod insertion limits. The change to the rod insertion limits curves were incorporated into the Cycle 9 COLR. Additional excess shutdown margin was gained with the modification of the rod insertion limits. These changes in shutdown margin were incorporated in revisions to the Nuclear Design Report and PCNDR. As stated in Westinghouse Letter 97SCP-G-0070, the conclusions of the Cycle 9 Reload Safety Evaluation remain valid as long as the assumptions for the Cycle 9 Axial Offset Anomaly Safety Evaluation are met. This evaluation concluded that there was no unreviewed safety question as documented in the Reload Safety Evaluation and Westinghouse letters 97SCP-G-0069 and 97SCP-G-0070.

Revisions T and U applied to the revision of the Cycle 9 rod insertion limits. The change to the rod insertion limit curves have been incorporated into the Cycle 9 COLR. Excess shutdown margin was lost due to modifications of the rod insertion limits. However, sufficient margin existed to allow operation of the plant to the expected end of cycle. The change in shutdown margin was incorporated in revisions to the Nuclear Design Report and PCNDR. As stated in Westinghouse letters 97SCP-G-0094 and 98SCP-G-023, the conclusions of the cycle 9 RSE remain valid as long as the assumptions for the Cycle 9 Axial Offset Anomaly Safety Evaluation are met.

Revision V incorporated a revision to the Cycle 9 rod insertion limits. The change to the rod insertion limit curves was incorporated into the Cycle 9 COLR. Excess shutdown margin was gained due to this modification of the rod insertion limits. Thus, sufficient

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margin existed to allow operation of the plant to the expected end of cycle. The change in shutdown margin was incorporated in revisions to the Nuclear Design Report and PCNDR. As stated in Westinghouse letter 98SCP-G-033, the conclusions of the Cycle 9 RSE remain valid as long as the assumptions for the Cycle 9 Axial Offset Anomaly Safety Evaluation are met.

The Cycle 9 reload design satisfies all of the applicable safety parameter limits and acceptance criteria, and has been evaluated using standard reload design and approved fuel rod design models and methods. This evaluation concluded that there was no unreviewed safety question as documented in the Cycle 9 RSE and the above referenced Westinghouse letters.

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### RFR 17182

Revise the Hot/Cold Shutdown fields in CEL for several Components.

This RFR reviewed a set scope of components to determine the accuracy of the Hot/Cold Shutdown fields on the CEL EQ screen. The scope included components listed on QA Surveillance Report SP96-023 and those flagged from RFR 17044 Rev. A. The Hot/Cold Shutdown changes made as a result of this RFR reflect actual plant conditions. They make the fields consistent with the general guidelines given in the RFR text and with existing evaluations. These administrative changes do not represent an unreviewed safety question.

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### RFR 17219

Upgrade Auxiliary Feed Pump turbine exhaust pipe to seismic II/I.

A concern was identified that the Aux. Boiler building is non-safety related and future modifications could degrade the strength of the structure. This could create a condition where an earthquake or heavy load could crimp the non-safety related Aux. Feed Pump Turbine (AFPT) exhaust pipe which could interfere with the ability of the safety related AFPT to supply Aux. Feedwater to mitigate the consequences of an accident. This RFR will upgrade the non-safety pipe and support to special scope seismic II/I and note this condition on the building steel drawings. This action will assure that the pipe, support, structure, and building will not become degraded by future modifications or maintenance activities. No unreviewed safety question was created by this change.

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### RFR 17238

Evaluated the use of new filters to replace the Cuno filters in SLW system.

This RFR evaluates the acceptability of different filter media for replacement of the CUNO filter in the Secondary Liquid Waste (SLW) system. The filter is a non-safety component in a non-safety related system. The specific filter information is mentioned in FSAR Table 10.4-15 which was revised to remove the filter media particle rating as part of the resolution for this RFR. The change in particle rating was addressed in the reapplication of the NPDES permit issued on 05/01/96 with no exception to Callaway's request to increase pore size in order to reduce solid waste generation. No unreviewed safety question was created by this change.

Ref: FSAR CN 96-057

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### RFR 17535

Evaluate relief valve operability with lift-set test device installed.

Revision A determined OPERABILITY of the Main Steam and Pressurizer safety valves with the Furmanite Trevitest Lift Assist Device installed on the valves. This evaluation considered the event/accidents identified in FSAR Chapter 15 associated with the valves as well as related Technical Specifications and the design and operation of the lift assist device. The evaluation concluded that the valves would remain OPERABLE with the Lift Assist Device installed. No unreviewed safety question was created by this change.

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### RFR 17539

Incorporates Temporary Modification TM 96-M007 into permanent plant design.

This change incorporates Temporary Modification 96-M007 into permanent plant design. This change involves the addition of a non-safety related regulating valve and a local pressure gauge on the SI Test Line. The regulating valve will provide a second (parallel) flow path to the boron recycle system. This alternate flow path is intended for use during periods where ECCS check valve leakage could pressurize the RHR system and cause the RHR relief valve to cycle. The new regulating valve, when required, will be set to prevent unnecessary cycling of the RHR relief valves while maintaining a back-pressure to reduce the potential for nitrogen to come out of solution in the RHR system. Unlike the RHR relief valves, the new valve can also be isolated to perform maintenance. When the regulating valve is not required it can be isolated to restore the normal SI Test Line flow path to either the RWST or boron recycle system. This change did not create an unreviewed safety question.

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### RFR 17572

Evaluate storage of misc. non-plant equipment in Category I structures.

This RFR approves the storage of a variety of equipment and materials in areas of the plant that may contain safety related components or systems. Permanent storage of this equipment will not affect the existing design or function of any safety-related equipment or system, and will not create a nuclear safety or radiological concern. No unreviewed safety question was created by this change.

Ref: RFR 17572 Rev. A

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### RFR 17589

Provide supporting evaluation for Technical Specification Interpretation 33.

This RFR approved a 72 hour Allowed Outage Time (AOT) for a single actuator train on a single Feedwater Isolation Valve (FWIV) and/or Main Steam Isolation Valve (MSIV). Each FWIV and MSIV contains two redundant actuator trains. Only one train is needed to close each valve. The actuator trains are subsystems of the valves and are not individually specified in Technical Specifications. The 72 hours is consistent with other redundant safety related components in Technical Specifications. The current accident analysis as documented in the FSAR remains valid. PRA analysis shows that there is no significant increase in CDF when assuming an inoperable actuator train for all four valves for an entire year. The AOT is limited to 72 hours which is more conservative than the assumptions used in the PRA analysis and since the AOT will be of short duration, the chance of a FWIS or SLIS occurring during the AOT is remote. This evaluation does not modify the configuration of any plant equipment or systems. No unreviewed safety question was created by this evaluation.

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### RFR 17643

Install a ladder in the reactor building to access elevation 2047' from 2051'

This RFR added ladders and entry gates by the hydrogen "B" and "D" mixing fans on elevation 2051'-0" of the Reactor Building, thereby establishing a permanent mechanism for the ingress and egress to these areas. The ladder and entry gate additions are qualified to Seismic II/I requirements and therefore will not catastrophically fail during a seismic event. No unreviewed safety question was created by this modification.

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### RFR 17658

Modify the main feedwater bypass valves to increase the available flow rate.

This RFR replaced the valve trim in the main feedwater bypass flow control valves. The replacement trim will allow the valves to provide sufficient feedwater flow to operate the unit up to 25% reactor power. This modification to non-safety, non-special scope, non-Technical Specification equipment was evaluated and did not create an unreviewed safety question.

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### **RFR 17665**

Evaluate Westinghouse report on stress and usage of plant critical piping.

The snubber reduction project described in CMP 94-1019 revision A generated calculations, which showed that the stress level changed in several ASME Class 1 lines. This RFR evaluated these stress levels to determine if additional ISI inspection points are required. This evaluation showed that 23 new inspection points are required. All piping stress levels were previously addressed in the safety evaluation for CMP 94-1019. This RFR only provides additional inspection points which will improve the margin of safety. Because inspection points are being added, which is in compliance with the Code, the risk of failure due to long term fatigue was not increased beyond any existing risk. No unreviewed safety question was created by this change.

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### **RFR 17695**

Evaluate storage location for four grating sections in containment.

Revision B to the RFR provides a permanent storage location for four sections of grating in the Containment Building. The four grating sections are used to fill the opening in front of the equipment hatch, when the hatch is open. Permanent storage of the four grating sections in the Containment Building will not affect plant safety. The Seismic II/I program was not adversely affected by this change. The evaluation determined that no unreviewed safety question was created.

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### **RFR 17768**

Evaluate placement of additional computer equipment at Health Physic Access.

This RFR approves an increase in combustible loading for two rooms at Health Physic Access located in Fire Area C-5. The increase fire loading is due to addition of computer and office equipment in these rooms. The additional total loading reached a value which required an FSAR update in accordance with plant procedures. However, the total combustible loading remains very low and is far below the design fire loading values for this area. No unreviewed safety question was created by this change.

Ref: FSAR CN 97-034

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### RFR 17861

#### Operability evaluation of Fuel Building Emergency Exhaust.

This RFR determined that the Emergency Exhaust System would not be inoperable if the Fuel Building ESFAS manual initiation switches were out of service. The plant would rely on the two independent radiation monitors GGRE0027 and GGRE0028 to continuously monitor the effluent from the Fuel Building to perform their design function and automatically initiate a Fuel Building Ventilation Isolation Signal should a fuel handling accident occur. This evaluation did not result in an unreviewed safety question.

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### RFR 17863

#### Revised the watertight door matrix to allow door DSK11011 to be temp. removed.

This RFR determined it was acceptable to remove the essential service water pipe chase door (DSK11011) for extended periods, thereby establishing a mechanism to rework watertight doors in the auxiliary building elevation 1974'. The absence of the door during a seismic event did not adversely affect equipment necessary for safe shutdown since flood water will not reach critical flood height. An unreviewed safety question was not created as a result of this change.

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### RFR 17878

#### Change EQ category from B to A for seal water injection check valves.

Considering information provided by NRC in NUREG/CP-0152, this RFR changed the safety classification for twelve check valves in the seal water injection lines. Changing the valve to an active open function resulted in the need to change the EQ category from B to A. These valves are normally open with a safety function in the open direction. Since no actual plant changes were authorized, the check valves in the seal water injection system will continue to function as originally assumed. Therefore, changing the EQ classification from B to A for twelve check valves did not create an unreviewed safety question.

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### RFR 17893

Evaluate impact of ESW supplying AFW post LOCA.

This RFR evaluated the impact of post LOCA operation on Essential Service Water System flow rates to associated components when functioning as a suction source for the Auxiliary Feedwater pumps. This potential loading on the Essential Service Water system was not accounted for in the periodic flow balances. The affected components were verified by analysis to meet their design basis requirements under this condition. No unreviewed safety question was created by this evaluation.

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### RFR 17927

Determine proper classification for steam generator drain pumps.

This RFR reviewed inconsistencies between FSAR Table 3.2-1 and other areas of the FSAR. As a result of this review it was determined that Table 3.2-1 should be changed: The classification for the steam generator drain pumps was changed from D(A) to D and the reactor and Auxiliary Buildings were added as locations of non-augmented Group D piping and valves in the blowdown system. These changes were incorporated by FSAR CN 97-036. No unreviewed safety question was created by these changes.

Ref: FSAR CN 97-036

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### RFR 17986

Evaluate permanent removal of lift levers on safety valves.

To alleviate concerns with safety valves sticking open during actuation as described in NRC Information Notice 96-61, the manual lift levers and nut assemblies can be removed from the Main Steam Safety valves, Pressurizer Safety valves, and the Moisture Separator Reheater Safety valves. Based on the small percentage of weight of the lift levers compared to the valve and a review of the seismic report and code stress report it was determined that the valves will function as designed under normal and accident conditions. In addition the ASME code no longer requires the installation of lift levers on safety valves. There are no procedures or other instructions directing the manual operation of the Main Steam, Pressurizer, or Moisture Separator Reheater Safety valves by manipulation of the lift lever.

This RFR did not increase the consequence or probability of occurrence of an accident or malfunction of equipment important to safety previously evaluated in the FSAR. Nor will the possibility for an accident or malfunction of a different type than previously evaluated in the FSAR be created. In addition, the removal of the lift levers will not reduce the margin of safety as defined in the basis for any Technical Specification.

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### RFR 18042

Evaluate Procedure OTG-ZZ-00001, Revision 21

This change increased the maximum allowable dilution rate from 120 gpm to 150 gpm during heatup following a refueling outage. Based on the dilution rate and heatup rate allowed by this change, reactivity will not be added at a fast enough rate to result in a flux multiplication alarm. This change is bounded by the boron dilution accident described in the FSAR, where the reactivity addition rate is sufficient to trigger the alarm. It was determined that no unreviewed safety question was created by this change.

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### **RFR 18115**

Documents the review and approval of Wyle Seismic Simulation Test Report.

This RFR approved Wyle Seismic Simulation Test Report 41765-1, Revision A for GNB Type NCX batteries for the NK system. Although it does approve a change (new report) to the qualification of the NK batteries, it does not approve any physical change to the batteries or impose any changes to the seismic qualification requirements. Wyle Report 41765-1 fully envelopes the existing seismic requirements for the NK batteries. It was conducted in accordance with the requirements and commitments of the FSAR, design specification, and all applicable standards including Callaway's commitment to Regulatory Guide 1.158 and IEEE 535-1986.

RFR 18115 does not constitute a change to any existing design basis and no unreviewed safety question was created.

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### **RFR 18123**

Permanently install a test duct to the normal Aux/Fuel building exhaust duct.

This RFR evaluated the permanent installation of short section of duct with a slide damper in a section of non-Q normal Aux/Fuel building exhaust duct. The Seismic II/I concerns were evaluated and found to be acceptable. This duct serves no safety function and is isolated by a Fuel Building Isolation Signal or SIS signal. The installation of the duct and damper minimizes the spread of noble gases during refueling. The change was evaluated and determined to not create an unreviewed safety question.

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### RFR 18137

Allow the Fuel Pool Cooling Heat Exchanger doors to remain open.

Revision A found it acceptable to allow the Fuel Pool Cooling Heat Exchanger doors (DSK61041 and DSK61051) to remain open, with the addition of 20 foot no-combustible zones. Revision B was generated to update the Combustible/Electrical Fire Hazards Analysis Program to address changes made in Revision A. This change is considered acceptable because the establishment of the no-combustible zone, coupled with existing detection and suppression, will perform the same intended function which is to prevent the spread of fire. Operating License Condition 2.C.(5) is not impacted because the change did not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire. This change did not create an unreviewed safety question.

Ref: FSAR CN 97-057

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### RFR 18144

Permanent storage of fiberglass ladders in the reactor building.

This RFR approves permanent storage of fiberglass or fiberglass/aluminum ladders in the designated locations within the Reactor Building. The ladders are needed to provide access to various components during routine containment entries and during outage activities. Permanent storage of ladders within the reactor building will not affect plant safety. This change did not adversely affect the Fire Protection Program, Seismic II/I Program or CAZITS Program. No unreviewed safety question was created as a result of this change.

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### RFR 18160

Evaluate eliminating, as an option, lock wire on reactor head lift assembly.

This RFR provided approval to allow the optional use of lockwire on the reactor vessel head lift device. The lockwires prevent the capscrews from backing out, the capscrews hold the keeper plates in position. The keeper plates maintain the position of the load pins, which connect the reactor vessel head lift device to the reactor vessel head. Since Quality Control performs an inspection each refuel on all bolted connections on the lift device to verify the connection are tight and secure, the design intent of the lockwire is met.

The disposition of this RFR will not increase the consequence or probability of occurrence of an accident or malfunction of equipment important to safety previously evaluated in the FSAR. Nor will the possibility for an accident or malfunction of a different type than previously evaluated in the FSAR be created. In addition, this modification will not reduce the margin of safety as defined in the basis for any Technical Specification. Therefore, no unreviewed safety question was created by this change.

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### RFR 18164

Addition of two split o-rings to butterfly valves in ESW system

This RFR reviewed the addition of two split O-rings to butterfly valves in the Essential Service Water (ESW) system. The change should provide a better seal at the valve seat. There were no changes to the seat or any other parts in the original valve design. The O-ring material, Viton, is the same as for the other O-rings that are in the valve. This change did not result in an unreviewed safety question.

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### RFR 18175

Evaluate O-ring hardness & safety class for diesel generator lube oil strainers.

This RFR reviewed and approved the use of a 70 shore A durometer O-ring versus a 75-80 shore A durometer O-ring to seal the head to the body on the diesel generator lube oil strainers. This change will provide an acceptable seal for the design conditions and should actually seal slightly better. The classification of the O-ring as non-safety related is not a change to the parts original safety classification. No unreviewed safety question was created by this change.

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### RFR 18179

Change safety classification for pressure gauges on diesel generator fuel system

Considering information provided in Colt Engineering Report 70001 and FSAR Section 9.5, changing the safety classification for the fuel oil pressure indicators does not impact the emergency diesel engines safety functions. Changing the indicator safety classification results in the need to remove the EQ and safe shutdown categories from the Callaway Equipment List (FSAR Table 3.11(B)-3). These indicators are for local indication only and will not impact diesel engine operation. Since no actual plant equipment changes were authorized, the fuel oil transfer system will continue to function as originally assumed. Therefore, no unreviewed safety question was created by this change.

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### RFR 18196

Install jumper on NCT card to allow ACOT for P-11 interlock.

The NCT test card for pressurizer pressure loop in the 7300 Process Control System will have a jumper installed to provide the required overlap testing between SSPS and the 7300 Process Control equipment. The jumper will not prevent the P-11 function from occurring or produce any unreviewed safety question.

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### RFR 18205

Install permanent temp. indication in Turbine Drive Aux. Feedwater Pump room.

This RFR approved the installation of a permanent local temperature indicator in the Turbine Driven Auxiliary Feedwater Pump room to measure ambient air temperature. The new temperature indicator is solar powered and mounted per standard Seismic II/I instrumentation support details. The new indicator is considered non-safety and does not interface with any safety systems. This change did not constitute an unreviewed safety question.

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### RFR 18208

Review steam generator level channel surveillance testing requirements.

This RFR reviewed the testing coverage for steam generator level channel environmental allowance modifier / trip time delay sub-circuit against Technical Specifications requirements and licensing commitments. The review discovered a discrepancy where the supporting Westinghouse documentation for the design did not fully reflect the impact of Callaway specific changes. The SER commitment to test for coincidence of multiple steam generator low-low conditions is not applicable to the implementation at Callaway. In addition, the option of performing the logic testing of the TTD circuitry on-line is included in this change.

The SER commitment to test the one-out-of-four logic implementation during level channel testing with WCAP-11883's prescribed initial conditions is also not consistent with the operation of the sub-circuit as implemented at Callaway. The referenced FSAR change notice takes exception for the FSAR reference to WCAP-11883 and clarifies these differences. This change will resolve the discrepancy between the FSAR supporting documentation and plant testing methodology. This change did not create an unreviewed safety question.

Ref: FSAR CN 97-074

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### RFR 18220

#### Evaluate replacement of flooring in the control room restroom.

Revision A evaluated the installation of new tile flooring in the control room restroom and janitors closet. These rooms currently have tile flooring so there is essentially no change to the facility. During the review it was determined that the original flooring was not accounted for in the Combustible Loading Information Program. Revision A approved the increase in combustible loading for the control room restroom (Room 3607) and janitors closet (Room 3608) located in Fire Area C-28. Revision B approved the installation of a specific vinyl flooring material in the control room and areas near the control room. Revision C approved the installation of the new vinyl flooring material over the existing vinyl floor tiles in the control room areas. With the increase, the total combustible loading for these rooms still remains low. Since there is no safe shutdown equipment in this fire area, safe shutdown is not affected by this change. This change did not create an unreviewed safety question.

Ref: FSAR CN 98-008  
FSAR CN 97-062

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### RFR 18269

#### Evaluation of slave relay test for SSPS slave relay K643, contact 15 - 16.

RFR 18269 provides justification for existing testing procedures that are used for a contact on a slave relay in SSPS. This contact controls whether or not a time delay will be inserted in the Containment Spray Pump start circuit on an automatic start from the load sequencer. This justification shows that, based upon the existing design, Callaway's existing test procedures are in compliance with the Technical Specifications definition of slave relay test, Regulatory Guides, IEEE standards, FSAR commitments, Callaway's Safety Evaluation Report, and the standard review plan. Therefore, an unreviewed safety question did not exist.

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### RFR 18288

#### Diesel generator auto start circuitry evaluation.

This evaluation was performed to document that the existing testing of the emergency diesel generator start circuits on a Safety Injection Signal (SIS) and 4.16 kV Class 1E Bus Undervoltage(UV) signal are adequate to verify the emergency diesel generators are operable and the existing testing meets all Technical Specification requirements and FSAR commitments. The existing testing meets the Technical Specification 1.32 requirements for a "Slave Relay Test", since it conclusively proves that the SIS and UV relays actuate and it verifies continuity through the relay contacts by verifying ESA and ESB energizes. Therefore, no change to the existing test procedures or emergency diesel generator starting circuit are required.

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### RFR 18317

#### Permanent storage of non-plant equipment items in the power block.

This RFR approved permanent storage of non-plant equipment items in designated locations within the power block. The permanent storage of the non-plant equipment within the power block will not affect plant safety. This change did not adversely affect the Fire Protection Program or Seismic II/I Program. No unreviewed safety question was created by this change.

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### RFR 18350

#### Operability evaluation of the diesel generator with HVAC fan in pull to lock.

This evaluation addressed the occurrence where an Emergency Diesel Generator's ventilation supply fan switch was placed in "pull-to-lock" when outside temperature was 68 degrees F exceeding the limit previously established as 65 degrees F. Calculations are on record demonstrating that a higher limit (e.g., less than or equal to 69 degrees F) would still ensure that the room temperature design and operational limits would not have been exceeded had the emergency diesel generator been required to start, run, and load. This evaluation concluded that this condition did not create an unreviewed safety question.

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### RFR 18393

Evaluate safety significance of reactor coolant pump seal injection restoration.

This evaluation examined the safety significance of Reactor Coolant Pump (RCP) seal injection restoration during a control room evacuation with fire. During this event, both methods of RCP seal cooling are lost, seal injection and component cooling water to the RCP thermal barrier heat exchanger. In this condition, hot Reactor Coolant System (RCS) water will flow through the RCP seals and increase the temperature. Previous guidance allowed for seal injection restoration with the RCP manual seal cooldown limit of 1 degree F per minute. However, this limitation may not be achievable due to current plant design, available instrumentation at the auxiliary shutdown panel and the availability of the plant computer. Per discussions with Westinghouse RCP seal design engineer, if the 1 degree F per minute rate can not be met then RCP seal injection should not be initiated to a hot set of seals. The expected leakage rates due to hot water flowing through the RCP seals will be elevated from normal flow rates but will not increase above acceptable limits, per WCAP 10541. An alternate method to preclude seal damage during this event would be the establishment of a plant cooldown and depressurization. The proposed changes will not reinitiate seal injection after a 10 minute loss of all RCP seal cooling, if it is not maintained during this event, until the RCS is at conditions where thermal stresses across the RCP seal components is not a concern. Use of this operating methodology will not adversely affect any plant system response to all assumed design basis accidents. Therefore, use of the procedure changes did not represent an unreviewed safety question.

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### RFR 18401

Evaluate the adequacy of the incore/excore calibration.

This RFR addresses several questions regarding the incore/excore calibration. These questions deal with concerns that the axial offset anomaly could have a deleterious effect on AFD sensing. The evaluation determined that axial offset anomaly would not adversely effect the AFD sensing and that the  $f(\Delta I)$  function of the OTDT trip was operable.

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### RFR 18415

#### Evaluation of Tech. Spec. testing requirements for CRVIS input to LSELS.

This RFR evaluated the testing requirements for the CRVIS inputs to LSELS and requires that additional verifications be performed to provide overlap testing between Balance of Plant ESFAS and LSELS. This provides additional assurance that safety related equipment will function during an accident. This additional verification, however, is not currently required by Technical Specifications. Therefore, the requirements of this RFR will improve the chances of detecting a failure of equipment that would otherwise be undetectable without increasing the probability of causing a failure of equipment important to safety. This RFR, therefore, did not result in an unreviewed safety question.

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### RFR 18432

#### Evaluate leaving reactor vessel closure stud in-place during refueling.

A reactor vessel closure stud remained in the vessel flange while the refueling cavity is flooded. The stud was sealed /encapsulated to preclude exposure to and detrimental effects from contact with borated water. The stud was cleaned and inspected prior to tensioning to ensure the stud possesses the full design capacity. During fuel movement activities, administrative controls will ensure that the refueling machine will not collide with the encapsulation. The formal safety evaluation prepared for these activities concluded that this change did not create an unreviewed safety question.

Ref: FSAR CN 98-007

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### RFR 18434

#### Evaluate adding cage doors to alcove areas in Aux. and Control Buildings.

This RFR found it acceptable to add cage doors to alcove areas on elevation 2000'-0" of the Auxiliary and Control Buildings, thereby helping to prevent unauthorized access to the area. The doors did not present a Seismic II/I concern and therefore will not damage safety related equipment or structures during a seismic event. An unreviewed safety question was not created, nor is the margin of safety impacted as a result of adding these doors.

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### RFR 18437

Evaluate the operability of the emergency diesel generators.

This RFR evaluation was performed to document that existing emergency diesel generator testing adequately verifies that the emergency diesel generator receive an SI signal while operating in the test mode, the emergency diesel generator will return to standby operation and the emergency loads will be energized by off-site power as required by Technical Specifications. Although the initial conditions specified in the Technical Specifications are not met word for word, the existing testing verifies the emergency diesel generators will perform as required by the Technical Specifications. Therefore, there is no operability concern and no unreviewed safety question was created.

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### RFR 18490

As-built class 1 drawings to show actual field configurations.

This RFR revised a total of five Class one drawings so that they properly depict field configuration, equipment type, installed locations, and logic ties. The drawing revisions will eliminate the confusion between the field and drawings, and allow the drawings to be the reference source of the facility. This RFR did not effect the design function or the performance of the design function of any facility system, structure, or component. These drawing changes did not create an unreviewed safety question.

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### RFR 18496

Update drawings to show current plant piping configuration.

This RFR updated drawing M-22hf03. Since this drawing is a figure of the FSAR, changes of this P&ID require a formal safety evaluation. The change will remove the reference to Note 22 at valve HFV0450 and HFV0451 on M-22HF03. The referenced Note 22 on M-22HF01 was previously deleted. These drawing changes did not effect the design function or performance of the design function of any facility system, structure, or component. Therefore, this change did not create an unreviewed safety question.

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### **RFR 18501**

#### Correct plant drawings and CEL for Aux Building HVAC system discrepancies

This RFR made corrections to Callaway Equipment List (CEL) and to plant drawings for the Auxiliary Building HVAC System which were identified during the Safety System Functional Assessment of this system. These drawing changes did not effect the design function or performance of the design function of the system, or any structure, or component. No unreviewed safety question was created by these changes.

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### **RFR 18507**

#### Modify MSIV and FWIV test selector and actuation switch.

This RFR approved the material equivalent replacement of the Main Steam and Feedwater isolation Valves (MSIVs and FWIVs) accumulator select and test switches on the main control board. The new switch provides an interlock for each pair of test and select switches such that the test switch will be "reset" before another valve can be selected by use of a single handle between both pairs of switches. This will prevent the possibility of inadvertent dumping of the accumulators for more than one valve at the same time which makes these valves inoperable. The replacement switches are equivalent in form and function but the fit will be changed for the test switch to provide the desired single handle operation. This change did not create an unreviewed safety question.

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### RFR 18522

Evaluate large motor temp. monitoring and alarm discrepancies in FSAR.

This change will correct the FSAR to indicate that the Class IE 4.16 kV motor bearing temperature sensors are not necessarily thermocouples. Currently, this FSAR section specifies that the motor bearing temperature sensors are thermocouples. However, in some motors these sensors are RTDs. The plant computer processes the signals from the sensors to determine the temperature of the motor bearings. If this temperature is greater than a pre-determined value, the computer will generate a high temperature alarm. The fact that some of these sensors are RTDs rather than thermocouples will have no effect on their alarm function. Since there is no impact on the function of the motor bearing temperature system, this change in the FSAR description will have no impact on any aspect of nuclear safety. Therefore, no unreviewed safety question was created by this discrepancy in the FSAR.

This FSAR change will be incorporated with the other changes identified by the FSAR Review Task Team.

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### RFR 18532

Evaluate cordless telephone usage in the main control room.

This RFR approved the use of a cordless telephone for use in the main control room proper and backrow panel areas with panel doors closed to within 1 inch of panel surfaces and installed devices. The cordless phones provide the operators greater mobility during phone communications. These cordless phones have been previously tested at other nuclear plants and found to not be an electromagnetic interference concern. Therefore, this change did not create an unreviewed safety question.

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### **RFR 18540**

Evaluate permanent storage of non-plant equipment in safety related buildings.

The permanent storage of additional non-plant equipment in the Auxiliary Building, Fuel Building, and Communication Corridor, and the creation of an Operations Equipment Storage Area in the Auxiliary Building, per this RFR, will not affect plant safety. These changes did not adversely affect the Fire Protection Program or the Seismic II/I Program. No unreviewed safety question was created as a result of these changes.

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### **RFR 18549**

Resolve discrepancies between FSAR and the design drawings.

This RFR resolved differences in the non-safety related load shed list that is provided in the FSAR and the design drawings. The FSAR will be revised to delete the boric acid heat tracing and the pressurizer power operated relief valve. In addition, the post accident sampling system, the UHS cooling tower sump pumps, the UHS sump heaters and the ESW pump house monorail hoist will be added to the FSAR. Several plant drawing are also being changed to show consistency in the plant design drawings.

There is no effect on the plant as a result of this RFR. No equipment has changed its operation or function. The changes are to the FSAR and design documents to make them consistent with plant design. There was no unreviewed safety question associated with these changes.

Ref: FSAR CN 97-095

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### **RFR 18555**

Verify the effect of failures listed in FSAR Table 8.3-4.

RFR 18555 evaluated and corrected design basis information from FSAR Table 8.3-4 (Failure Modes and Effects Analysis [FMEA] of the Engineering Safety Features [ESF] auxiliary electrical power system for the plant). These changes did not impact or affect the operation of the Class IE electrical distribution system and only reflect the actual design configuration of the Class IE electric distribution system. No unreviewed safety question was created by these FSAR Table 8.3-4 changes.

Ref: FSAR CN 97-095

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### **RFR 18566**

Operability evaluation for loose parts monitoring panel.

This evaluation determined the seismic adequacy of the loose parts monitoring system panel with a structural configuration different than that shown on design drawings. The evaluation shows that the as-found condition, the panel and equipment housed therein maintain their ability to function under seismic loading up to and including the OBE level seismic event. The evaluation was performed in compliance with design specification requirements and conformance with the design as described in the FSAR and associated regulatory guidance. As all design and licensing requirements are met as originally credited and described in the current licensing basis, no unreviewed safety question was created.

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### **RFR 18583**

Operability evaluation of the ultimate heat sink cooling tower.

This evaluation examined the concerns that were raised when a grout segment from original construction was found in an elevated area in the ultimate heat sink cooling tower. This evaluation determined that there was no adverse conditions created by the presence of the grout piece. The ultimate heat sink cooling tower and all of its related components were fully operable. There were no adverse conditions that existed or presently exist that could prevent the ultimate heat sink or any of its related systems from fulfilling their required function. No unreviewed safety question was created by this event.

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### **RFR 18598**

#### Evaluate impact of road elevation changes on probable max precipitation analysis

This RFR evaluates elevation changes for roadways within the owner control area due to plant road resurfacing projects. Roadway elevation changes which occurred due to past paving operations, did not affect plant safety. These changes in elevation did not adversely affect the Probable Maximum Precipitation analyses, or any other plant program. No unreviewed safety question was created by the roadway resurfacing projects.

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### **RFR 18603**

#### Laydown area in the RB and TB for reactor coolant pump components.

This RFR performed an engineering evaluation which approved laydown areas for the Reactor Coolant Pump (RCP) motor, RCP internals, RCP shield stand, and RCP shipping cask. The laydown areas are located inside the Reactor Building and on the Turbine Building operating deck. A calculation was performed to evaluate the additional load. The calculation demonstrated that all loading on the structures involve would remain within the original design basis limits. The Reactor Building laydown areas are only for use during Modes 5 and 6. This evaluation concluded that no unreviewed safety question was created by this change.

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### **RFR 18655**

#### Operability evaluation of the ESW system during performance of PMs.

This RFR provided the administrative controls necessary to allow removal of the essential service water ductbank manhole missile shields. With these administrative controls in place, the essential service water system will remain operable during the preventative maintenance to inspect the manhole and cable tray supports. This activity did not create an unreviewed safety question.

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### RFR 18663

#### Drawing corrections for reactor coolant pressure - RHR isolation valve interlock

RFR 18663 incorporated drawing corrections to various P&ID, schematic, and vendor drawings associated with the reactor coolant system pressure - residual heat removal system isolation circuits. The majority of changes are cosmetic in nature, but some changes made to drawings included in the FSAR can not be classified as cosmetic. No changes to the physical plant, procedures, or work practices are incorporated in these changes. No unreviewed safety question was created by these drawing changes.

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### RFR 18690

#### Correct discrepancies in the combustible/electric fire hazards analysis.

This RFR made corrections to the combustible/electrical fire hazards analysis and the FSAR fire hazards analysis which were identified during the FSAR review effort. No changes were made to any plant structures, systems or components by this RFR. The evaluation concluded no unreviewed safety question was created by these changes.

Ref: FSAR CN 98-016

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### RFR 18694

#### Normal RCS heatup and cooldown at controlled rates less than Tech. Spec. limits.

This RFR documents the acceptability of performing normal reactor coolant system heatups and cooldowns at an administratively controlled rate that is less than the limit provided in Technical Specification 3.4.9.1. The Technical Specification limit is the rate that was used in the original design analysis for reactor coolant system and associated components. Therefore, the reactor coolant system normal rate of temperature change remains less than that originally assumed in the design basis analyses. The reactor coolant system has been determined to not be adversely impacted, and remains capable of performing all its safety functions. Therefore an unreviewed safety question was not created by this change.

Ref: FSAR CN 98-005

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### RFR 18708

Evaluate storage of plastic carts in control room.

this RFR allowed the storage of two I&C plastic carts used for I&C testing in the control room equipment cabinet area (room 3605). This change had no adverse impact on safety. The combustible loading of the cart is of low significance and would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire. This change did not result in an unreviewed safety question.

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### RFR 18734

Provide documented basis for Technical Specification Interpretation 60.

This RFR documented the basis for Technical Specification Interpretation (TSI) 60. TSI 60 is an interpretation of Technical Specification 4.2.1.1. The interpretation states that the AFD monitor alarm is considered operable as long as the computer outage is not more than 15 minutes. This is consistent with the Technical Specification actions that does not requires AFD monitoring until 60 minutes after the alarm became inoperable. Thus, operator actions in the first 15 minutes following a computer outage would be the same regardless of whether the alarm was declared inoperable or not. No unreviewed safety question was create by this TSI.

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### RFR 18756

Evaluate FSAR missile analysis assumptions.

This RFR was initiated by the FSAR review team to request a engineering evaluation of current FSAR discussion of internally generated missiles hazards analysis. It was concluded that the wording of the FSAR should be revised. The clarification of FSAR wording is administrative in nature, to enhance the FSAR's consistency with itself. The change in FSAR wording does not create any new potential sources of internally generated missiles. Additionally, the changes does not increase the vulnerability to damage from internally generated missiles of any important to safety equipment. Therefore, this evaluation did not identify an unreviewed safety question.

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### **RFR 18759**

#### Update FSAR sections on room pressurization for steam line break in Area 5.

This RFR will update the sections of the FSAR which discuss the calculation of the room pressurization due to a steam line break in Area 5. The new information was inadvertently omitted during previous update which incorporated the results of a reanalysis. This change did not create an unreviewed safety question.

Ref: FSAR CN 98-025

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### **RFR 18787**

#### Evaluate fire loading due to addition of procedures to shift supervisors office.

This RFR allowed the installation of procedure cabinets and procedure books in the Shift Supervisors Office in the Control Room area. This change did not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire and did not impact plant safety. The combustible loading of the material is of low significance. This change did not create an unreviewed safety question.

Ref: FSAR CN 98-008

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### **RFR 18794**

#### Modify operation of the steam generator blowdown system.

This RFR allowed a lower normal outlet temperature for the steam generator blowdown regenerative heat exchanger and installed a stroke limiting device on the steam generator blowdown regenerative heat exchanger shell side outlet temperature valve. These changes and any associated credible failures would have no adverse impact on any equipment important to safety. It was concluded that no unreviewed safety question was created by these changes.

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### RFR 18811

#### Operability evaluation of the emergency exhaust system.

This RFR reviewed the impact of failure of GGTT0016 and GGTT0022 due to post LOCA radiation exposure on operability of the emergency exhaust system. GGTT0016 and GGTT0022 serve as fire detectors for the charcoal beds of the emergency exhaust system. They provide indication and alarm function only. GGTT0016 and GGTT0022 provide no control function. This evaluation found that the emergency exhaust system would remain operable following the loss of GGTT0016 and GGTT0022. No unreviewed safety question was identified during this evaluation.

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### RFR 18846

#### Permanent storage of non-plant equipment within the power block.

This RFR approved the permanent storage of hose rack backup carts and a chemistry equipment cabinet in the power block as described in this RFR. The permanent storage of hose rack backup carts and the chemistry equipment cabinet will not affect plant safety. These changes did not adversely affect the Fire Protection Program, Seismic II/I Program, or any other plant program. No unreviewed safety question was created by these changes.

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### RFR 18861

#### Change the RWST high level alarm setpoint to 99.0%.

This RFR raised the Refueling Water Storage Tank (RWST) high level alarm from 98.44% to 99.0%. This change is required because the high and low level setpoints on the tank are close together making it difficult to reset the alarms. The level alarms on the tank are non-safety related equipment and the high alarm is required to protect against possible overflow of the tank. This evaluation concluded that an unreviewed safety question was not created by this change.

Ref: FSAR CN 98-037

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### RFR 18903

#### Operability evaluation of NB0104 switchgear with nonconformance condition.

This RFR evaluated past operability concerns for NB0104 nonconformance condition (missing cable guide plate on top of the ground fault CT). During the evaluation no operability concerns were identified. No unreviewed safety question existed for the NB0104 nonconformance condition.

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### RFR 18905

#### Operability evaluation for NB Breakers with missing trip crank linkage snap ring

This evaluation assessed a non-conforming condition observed on several safety related breakers. Since the non-conforming condition was corrected, this evaluation only addressed past operability. The non-conformance was that a snap ring used to positively join the trip-crank to the trip solenoid linkage was not installed. Even though the snap rings were missing, all of the trip linkages were found intact and capable of performing their required function. Trentec reviewed the breaker data and qualification information and concluded that the linkage could reasonably be expected to remain intact and capable of functioning during and after a seismic event. Therefore, no unreviewed safety question was created by this non-conformance.

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### RFR 19024

#### Incorporate as built changes to drawing M-22AK03.

This RFR authorized an as built drawing change to drawing M-22AK03. This change incorporated an existing 3/4" drain valve at caustic density element AKDE0323. This element provides indication of proper caustic solution density during cleaning and regeneration of the condensate demineralizer system anion resin beds. Because this change did not affect nor change the physical or operational aspect of any structure, system or component, the probability or consequences of a malfunction of equipment important to safety is not altered by this change. Therefore, this change did not create an unreviewed safety question.

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### RFR 19073

#### Repair "D" MSR drain tank vent line steam leak.

This change addressed the repair to a pin hole leak in the vent line from the Moisture Separator Reheater (MSR) drain tank back to the "D" MSR. A branch attachment (nipolet) was welded over the pin hole and capped to prevent further leakage. The tank, vent line, and associated equipment is non-safety related and has no safety design basis. Therefore, no unreviewed safety question was created by this repair.

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### SOS 96-1348

#### Radioactive contamination of the Auxiliary Boiler.

Continued operation of the auxiliary boiler during Refuel 8 and during the eight hour monthly runs will not adversely affect the environment. All releases of radioactivity from the auxiliary boiler will be reported in the Annual Radiological Effluent Release Reports. No unreviewed safety question was created by this event.

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### SOS 97-1011

#### Evaluate nonconformance material report on installed hex plugs in room coolers.

The clean out plugs used in the safety related room coolers have an O-ring groove and are chamfered on both sides of the head. The replacement plug purchased do not have the O-ring groove or chamfering of the head. Several of the replacement plug were installed in safety related room coolers. Engineering has determined that the installed plugs may continue to be used 'As-Is". The existing configuration of the plugs have proven to be equivalent to the original design since no leaks have appeared at the plugs since they were installed. These plugs will be replaced with the correct plug the next time they are removed. No unreviewed safety question was created by this event.

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### SOS 97-1369

Evaluate repair of tube leak in "A" Aux. Feedwater Pump room cooler.

The elimination of a cooling coil pass to isolate a tube leak has an overall reduction in the cooling capacity for Aux. Feedwater Pump room cooler. However, due to the installed excess capacity there remains sufficient cooling to support the operation of the "A" motor driven auxiliary feedwater pump under all design basis conditions. This cooling coil was originally supplied with 138% margin. The capping of the affected pass will reduce this margin to approximately 134% which remains well in excess of the required cooling capacity. The cooling coil repairs are being implemented with a previously approved method as documented in the associated ASME Section XI repair plan. The material used for the repair is equivalent to or better than the material currently installed. Additionally, the repair did not change the seismic or environmental conditions in which the equipment was qualified for. The room cooler will continue to perform its design function and installation of a plug in the supply and return tubing for Pass 22 did not create an unreviewed safety question.

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### SOS 98-0360

Evaluate nonconformance material report repair on "A" CCW room cooler.

Room cooler tubes were repaired per Section XI repair plan using Swagelok couplings and caps. The material used was equivalent or better than the 'as built' material currently used in the room cooler. Any degradation in heat removal capacity would not compromise the design heat removal capability of the room cooler. No change in the seismic or environment conditions will occur that would compromise any qualification on SGL11A.

SGL11A will perform its design function and this reduction in total heat removal capacity will have no adverse impact on the room environment. This repair did not result in an unreviewed safety question.

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### SOS 98-1196

Evaluate the nonconformance material report for the failure of pump PK03B.

This nonconformance material report documents the failure of the Aux. Lube Oil keep warm pump (PK03B). One of the pump gear teeth failed and caused the pump to seize. Upon inspection of the pump, only the failed tooth was found, there were locations where an additional four gear teeth had once been. This evaluation reviewed the very unlikely scenario that these failed when the recovered tooth failed and migrated downstream into the system. Inspection of downstream components did not find missing teeth. Since the keep warm system is not required for safety related operation of the diesel generator, this did not create an unreviewed safety question.

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### TM 97-I002

Lift leads on the "C" incore detector due to kink cable.

This temporary modification lifted wires in the digital input box to simulate the "C" detector is fully withdrawn and to prevent the C 6-path transfer device from rotating. Incore detector "C" had a kink in it cable which precluded the detector from being completely withdrawn. The safety evaluation concluded that lifting these wires did not result in an unreviewed safety question.

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### TM 97-M0001

Block open the fire damper between the radio room and the battery room.

This Temporary modification blocks open fire damper GED0129, in the wall between the radio room (room #3703) and the battery room (room #3702). Blocking the damper open removes part of the 3 hour fire barrier separating the battery room from the radio room. The three hour barrier to the remainder of the area is maintained. This change in fire protection would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire. No unreviewed safety question was created by this temporary modification.

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### TM 97-M002

Install duplex bag filter in the liquid radwaste system.

This temporary modification will allow a vendor filter skid to be connected to the Liquid Radwaste System waste stream to test the efficiency of a bag filter versus the current installed cartridge filter used in the Waste Evaporator Condensate Filter. The portion of the Liquid Waste system affected by this modification has no safety related functions. All hoses and equipment used for this temporary modification meets or exceeds the pressure and temperature requirements of the system. No unreviewed safety question was created by this temporary modification.

Ref: RTN-HB-TP001, Rev. 0  
RTN-HB-TP001, Rev. 1

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### TM 97-M003

Install sample line for the EPRI resin test stand.

This change provided a sample connection on the discharge of the "A" condensate pump and a sample line to the EPRI resin test stand for evaluating resin performance. Approximately 4 gpm of condensate will be passed through the resin test stand and discharged to the north condenser sump. This temporary modification did not have any adverse impact on condensate pump performance, sump capacity, or any safety related equipment. No unreviewed safety question was created by this temporary modification.

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### TM 97-M004

Replace sensing line and pressure gauge on valve AEPCV0061.

This temporary modification installed temporary tubing and a pressure gauge on the "A" main feedwater pump seal water leakoff line. The equipment was connected and functioned in a normal manner. The affected equipment is not safety related or otherwise special scope. The safety evaluation concluded that no unreviewed safety question was created by this change.

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### TM 98-E002

Install temporary cable from fuel transfer system to refueling machine.

Temporary modification 98-E002 directed the installation of a temporary cable for the Fuel Transfer System and Refueling Machine upgrades during Refuel 9 refueling activities. The intended application for this cable is not part of any safety-related system or function. This activity will not alter or reduce the margin of safety established under the Callaway Plant Operating License. No unreviewed safety question was created by this activity.

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### TM 98-E003

Isolate feeder cable between load centers PG11 and PG25 for repair.

This change physically isolated a faulted section of cable between PG11 and PG25. It also allows for re-energization of the unaffected portions of the circuit once the faulted section has been physically isolated. The load centers affected are non-safety related and do not affect any safety related equipment. This temporary modification did not result in an unreviewed safety question.

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### TM 98-E004

Install temporary power feed from load center PG26 to motor control PG25H.

This modification installed a temporary power feed from non-safety related load center PG26 to motor control center PG25H. The normal power feed was lost due a faulted cable in the 13.8 kv non-safety power distribution system. The temporary modification was installed in accordance with standard design practices to protect and separate safety related equipment from non-safety related equipment. The safety evaluation concluded that an unreviewed safety question was not created by this temporary modification.

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### TM 93-E005

Defeat the loss of flow interlocks for Aux/Fuel building exhaust fans.

This temporary modification defeats the loss of flow interlock for the Auxiliary/Fuel building exhaust fans which starts the standby fan if the running fan stops. The interlock also sends a trip signal to the fan that was running. This temporary modification is necessary since the pressure switch that provides this interlock is powered from PG25. This change allows fan CGL03B to operate during the PG 25 outage. The temporary modification is in effect only during the PG25 outage. The portion of the system effected by this change is non-safety related and the fans are stopped automatically on an SIS signal which is not effected by this change. The loss of normal ventilation would have no impact on those areas with safety related equipment. This change did not create an unreviewed safety question.

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### TM 98-M001

Temporary air source at "A" flocculator blowdown line.

This temporary modification allowed for the introduction of compressed air into the blowdown line of the "A" flocculator. The purpose of the air injection is to disturb the sludge bed and maintain a larger volume of sludge in suspension in the flocculation zone of the flocculator. The increased solids in the flocculation zone should improve the quality of effluent from the water treatment plant. This modification has the potential to temporarily reduce water quality in the service water system. It was concluded that this would not adversely affect any essential service water components. This change has no other effects on structures, systems, or components important to safety. No unreviewed safety question was created by this change.

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### TM 98-M002

Install a portable gas analyzer to the waste gas system.

This temporary modification installed a portable gas analyzer system to the waste gas system. The portable system was used to compare sample results to the existing waste gas analyzer system. No control functions were affected by this temporary equipment installation. The waste gas system has no safety related functions and the installation of this temporary modification will not affect its normal operation. There was no unreviewed safety question created by this change.

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### TM 98-M005

Install temporary potable water line to training annex building.

This temporary modification installed a temporary potable water line between the outage maintenance facility and the training annex building. The temporary water line will be used to supply potable water to the training annex while the permanent potable water system is being repaired. The potable water system is non-safety related and does not interface with any systems important to safety. The installation of this temporary modification did not create an unreviewed safety question.

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### TM 98-M007

Installation of spool piece in place of the Aux. Fuel oil unloading meter.

This temporary modification installed a pipe spool piece in place of the flow totalizer for the fuel oil unloading station. The flow totalizer is mechanically bound and will not allow flow through the meter to the auxiliary fuel oil tank as required. A replacement for the flow totalizer was not available. The pipe spool piece was manufactured and installed in accordance with the original system specification. The fuel oil system serves no safety function and has no safety design basis. The safety evaluation concludes that there was no unreviewed safety question created by this change.

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