

1801 Chouteau Avenue
Post Office Box 149
St. Louis, Missouri 63186
314-554-2680



June 12, 1992

Donald F. Schnell
Senior Vice President
Nuclear

U.S. Nuclear Regulatory Commission
Mail Station P1-137
Washington, D.C. 20555
Attn: Document Control Desk

ULNRC- 2646

Gentlemen:

DOCKET NUMBER 50-483
CALLAWAY PLANT
10CFR50.59 ANNUAL REPORT SUMMARIES
UNION ELECTRIC APPROVED WRITTEN SAFETY EVALUATIONS

Reference: ULNRC-2419, dated June 6, 1991

In accordance with 10CFR50.59, this letter transmits a report which summarizes written safety evaluations of changes approved and implemented for Callaway Plant since those reported in the referenced submittal and through March 31, 1992.

All items reported herein were determined to not involve an unreviewed safety question.

If there are any questions, please contact us.

Very truly yours,

A handwritten signature in cursive script that reads "Donald F. Schnell".

Donald F. Schnell

GAC/dls

Attachment

9206240228 920331
PDR ADOCK 05000483
R PDR

Handwritten initials, possibly "EAT", with a vertical line below them.

cc: T. A. Baxter, Esq.
Shaw, Pittman, Potts & Trowbridge
2300 N. Street, N.W.
Washington, D.C. 20037

Dr. J. O. Cermak
CFA, Inc.
18225-A Flower Hill Way
Gaithersburg, MD 20879-5334

R. C. Knop
Chief, Reactor Project Branch 1
U.S. Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Bruce Bartlett
Callaway Resident Office
U.S. Nuclear Regulatory Commission
RR#1
Steedman, Missouri 65077

L. R. Wharton (2)
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
1 White Flint, North, Mail Stop 13E21
11555 Rockville Pike
Rockville, MD 20852

Manager, Electric Department
Missouri Public Service Commission
P.O. Box 360
Jefferson City, MO 65102

10 CFR 50.58 Safety Evaluation Summary Report
for Callaway Nuclear Plant

Union Electric Company
06/11/92

Reference Key

MP # Modification Package (Design Change)
CMP # Callaway Modification Package
EMP # Exempt Modification Package
RMP # Restricted Modification Package
CN # FSAR Change Notice
OL # Technical Specification Change
ESP # Engineering Surveillance Procedure
ETP # Engineering Test Procedure
CTP # Chemistry Technical Procedure
OSP # Operations Surveillance Procedure
OTN # Normal Operating Procedure
OTS # Special Operation Procedure
RTS # Special Operating Procedure (Radwaste)
RFR # Request for Resolution
NMR # Nonconforming Material Report

Note: FSAR and Technical Specification changes are also reported under 10 CFR 50.71 and 10 CFR 50.90 as applicable.

Calc. ZZ-111, Rev0
MSLB/Fan Cooler Degredation Containment Analysis

Analysis performed in anticipation of potential degradation of containment fan coolers heat exchangers to justify total reduction in containment cooler heat exchanger performance of up to 30% in any one containment cooler and up to 25% for all four containment coolers. Containment coolers perform the safety-related function of maintaining containment atmosphere such that systems and components inside containment properly function during normal operation and of limiting containment atmosphere below the EQ temperature limit of 384.9 F and design pressure 60 psig during accident conditions.

The consequences of the MSLB inside containment with degraded fan cooler heat exchanger performance have been previously analyzed and shown to be bounded by results presented in FSAR 5.2.1. Radiological consequences presented in FSAR 15.1.5 are not affected. For LOCA peak containment pressure and temperature occur within approximately 2 minutes after initiation of LOCA. Thus, cooler performance has an insignificant affect on peak containment pressure and temperature during LOCAs. Radiological consequences presented in FSAR 15.6.5 are not affected.

CN 90-39
FSAR Chapter 13 Update

Various revisions to the description of the Callaway organization described in the FSAR to incorporate title changes, planned rotations of individuals between positions, editorial changes, and to add our commitment to ANSI/ANS 3.1-1981 for Shift Supervisors, Operating Supervisors, Reactor Operators, and Shift Technical Advisors. Some positions are eliminated.

The changes do not significantly alter the duties and responsibilities of the affected departments nor their abilities to support the plant. Minimum qualifications have been maintained. Changes in reporting relationships are of minimal impact and are designed to make the organization more streamlined and effective. Title changes have no significant impact upon the affected positions' responsibilities and minimum qualifications. The deletion of positions has no significant impact since the responsibilities that they represented were effectively re-assigned.

CN 91-04

Heat Loads to Spent Fuel Pool During Full Core Offload

Revise FSAR Tables 9.2-7 and 9.2-8 to reflect a more realistic accounting of which loads are being carried on component cooling water system (CCW) at any specific point in time. Change required based on projected heat loads to spent fuel pool from a full core offload.

Change represents an ultra-conservative estimate of the earliest the RCPs could be started (i.e., core reloaded and head assembled). This load combination is conservative because in order to have both the spent fuel pool load and RCPs running completion of refueling would need to be assumed. Therefore, loads assumed are very conservative. No changes to the CCW lineup or configuration are made and the listed total heat loads on Tables 9.2-7 and 9.2-8 are unchanged. No equipment changes are made.

CN 91-19

Revise Description of Emergency Fuel Oil Day Tanks

Revise FSAR description of emergency fuel oil day tanks and the basis for their designed capacities.

New descriptions more accurately reflect as-built configuration of the day tanks. Basis of the level setting is more reflective of ANSI N195-1976 as endorsed by Reg. Guide 1.137. Design bases and safety analyses in FSAR are unaffected. Minimum required storage volumes in storage and day tanks are unchanged.

CN 91-31

Revision to Table 3.11(B)-3, "Equipment Qualification"

Revise FSAR Table 3.11(B)-3 to change LOCA and MSLB categories, as applicable, for BM-HV-19, -20, -21, -22, -35, -36, -37, -38, -65, -66, -67, -68 and their associated position indication switches from A to C. Add category B mechanical EQ listings for these valves due to containment barrier considerations.

Inconsequential effects on safety functions and accident analyses. These valves are not covered in Technical Specifications nor are they considered to be containment isolation valves since GDC-57 does not apply. All 12 valves are included in Revision 11 of the Callaway Plant Inservice Testing Program. Valves (other than 19, 20, 21, and 22) undergo quarterly full stroke exercise and fail safe on loss of power tests and position indication tests at each

refueling outage. The failed open failure mode is addressed non-mechanistically per NUREG-0588. Harsh environment accidents (MSLB, LOCA, and feedwater line break) are examined. There would be no effect on the mass/energy release data used to address NRC IN 84-90 due to inconsequential additional level decrease associated with sample valves failing open.

CN 91-41

Post-irradiation Testing of CT Fracture Mechanics Test Specimens

Revise FSAR to delete post-irradiation testing of 1/2 T (thickness) compact tension (CT) fracture mechanics test specimens. The results of CT testing on Capsule "U" did not provide any pertinent results. Testing methodology has not improved since this time.

CT testing is not included in ASTM E 185-82 as a required test or as an optional test. Optional tests include hardness tests conducted on Charpy specimens and supplemental tests. These tests are meant as a backup and supplement to the tension and Charpy testing.

CN 91-47

Recycle Evaporator Feed Demineralizer Description

Revise FSAR to delete "mixed bed" from description of Recycle Evaporator Feed Demineralizers (REFD) to permit use of most effective type of resin (e.g., cation resin) based on current industry experience.

Change in one demineralizer bed to cation resin will in no way reduce effectiveness to remove radionuclides or other impurities in the water being processed. The change should only enhance their removal.

CN 91-54

Recategorization of Valves from Electrical EQ to Mechanical EQ

Revise FSAR to recategorize various valves from Electrical EQ to Mechanical EQ. Valves consist of the valves, air regulators, positioners, check valves, converters, and actuators. All of these items are mechanical in nature and are totally non-electrical. All electrical appurtenances are listed separately. Affected components are Masoneilan supplied control and atmospheric relief valves.

This recategorization will have no impact on safety as it is only reclassifying the mechanical items as Mechanical EQ and the electrical items as EQ.

CN 91-55

Replacement of Manual TLD Reader with Automatic Reader

Revise FSAR to replace obsolete manual thermoluminescent dosimeter (TLD) reader with an automatic reader.

This change does not impact safety-related equipment, components, or structures. Organizational structure indicates Assistant Manager, Technical Services is responsible for the implementation and effectiveness of the ALARA program. This position has been eliminated and the responsibility is now on the Superintendent, Health Physics. Both of these changes are administrative in nature and do not impact safety evaluations presented in the FSAR.

CN 91-57

NSSS Recorder Replacement

Revise FSAR to clarify seismic qualification requirements for non-Class 1E NSSS recorders and document general revision to several I&C discussions in the FSAR.

Overall protection system performance will remain within bounds of the accident analyses since proposed recorder change has no effect on the operation of the reactor trip system, the 7300 Process Protection System, the Solid State Protection System, or any other safety-related structure, system, or component. Recorders are not modelled in the accident analyses. There are no regulatory requirements or guidance documents that would demonstrate a need to seismically qualify recorders fed by non-1E power. Change to commercial grade recorders has no effect on accident initiation or progression. Requirement to mount them as seismic II/I will ensure that other safety-related control board instrumentation will not be impacted after a seismic event. Recorders are isolated from Class 1E portions of instrumentation channels.

CN 91-65

Hydrostatic/Pneumatic Testing of D (Augmented) Class Systems

Revise FSAR to provide alternative to hydrostatic testing of D Augmented systems. D Augmented systems are non-safety related and fall within the scope of ANSI B31.1 Power Piping Code which provides latitude for an owner to evaluate and determine, on a case

by case basis, the retest method to be used.

The proposed change will not eliminate retest requirements for D Augmented systems. It allows retest assignment to be consistent with the requirements of ANSI B31.1 and with applicable design specification. As a minimum, an initial service leakage test will be performed on all D Augmented systems/components. This leakage test, coupled with the final visual inspection performed on all D Augmented welds will provide adequate assurance of system integrity.

CN 91-66

Assumed Leakage of Radioactive Fluid From CTMT Recirc Sump Pa . ECCS Isol Vlvs

Revise FSAR to address leakage from containment recirculation sumps past ECCS isolation valves (that are not leak rate tested) to the RWST and the environment per NRC Information Notice 91-56.

This change does not involve a change to the facility or any structure, system, or component. No design changes are associated with this change. No Technical Specifications are involved. Safety evaluation is performed to address additional leakage pathway to environment for radioactive releases after a LOCA. Radiological consequences are investigated; total FSAR doses are not increased.

INSERVICE TEST PROC

Inservice Testing Program, Rev. 12

Evaluate the changes made to the Inservice Testing Program, Rev. 12, as well as the proposed changes/additions regarding the implementing test procedures.

Changes made to maximum allowable (or limiting value) stroke time for specified valves are all conservative since the values are all lowered. The changes are implemented to adhere to Generic Letter 89-04. No change to the presently approved test method will be made and no unconservative change to plant safety is seen.

Removal of relief request #V07 and associated alternate test justification addition does not change the program. Instead this administrative change is performed to conform to NRC format requirements since the new alternative replaces the deleted relief request. All specified relief valves to be deleted are classified as passive since there is no defined change of position required in the analyzed accident scenarios. These valves are not included in the original safety evaluation for the plant which indicates that eliminating them from the IST Program does not have any adverse impact on the margin of safety. Adding closure testing for specified check valves and stroke time testing in the closed

direction on a quarterly test frequency for other specified valves enhances plant reliability and safety. Other changes are administrative in nature.

.....

NES Doc #83A1004

Nuclear Safety Evaluation on Relief Request for Reactor Pressure Vessel Supports

Currently the subject document requires that the NF portion of the Reactor Pressure Vessel supports be examined as part of the ISI program. Relief is requested to inspect only visible portions of the supports without removal of the walk plates and insulation. This inspection will encompass the shoe assembly and wear plate to the maximum extent practical.

Inspection will encompass the shoe assembly and wear plate to the maximum extent practical. Inspection is scheduled to be performed during the next refueling. Wolf Creek performed this visual inspection on their RPV supports and found no degradation. Based on these findings, it was concluded that "there was no evidence of degradation which would indicate loss of integrity of the inaccessible portion of the supports." The same is expected to be true for Callaway since the plants have been in operation for approximately the same length of time, and they use the same support design. Support shoes and air cooled box structures received MT or PT, UT and VT examinations prior to installation. Installation was inspected to site quality control procedures. Stringent ASME Section III, Subsection NF quality assurance programs were utilized in the design, fabrication and installation of these Class 1 components. Section III Examinations confirmed support integrity during construction. Air cooled box supporting the RPV is a rigid structure. Internal structural members with inaccessible welds are in compression. The absence of tensile or bending moment loads diminishes the importance of weld inspections. The main function of these welds is to hold the members in place rather than direct loads to the building structure. NRC approved this relief request by letter dated 2/12/92.

.....

MP 90-7422

Range Change on Freeze Protection Recorders of Solid Radwaste System

Expand range of freeze protection recorders in solid radwaste system. Freeze protection system supports the SRS power design basis to solidify and package concentrated waste solutions from the evaporators by preventing solidification of the bottoms of the evaporators prior to drumming.

Solid radwaste system performs no function related to the safe shutdown of the plant, and its failure does not adversely affect

any safety-related system or component. The SRS has no safety design basis.

.....

MP 91-8816
Eliminate Pipe Leakage Problem in SLW System

Install pipe caps and nipples at the casing drain connection of the SLW Drain Collector Tank Pumps (PHFO3A/B). Casing drains are used to drain the pump casing when required by maintenance activity.

Installation of pipe nipple and cap at casing drain will have no affect on the operation of the pump. Although casing drain valves have been removed, the pump can still be drained when needed for a maintenance activity. Other valves are available both upstream and downstream of the pump that would remove most of the water in the piping to facilitate maintenance. Remaining water trapped in the casing can be drained from the pump by removing the threaded cap and allowing the water to drain into a collector. Piping and pumps associated with this modification are all non-safety related, and it will have no affect on any other equipment.

.....

MP 91-8878
Install Chain Gate in Lieu of Swinging Gate in Steam Vent Gallery

Provide easier opening device in lieu of swing gate at the landing to door 17011 at the steam vent gallery. Previously identified personnel safety hazard: Difficulty in opening the swing gate while a person is hanging on the adjacent ladder.

Subject platform and handrail is all non-safety related. Change to this gate detail is simply to allow easier opening while hanging by one hand on a ladder.

.....

CMP 84-0801
Remodel Radwaste Control Room to Increase Habitability

Add a suspended ceiling to the Radwaste Control Room to include electrical and HVAC work, sealing spare penetrations and painting.

This modification does not adversely affect any safety design basis or evaluations for Category 1 structures contained in the FSAR.

.....

CMP 85-0017A

Replacement of Velocity Probe in Unit Vent

Replacement of velocity probe system in the unit vent with a flow measurement system consisting of four gas flow sensors in the unit vent and two low-range pneumatic differential pressure transmitters with a square root extractors in the auxiliary building. The replacement is required to provide accurate measurements of flow. Evaluate non-seismic II/I supported electrical equipment located on auxiliary building. Revise drawings to delete flow transmitter GTFT0021BB and reroute signal cables so that flow transmitter GTFT0021BA will supply input signals that were supplied by GTFT0021BA and GTFT0021BB. Change range of flow transmitter FTFT0021BA to allow transmitter to see entire range of unit vent flows.

This flow measurement system provides no safety function, and the replacement enhanced the system function. (This change has been partially implemented.) Non-seismic II/I supported electrical equipment located on auxiliary building penthouse is not mounted above or near any safety-related equipment. Flow transmitter changes eliminate mismatch flow that has occurred with the dual transmitter system. In addition, change deletes work required to calibrate second transmitter.

CMP 85-0293

Add an Isolation Switch for the Intake Battery

Add isolation switch to the battery system at the intake structure. Batteries cannot be isolated from the rectifier that supplies DC power under normal conditions. Batteries need periodic maintenance so they will be ready whenever the intake experiences a loss of AC power. DC power is used to control critical intake components like the intake pump breakers.

Modification involves electrical equipment at the intake structure and the intake has no safety-related functions. This modification does not affect any safety-related equipment or increase the challenge frequency to protective or engineered safeguards features.

CMP 86-0017A

Installation of Overtemperature Alarms for Firewater Storage Tanks

Install firewater tank heater overtemperature alarm. Alarm alerts control room that fire water freeze protection heaters fail to turn off.

Modification provides overtemperature alarms to a local panel and to the control room in the event fire water heaters fail to turn off. The alarm allows operator action to prevent damage to the fire water heaters due to overtemperature. Modification has no adverse effect on the fire protection system.

CMP 87-1012A

Replacement of Pumps PHC01 and PHC06

Replace evaporator bottoms transfer pumps with new pumps that feature integral pump bearing and externally flushed mechanical seal design. Work scope includes extending reactor makeup piping to pump seal housing, suction and discharge piping rework, and solenoid actuated flush water. Pumps do not maintain seal face alignment leading to shaft leakage and an area contamination problem. New pumps eliminate significant shaft deflection and ensure proper seal operation.

New pumps are sized using current capacities, materials and service conditions. Therefore, the solid radwaste system as described in FSAR remains unchanged. Current power feed capacity is not exceeded by increased motor horsepower. Also, piping support system capacity remains unchanged even though suction line station supports are being modified and pump pedestal load is increased due to slight increase in new pump weight (primary only).

CMP 87-1072A

Install MCB Annunciator for Low Pressure/Loss of Flow in ESW System

Install an annunciator in the main control room to alert for low pressure and loss of flow in the essential service water system. FSAR Table 9.2-6 was revised to add the header pressure alarm to a list of ESW system alarms. The annunciator design is achieved by wiring a contact multiplying relay into the control circuit of both ESW pump control circuits.

The relay added is Class 1E qualified and is mounted within the switchgear cubicles with a seismic approved mounting. This change does not alter or add any control functions to the ESW pump control circuits.

CMP 87-1072B

ESW Pump Auto Start Interlock

Connect differential pressure switch to monitor essential service water (ESW) flow to containment coolers and to various room coolers to the circuitry which automatically starts an ESW pump on undervoltage to the opposite train switchgear. Switch will replace existing switch in same circuitry which monitors pressure in the main ESW header. During testing of CMP-1072A, upon loss of voltage to one of the safety-related busses, cross-connect valves between service water and ESW systems would close, but leaked sufficiently to maintain pressure on ESW header. This prevented pressure switch from tripping and thus prevented automatic pump start. Pump start interlock changed to activate on ESW flow instead of pressure. Since this is the critical parameter for the ESW system, this will provide a more meaningful basis for the pump start. Also change engraving and inputs to annunciator windows 54A, and 55A, B, and C.

Change allows ESW flow to be maintained to equipment which would otherwise be isolated from its supply when an undervoltage condition occurs on the opposite train. This eliminates dependence on operator action to start an ESW pump after a partial loss of AC power. Addition of flow switch into pump start circuitry introduces only one conceivable malfunction which could affect safety: If switch is flooded or if a fire occurs in the area of the switch, it could cause a ground on the DC control power at the switchgear. If another ground then occurred elsewhere in the circuit, excessive current through the control power fuses could occur. This would blow control power fuses, disabling the closing circuit for the ESW pump breaker, and the ESW pump would become inoperable. To prevent this, switches and cables are designed and installed according to standards and specifications required for safety-related instrumentation as listed in FSAR Table 7.1-2. To prevent inadvertent grounding switches are installed above flood levels. One-amp fuses are used with proper coordination so that if an overcurrent condition occurs in cables or switches, fuse will blow before the 15-amp control cable fuses. This provides diverse means to meet commitments to 10CFR50 Appendix R. Material installed complies with all requirements for safety-related equipment, and the function of the design meets original design intent.

.....
CMP 88-1012A

Spent Fuel Pool Bridge Crane Load Cell; Digital Load Display to Electric Hoist

Replace load cell on spent fuel pool bridge crane with a strain gage type load cell and an electronic load processor. Load processor along with three electro-mechanical auxiliary relays and a digital panel meter will replace all of the functions of the

load cell and the spring scale previously used to monitor the load suspended from the hoist's hook.

Change will provide hoist operator with a continuous digital readout of the load suspended from the hook of the spent fuel bridge crane on the pendant control station. The function of the lights on the control station are not affected, but their setpoints change. New load cell will not provide any lateral support for the hoist. Since the replaced load cell also provided no lateral support, this change will not affect hoist movement during a seismic event. New electrical enclosure and conduit have no effect on the seismic response of the bridge crane. Modification will reduce the probability of fuel handling accidents occurring by providing the operator with better and more meaningful information about the load that the hoist is carrying. This will allow the operator to respond to abnormal indications earlier than previously possible. This modification has no effect on the consequences of a fuel handling accident should it occur.

CMP 88-1018A

Finer Mesh Filters for the RCS and Additional Control Room Alarm

Provide finer mesh filter cartridges in RCS filter FBC06 and install a control room alarm for filter high differential pressure.

The change in filter sizes has no effect on the pressure boundary. The new cabling/conduit for the remote alarm is nonsafety, not routed over safety components, and does not require II/I installation.

CMP 88-1023A

Revise Limitorque Valve Operator Breaker Setting

Increase several motor operator valve (MOV) breaker instantaneous trip setpoints. The increased setpoints avoid unintentional tripping when the MOV reverses travel.

Components affected by the increased instantaneous trip setting were evaluated: power cables, motor, penetration assemblies, and breaker coordination. Penetration assemblies protection is not degraded by the increased instantaneous setpoint.

CMP 88-1038A

Installation of Vibration Monitoring System for ESW Pumps

Installation of vibration monitoring system for essential service water pumps.

Calculation EF-18 verifies vibration probe bracket design adequate for this II/I application. No adverse impact on operation of motor/pump shaft coupling on pump.

.....

CMP 88-1044A

Modification of Essential Service Water System

Install tubing and instrumentation on existing flow elements of essential service water system. Installation extends ESW system pressure boundary.

Pressure boundary integrity not compromised. Mechanical hardware meets requirements of ASME Section XI. Stresses were verified to be below Code allowables. Instrumentation utilized performs no active safety function. Indicators and switches are seismically qualified to IEEE 344.

.....

CMP 88-1049A

Isolation/Voltage Drop Resistors in 125VDC Inputs to ESF Status Indication Panel

Install 3000 ohm resistor in the 125 VDC ESF status indicating system inputs from the main steam/feedwater isolation system panels to isolate the control circuit fuses of these inputs from inadvertent short-circuiting during trouble shooting to prevent blowing these fuses.

3000 ohm resistors are same as those used on main control board indicating lights. Small weight and positive mounting method precludes any seismic concern. Minimal additional heat load will not adversely affect existing devices in these panels. Status indicating panel (FSAR 7.5.2.2.1 and 7.5.2.2.2) is safety-related by association not by function. Modification will improve operation of the status indicating system and reduce possibility of any adverse interaction with other safety-related equipment. Resistors provide circuit isolation, reduced relay coil heating, and will not cause a reduction of safety.

.....

CMP 88-1056

Improve Reliability of MCC Supply Breakers

Replace 100-amp main transformer supply breakers with 125-amp circuit breakers. Main transformer supply breakers protect the main transformer cooling fans and oil pumps from damage due to high current.

New breakers are rated for 125 amps at 50 C ambient. Rating increases to 144 amps at 40 C. Cables connecting the MCCs to the transformers are 3-conductor 1/0 AWG triplex cables. This size cable is rated for 179 amps at 40 C, thus the new breakers will protect the existing cables. The cooling fans and oil pumps are protected from overcurrent by circuit breakers located in the main transformer control panel. The main transformers and the MCCs are non-safety related and serve no safety function. The MCCs are located in the turbine building so there is no seismic concerns. No new cable or conduit is being installed so no separation violations will be created.

CMP 88-1061A

Room Cooler Vent and Drain Line Galvanic Corrosion

Replace safety-related room cooler vent and drain piping damaged by galvanic corrosion.

Installation of these components falls under general requirements of ASME Section XI, Article IWA-7000 Replacements. Subarticle IWA-7400 specifically exempts piping valves and fittings 1 inch nominal pipe size and less, except that material and primary stress levels shall be consistent with the requirements of the applicable Construction Code. Stress evaluations indicated that stress levels are maintained below Code allowables during static conditions as postulated seismic conditions. Copper and stainless steel materials utilized in this modification are close in galvanic properties to the cooling coils thereby eliminating the failures caused from galvanic corrosion. Replacement tubing provides approximately the same flow area as the original piping. Therefore, the ability to vent or drain the cooler will not be significantly affected by this modification. Pressure retaining components utilized in this modification meet or exceed the requirements of the original components. The design bases of the affected room coolers remain unaffected.

CMP 88-1064A

Remove Vendor Wiring to Eliminate Incorrect "Isolate" Indication

Correct improper energization of the containment cooler fan R MCC "Isolate" handswitch indicating light on the ESF status indicating panel. When fan is in fast, the light will be on regardless of the MCC handswitch position. Vendor wiring between the spare 42F/a contact and the associated terminal block points in MCCs NGO2T and NGO4T to correct problem.

The only terminations to be lifted are associated with the spare 42F/a contacts. No other terminations are revised. Spare contact is not intended to have any function in any circuit and will not be a part of any circuit after the modification. Modification does not have any impact on safety-related equipment and does not cause any safety concerns.

CMP 89-1016A

Relief Valve on the Air Start Skid on the Discharge of Compressor

Install relief valve downstream of the pulsation dampener of air start skid for the emergency diesel generators. This will provide overpressure protection without the expense of increased wear from valve chatter when the compressor is running. Relief valves on discharge of the compressor are relieving from the pulsation shock waves produced from the positive displacement air compressors.

Modification will not affect the safety-related portions of the air skid. Although the modification will raise the setpoint pressure of the air compressor relief valve and install a relief valve downstream of the pulsation dampener, this will not modify the safety-related air receiver internal pressure. Modification does not introduce a condition where the pressure on the non-safety related components are exceeded above their safe limits of operation.

CMP 89-1041A

Desensitize the Ground Detection Relays for 125 VDC Battery System

Install handswitch and resistors to be used as a desensitizing switch for the PK01 and PK02 125 Volt DC battery system. The switch will desensitize the ground detector alarm in the control room. The ground detector relay is used to alert plant operators that a ground has occurred on the 125 VDC bus.

Installation of the desensitizing switch does not increase the probability of an accident because without the desensitized position, the alarm would be in all the time after initial annunciation. With the new setpoint the alarm may reannunciate to

give the operators an indication that the ground is decreasing in resistance and increasing in severity. This design reduces the probability of an accident by giving the operators indication of a ground condition that could cause inadvertent equipment operation. This modification only changes the annunciator setpoint which has no direct affect on the probability of inadvertent operations; it only indicates when the DC system has lost isolation, and that a second ground could cause inadvertent operation or the loss of the DC system. Because safety systems are designed to shut down the plant independent of non-safety systems, no unreviewed safety question exists.

.....

CMP 90-1006A

Modification to CTMT Spray Additive Tank Level Transmitters and Reference Leg

Add swagelock tee and unistrut support to the top of the reference legs of level transmitters (ENLT0017 and ENLT0019) used to monitor and maintain the containment spray additive tank level. Also change fluid in reference leg from NaOH to demineralized water.

Spray additive tank has no initiating role in any analyzed accident. Supports added are standard details; therefore, no new mechanical failure mode is created. Use of demin water in reference leg has been accounted for and the setpoints are modified. Change is well within range of transmitters. Therefore, no new electronic failure mode is created. Vapor pressure of water at maximum temperature of reference leg is within the cover pressure range so evaporation would be suppressed or slowed such that no adverse interactional failure modes are created.

.....

CMP 90-1011A

Install Additional Phones, Gaitronics, Receptacles

Add new phones, Gaitronics, and computer terminals and relocate receptacles in Health Physics Access.

Addition of new Gaitronics stations and new phones do not adversely affect either system. All cable added is routed in conduit to preclude any separation violations. Conduits are supported using standard support details so no seismic concerns are created.

.....

CMP 90-1012A

Change RCP Thermal Barrier Heat Exchanger Temperature Indication Configuration

Rearrange configuration of instrumentation associated with temperature indicator (BBTI0009) for component cooling water (CCW) out of the reactor coolant pump (RCP) thermal barrier heat exchangers.

Function of instrumentation is unchanged. Indicator monitors same parameters as before, and the specific pump is still selectable from BBHS0009. However, since selector switch selects a voltage signal rather than a resistance signal, the switch contact resistance has no effect on the reading observed on the meter. Therefore, this change provides more accurate and reliable indication on BBTI0009. All components associated with this change are non-safety related, and since this instrument loop provides indication only, this modification will have no impact on any other systems or components which provide a safety-related function. New installed cable is in separation group 6; however, two of the RTDs connected to it are in separation group 5. The two channels of non-safety related cables and raceways require no specific separation. Separation for non-safety related cables of different load groups is not necessary for plant safety.

CMP 90-1016A

Rewire Generator Field Current Annunciator Circuit

Rewire general field current annunciator circuit from a parallel circuit to a series circuit. Circuit indicates the generator field temperature. Circuit provides input to the plant computer and the generator monitoring system to alert the plant operators when a generator field overcurrent condition exists.

Modification relands wires in series inside the turbine generator panel. Modification does not affect plant generator or turbine controls. Annunciator, plant computer input and generator temperature monitor system are not safety-related.

CMP 90-1040A

Disconnect Motor Compartment Space Heaters in Limitorque Operators of FCHV312

Disconnect space heaters in motor compartment in Limitorque operator for valve FCHV0312.

NRC IE Notice 86-71 identified potential for energized heaters to damage wiring in close proximity to the heater. Limitorque advised that heaters were provided only for use during storage and are not required for installed operators. Space heaters are

intended only for use during storage and were not used during Limatorque's environmental qualification testing program. Callaway's Limatorque operators are qualified for both normal and accident plant conditions with the space heaters deenergized.

.....

CMP 90-1042A

Concrete Pavement on East Side of Fuel Building

Install concrete laydown area outside the fuel building and a groundwater monitoring well and dewatering point between fuel building and reactor building.

Clay blanket is intended to provide protection to the structural backfill from surface water seepage. Structural backfill provides lateral support to Category I structures and to protect the foundation material. Concrete slab provides same level or higher protection from surface water seepage; therefore, structural backfill remains unchanged. Structural fill remains undisturbed and in its current condition.

.....

CMP 90-1049A

Install Conduit and Terminal Boxes Required to Install New Phone System

Install new telephone system. Existing conduit system is not adequate for new system, thus new conduit and terminal boxes are installed. Gaitronics-telephone interface units will be installed in the service building telephone room.

All conduit and terminal boxes added will be field located so as not to create any separation violations. Conduit in control and auxiliary buildings will be supported using pre-approved seismic II/I supports to ensure no seismic concerns are created. Ductbanks will be installed in accordance with existing ductbank detail drawings. Interface units will not adversely affect the operation of either the telephone system or the Gaitronics system.

.....

CMP 90-1054A

Instrument Sump Pumps Vent Line to CTMT Normal Sumps

Add stainless steel tubing from the instrument sump pump header vent valve and route to containment normal sumps to ensure instrument sump pumps will establish flow out of the sumps when sump level calls for the pumps to run.

Tubing added in vicinity of containment normal sumps is supported with II/I supports and will not be available for potential sump

blockage. Instrument sumps do not interface with any safety-related system and will not degrade a safety-related system. Maximum flow rate does not adversely impact containment sump level measurement system. Tubing provides a full time vent and enhances the availability of the pumps. Loss of the instrument sumps does not affect the operation of any "Q" equipment. Tubing material is compatible with the system.

.....

CMP 90-3003A

Add Tubing and Drain Valve for Air Receiver Tanks

Extend the drain tubing for the air receivers associated with the switchyard breakers MDV41, 43, 45, 51, 53, 55, and 85. Change is required for personnel safety. In order to drain the air receivers the operator must reach through wires to operate the drain valve. By extending the tubing and adding another drain valve, this operation can be accomplished without fear of electrical shock to the operator.

The operation of the system remained unchanged; therefore, no adverse impact to plant systems is expected. The new valve in series with the existing valve will perform the same isolation service in place of the existing valve.

.....

CMP 91-1011A

Repair Water Leak in Pipe Penetration of Control Building

Remove "Link-Seal" located on interior side of control building exterior wall. Install barrel-like seal around pipe, made of carbon steel and galvanized steel welded to pipe and penetration sleeve. Existing silicone rubber foam, in conjunction with boot seal on the exterior of the control building wall, is intended to prevent ground water from seeping into the basement of the control building.

Removing existing "Link-Seal" and installing new closure does not affect the safe operation of the plant. The penetration closure is not required to be fire or air barrier since the west side of the wall is soil. Function of ESW system is to provide cooling to plant components required for safety shutdown following an accident. Welding a plate to the outside of the return piping does not prevent the system from performing its intended function nor will it add any significant stresses to the pipe during an SSE or DBA. Based on the physical separation, in conjunction with the fact that there is no radiation source in line with the penetration which could cause streaming, the modification is considered acceptable from ALARA consideration. The configuration of the barrel-like seal prevents it from being dislodged from the pipe/sleeve. Therefore, it could not impact any safety-related items in the area. The mass of the vent and

drain lines is insignificant compared to any safety-related lines in the area. Therefore, no II/I concerns exist.

.....

CMP 91-1027A

Replacement of Gas Decay Tanks Common Sample Header with Individual Sample Lines

Replace common sample header with individual sample lines for each waste gas decay tank.

Gaseous radwaste system is not safety-related and has no safety function. Affected portion of the system is downstream of the sample isolation valve, and, therefore, is not group D Augmented. Tubing does not need to be designed to the seismic design criteria of FSAR Table 3.2-5. Modified portion of system is normally isolated from the gas decay tanks. Technical Specifications 3/4.3.3.10, 3/4.11.2.5, and 3/4.11.2.6 are not affected by this modification.

.....

CMP 91-1028A

Install 3 10" Penetrations in Control Building and RWST Valve House

Install three penetrations in control building and RWST valve house to allow access for temporary cables or lines without need to have security posting.

Penetrations, covers, and potential cut rebar were reviewed for seismic loads, tornado wind pressure and tornado missiles. Modification does not affect any operating systems in the plant. Penetration covers will serve as pressure boundary and fire and missile barrier.

.....

EMP 88-3004A

Service Building Addition

Construction of a 3-story 60,000 square feet Service Building addition, a 72 square feet Main Access Facility Addition, and related miscellaneous site work.

The enlarged Service Building will allow for the consolidation of selected plant support staff under one roof. Many of these personnel are presently located in temporary construction buildings. Power to Service Bldg addition will be supplied by a new 1500 kVA transformer and duplex primary load break switch. Input power to this transformer will be from either the PA02 bus or from the safeguards transformers. Neither of these sources will be overloaded. Power to transformer will be delivered through the site 13.8 kV power distribution system. The 90 deg C temperature rating of the conductors will not be exceeded.

Splices in the electric manholes will be made and fireproofed. Fuse in the duplex primary load break switch will be sized to trip on a phase to ground fault on the transformer secondary. Transformer secondary power feed to building switchgear is sized per IPCEA standards. Load currents remain the limits of the protective relay settings for the PO0209 bus and the safeguards transformers. Modification will provide separate fire main for building addition. Building will have a post indicating valve for isolation purposes; however, isolation valve for Technical Support Center will also isolate the fire protection line for the building addition. ANI has approved this configuration. Transformer will be partially enclosed by fire walls to protect nearby buildings from damage due to fire. A fire in the Service Building addition will be alarmed in the control room. Main Access Facility addition will eliminate blind spot in security system caused by the Service Building addition. Membrane roofing used on the addition is seamed together into one unit and is held in place by aggregate to meet requirements for 100-year recurrence for wind. It is highly unlikely that during extreme wind, the aggregate will be removed such that a large enough portion of the membrane can be torn apart, thrown into the ESW pond, sink and block both intake. A similar occurrence is also highly unlikely to block the diesel generator intake louvers.

EMP 88-3018A

Provide Replacement of Motor Temperature Scan

Replace obsolete intake, circulating, and service water pump motor stator winding temperature scanners. Remove trip circuit that trips intake, circ. and service water pump motors on high stator temperature to eliminate a pump trip due to an "open" RTD. Rewire RTDs to allow for proper operation of the scanners.

New scanners are capable of scanning the same 6 motor RTDs on each pump as the existing scanners and can provide individual alarm and trip setpoints for each RTD input. Only the alarm setpoints is retained on the circ, service, and intake water pumps. The high stator temperature trip is removed to eliminate a pump trip due to an "open" RTD. Motor failure due to overheating will not impose a more severe transient on the primary plant than a motor trip. Plant reliability will not be adversely impacted. All RTDs are rewired for new scanners; existing wiring is incompatible with new equipment. Form, fit, and function of the stator temperature monitoring systems remain unchanged with the exception of the removal of the pump motor trip. The intake, circulating, and service water systems are not safety-related.

EMP 88-3020A

Retirement- Remove All Wiring from Relay 94XAC9

Remove all terminations at relay 94XAC9 and for cable 25ABY04AA, both of which become installed spares. Relay contacts are connected to open turbine drain valves ABFV23, 25, 27, 29 and ACHV134, 135, 136, 137 when turbine is tripped. Manual operation of these drain valves is provided, and automatic open signal is not needed. Drain valves provide means for removing water from main steam lines during turbine startup and cooldown.

Main steam line drain valves are not safety-related; however, they can affect RCS temperature control during cooldown following turbine trips. Removal of the automatic "open" signal eliminates the RCS cooldown difficulty.

EMP 89-3002A

Portland Composite River Water Sampler

Replace sample pump with a sample pump of the same size and capacity that is designed to handle abrasive or clear water. Rotate the composite river water sampler inlet tee to face upstream and install a 6" tee downstream of the sample pump pointing downstream. Installation allows river water to flow past the sample pump reducing the potential for pump to become silted in. Also, utilizing a pump designed to handle abrasive liquids gives better and more reliable performance for pumping river water. Portland composite river sample obtains river water samples downstream of the plant discharge line for radiological analysis. The 6" pipe that the sample pump is installed in acts as a sample well in the river and provides for pump protection.

The sample pump designed for handling abrasive liquids has the same capacity and performance curves that the existing sample pump has. The sample inlet and outlet is covered with a 1/4" screen mesh (inlet) and a 1/2" screen mesh (outlet) to prevent debris from plugging pump suction. The flow thru design will allow representative river water samples to be taken for radiological analysis. The Portland composite river sampler has no safety design basis nor does it serve any safety related equipment.

EMP 89-3003A

Replacement of Bulk Oxygen Bottle Storage System

Replace bulk oxygen bottle storage system consisting of two banks of 32 bottles with a vendor's portable high pressure oxygen trailer and a reserve bank of 8 bottles. Service Gas Oxygen Storage and Transfer System stores bulk quantities of oxygen and transfers it to the radwaste building for use in the hydrogen

recombiners. Continual change-out of the bottles is a safety hazard to the personnel handling the bottles and the large number of threaded connections has caused large expenses of manpower to troubleshoot leaks.

Modification will provide same quality of oxygen and double the storage volume. Reserve bank of 8 bottles will be maintained to provide a sufficient quantity to supply the plant's needs while the trailer is being refilled. Bulk oxygen storage system is approximately 350' south of power block; a fire in the gas yard will not pose hazard to systems required for safe shutdown of plant. The oxygen storage and transfer system is not safety-related and is not required to perform any safety-related function during an accident. Modification complies with ANSI B31.1 and appropriate DOT specifications. The evaluation of potential accidents in FSAR 2.2.3 is not affected because it assumes only one chemical (hydrogen or propane) is involved, and oxygen is nonflammable.

EMP 89-3015A

Provide Safety Access to Check Levels on OWRT and SAST

Provide means to safely access sulfuric acid storage tank (SAST) and oily waste reclaim tank (OWRT). Personnel safety concern exists when equipment operators view the level gauges on these tanks. Operators must view the level gauges on a regular frequency. Inclement weather can create hazardous conditions when accessing these areas.

These access structures are considered non-safety related. Their purpose is to provide a safe means to access level instruments on the above tanks. A II/I concern does not exist as the above access structures cannot fall or impair the function of safety-related components during a seismic event.

EMP 89-3017A

Install Flow Restrictor in Lube Water Filter Back Flush Line

Install orifice in the common backflush header downstream of the service water pump lube water filter backflush manual isolation valves to restrict filter backwash flow rate. Service water pump lube water filter is to provide filtered water to the service water pump bearings for lubrication. Filter is designed to be backwashed on line to remove collected debris while providing clear filtered water to the pump bearings.

Per vendor specification, filters are designed to process 100 gpm of filtered water. During backwash cycle, filter will provide 75 gpm filtered water the system and 25 gpm for filter backwash to waste. Service water system has no safety design basis and serves

no safety-related function. Restricting the service water pump lube water filter backwash flow rate to design flow of approximately 25 gpm will not have any adverse impact on plant safety or equipment reliability.

.....

EMP 89-3026

Pressure Sentry Valves on Condensate Polisher

Remove pressure control valves and install relief valves to solve reported problems with the pressure control valves in the condensate polisher sodium analyzer skid. Pressure relief valves will provide additional sodium analyzer protection.

Modification does not affect any accidents in the FSAR and does not degrade the standards of design of the non-safety related skid. Modification does not alter the design or operation of the skid which could affect the probability of any analyzed accidents. Skid is not used for accident mitigation or detection. Skid does not interact or inter-tie with any equipment that is safety-related. Output of sodium analyzer is local with no automatic actions.

.....

EMP 90-3004A

Retirement - Replacement Part for Condensate Hydrazine Recirc. Pump

Replace condensate hydrazine recirculation pump (PAQ07A) which is damaged but original equipment is now obsolete. PAQ07A promotes mixing of a hydrazine solution added to the condensate system to scavenge dissolved oxygen.

The condensate hydrazine recirc pump facilitates secondary chemistry control. Failure of this system does not compromise other safety-related systems or affect safe shutdown of the plant.

.....

EMP 90-3007A

Replace Deaerator Orifice Bypass Valve

Replace deaerator orifice bypass valve (FBV0215) with a back pressure control valve to control deaerator operating pressure during low load operation. Since deaerator vent will admit more steam/gas mixture, vent will be rerouted outdoors. Deaerator is provided to remove noncondensibles from the feedwater of the auxiliary steam system. Degassed feedwater is necessary to minimize corrosion of the auxiliary boiler.

Deaerator is designed for chemistry control of feedwater entering the auxiliary boiler and does not perform any safety-related function nor does it interact adversely with any safety system.

EMP 90-3034A

Remove Existing Grating and Install a Handrail in Sludge Water Pumphouse

Remove grating and install handrail around pit to the sludge pumps in the Sludge Water Pumphouse. Railing prevents personnel from falling into the pit once grating has been removed.

Handrailing is not safety-related and provides no safety function with respect to safe operation of the plant. Removal of the grating and installation of a handrail around the pit to the sludge pumps poses no operability concerns.

EMP 91-3013B

Install Encapsulation Chamber Around AFV0918 for Furmanite Repair

Encapsulate root valve (AFV0918) for high level alarm for 2d stage reheater drain tank and inject encapsulation chamber with furmanite to repair body-to-bonnet leak.

Level switch fed from this valve provides an alarm only. Valve being encapsulated does not have a safety-related function. Downstream components that may be affected by this modification are not safety-related, nor affect the operability of a safety-related component. To minimize chemistry impact, limits on total halogens, low melting metals, and total low melting point metals are limited to same level as approved for use of lubricants, gaskets, and packing and can, therefore, be assumed to minimize any adverse chemical effects on the components. The compound will be injected into the encapsulation chamber, not into the valve internals. The amount of compound expected to enter the system is minimal.

EMP 91-3015A

Install Bypass Line Around Flow Indicators on Circulating Water Pumps

Install bypass line around flow indicators (FIDA2101A, B, and C) which are flow indicators for the lube water supply to the bearings for the applicable pump and motor coolers.

Equipment is non-safety related and has no safety function. Circulating water pump lube water supply does not interface or affect any safety-related equipment, nor does it interface or affect any equipment important to safety. Installation of bypass lines on the circ pump lube water flow indicators will not affect the design acceptance limits of any equipment, or components referenced in the Technical Specifications. Design acceptance limits remain unchanged.

.....

RMP 87-2026A

Eliminate Potential Slip or Fall Hazards

Add handrails on specified plant building roofs at locations where surveillances and preventive maintenance activities pose safety hazards at roof edges. Also add two ladders to the Turbine and ESWS Pumphouse roofs to provide access to security cameras.

Each handrail and/or ladder is attached to the plant roofs and are located such that, in the event of structural failure of the connection, the handrail/ladder will not affect the function of safety-related systems. Modification does not affect the Technical Specifications or the design basis for the safe shutdown margin for the plant. The added loads on the buildings from the addition of the handrails/ladders is considered minimal and does not adversely impact the design considerations for the buildings.

.....

RMP 89-2010A

Add MCB Digital Meter for Indication of Switchyard Bus Voltage

Add digital meter to main control board for accurate indication of the switchyard bus voltage. Voltage input is supplied by the potential transformer on the Montgomery-Callaway 7 transmission line in the switchyard. This configuration will provide accurate indication of the switchyard voltage and an input to annunciator window for alerting the operators of high switchyard voltage conditions to protect the main generator step-up (GSU) transformer from switchyard voltages in excess of the transformer rating.

Instrumentation associated with the GSU transformers and the generator have no safety design bases. Modification will allow the operators to accurately monitor the switchyard voltage and reduce the generator's output during high switchyard voltage. Added combustibles to the lower cable spreading room and the control room is under fifty pounds allowed by the existing fire protection program and accounted for per procedure. Added raceway fill to the instrumentation trays has been walked down to verify that the new cables can be added without extending above the side rails of the tray. The added weight of the cable and the meter to the MCB is negligible. All cables and wires will be installed per applicable installation procedures. Location and the window engraving of the annunciator window and the meter location and size were review and approved by human factors personnel. Circuit is not safety-related and will have no interaction with safety-related circuits.

.....

RMP 90-2002A

Add MCB Annunciator Panel to Airborne Radiation Monitor Air Sampling Heat Trace

Add local annunciator panel to airborne radiation monitor air sampling heat trace panel (OJ156) to replace low temperature alarm indicating lights. Annunciator panel provides local acknowledgement capability, enabling MCB window 61F to be cleared after control room acknowledgement and then to alarm subsequent low heat tracing temperatures.

Modification makes no physical or functional change to the monitor sample line heat tracing. Heat tracing low temperature alarms do not have any safety design basis and modification of the alarms has no impact on the safety design bases of the airborne radiation monitors.

RMP 90-2008A

Disconnect Rod Control Interlock of Loose Parts Monitoring System

Disconnect interlock from rod control to loose parts monitoring system (LPMS) to allow LPMS to be available all the time and never disabled. Permits performing Technical Specification surveillance of daily channel checks without concern.

LPMS is not required for any accidents considered in the FSAR. LPMS still performs as designed with all the channels being enabled and available for daily channel checks.

RMP 90-2010A

Remodeling of BOP Computer Room

Relocate equipment in BOP Room and remove equipment no longer in use.

There are no safety-related equipment located within or cables that pass through BOP Computer Room. Fire protection provided by this modification is at least equal to the previous level of protection. New sprinkler system is installed in accordance with NFPA 13. Fire protection boundary is maintained, detection/protection of the areas is maintained.

RMP 90-2011A

Replace Center Bar Fall Arrest System

Install safety device (fall arrest system) to ladder extending down into the north end of the fuel building refueling canal.

No design basis or licensing documents are affected by this modification. Materials selected for this modification are stainless steel and are therefore compatible with the borated water in the refueling canal. No loose or moving parts are present in the design. Physical location of the device allows free movement of the fuel transfer cart.

RMP 90-2014A

Replace Lead-Lag Compensator to Hi T-ave Signal for Rod Control

Replace Westinghouse 7300 system NMA card with NLL card for BBTY0412P in order to improve reliability and reduce manhours expended in troubleshooting and calibration. BBTY0412P provides dynamic compensation to the auctioneered high T-AVE signal for development of a rod demand signal for control of the control rods.

NLL card is functionally equivalent to the NMA card configured as a lead-lag compensator but is more reliable because it exhibits less drift. Increased impedance of the NLL card is still within the specified limits of the associated signal source. No credit is taken in FSAR Chapter 15 for 7300 system control circuits. Nll card provides control rather than protection function, is functionally equivalent to the NMA in this application, and is more reliable than the NMA.

RMP 91-2001A

Connections for Temporary Cooling Tower

Installed non-safety related connections on the non-safety related portion of the Service Water (SW) system.

In the event of an accident, this portion of the SW system is isolated from the safety-related Essential Service Water (ESW) system. This prevents this modification from affecting any safety-related equipment. Electrical power is provided by non-safety related power and is not routed over any safety-related equipment.

RMP 91-2005A

Modification to Leakoff Lines of Auxiliary Feedwater Turbine

Relocate steam trap and add an atmospheric vent for the stem leakoff lines of valves FCFV0313 and FCHV0312 to eliminate backpressure on valves and ensure steaming does not continue to occur in the basement of the auxiliary building.

Change in location of steam trap, addition of vent line, and

changes and additions to various hangers do not impact safety nor the operation of safety equipment. Pipe stress analysis indicates stresses in all areas of the modification are within the allowable levels. Affected hangers are within allowable limits for seismic and also for the AISC code. Routing of vent line off of the stem leakoff lines has no impact on operation of FCHV0312 and DCFV0313. Line is sloped to allow any condensation to drain to the LRW drain. Failure of steam trap would not impact the operation of auxiliary feedwater pump turbine (KFC02). Performance of the turbine will not be compromised.

RMP 91-2011A

Modification of DW Supply Conn. to Cold Lab Milli-Q Water Filtering Sys.

Change location of demineralized water supply to cold lab Milli-Q pure water system so supply line can be routed away from hot sample lines.

Plant sampling system serves no safety function and has no other safety design basis (except for containment isolation which does not apply in this situation). Rerouting of demin water supply within the cold lab will affect non-safety related equipment nor any accident analysis adduced in FSAR Chapter 15.

RMP 91-2019A

Install Check Valves on Second Stage Condenser Drain

Install check valve in tubing on 2d stage line to have drain valve operate properly without lifing the relief of the 2d stage drain line. Previous design included an internal check valve that prevented backflow into 2d stage drip line; new valves do not include this feature. Automatic drain valve allows draining of moisture from the discharge of the air compressors for the diesel generator air start system.

Compressors are not safety-related and are not required for the operability of the diesel generators. Failure of air compressor will not result in failure of air start system. Failure of check valve will result in a failure of the air compressor, but not the air start skid. Since air compressors are not safety-related, the accident evaluations in FSAR do not take credit for operability of these compressors.

NMR/DR 91-100137

Detached Sample Tube of Station Battery NK12

Battery cell #54 of station batter NK12 has a detached sample tube which is floating freely in the cell. This is one of two tubes which extend into the electrolyte so that specific gravity samples may be obtained at 1/3 of the electrolyte depth. Second tube is intact and can still be used for samples.

Sample tube is normally submerged in the cell's electrolyte and is made of a material that will not degrade in the acid. The tube will not affect the charge or discharge characteristics of the cell. It has no significant affect on electrolyte level. A representative specific gravity sample can still be obtained from the second sample tube. The detached tube will not affect the seismic characteristics of the cell. The tube weighs only a few ounces and is restricted to fractions of an inch for movement.

.....

OL 1089

Containment Integrity, Leakage, Isolation Valve

Revise Technical Specifications 3/4.6.1.1, 3/4.6.1.2, 3/4.6.3, and Bases 3/4.0.1.2 which address containment integrity, containment leakage, and containment isolation valves.

Changes maintain consistency with existing Technical Specifications by providing an action statement for containment leak rate testing in modes 1 through 4. No design change is made that would create possibility for an accident or malfunction of equipment. Partially approved by NRC via Amendment 62, 9/11/91.

.....

OL 1101

Onsite Review Committee Membership

Revise Technical Specifications to delete specific title designations from Onsite Review Committee (ORC) membership.

Change is administrative only. Requirements of ORC composition for quorum, for representation at management level, and for specified areas of expertise remain unchanged. Approved by NRC via Amendment 63, 10/8/91.

.....

OL 1106

Allowable Out-of-Service Times for Analog Channels of ESFAS

Revise Technical Specification and associated Bases to extend allowable out-of-service times (AOTs) and surveillance test intervals (STIs) for the analog channels of the Engineered Safety Features Actuation System (ESFAS) and for the ESFAS actuation logic and actuation relays of the Solid State Protection System (SSPS).

There may be a slight increase in the probability of core damage accidents and a slight increase in core damage frequency (CDF) due to increase ESFAS unavailability. Small potential increase in accident probability has been accepted by the NRC Staff when compared to the range of uncertainty in the CDF and to the net benefits to be gained by these changes. The Staff also previously concluded that actual CDF increases for individual plants from the proposed AOT and STI changes are expected to be substantially less than 6%. The Staff considered this CDF increase to be acceptably small when compared to the range of uncertainty in the CDF analyses. Additionally, the Staff concluded that a staggered test strategy need not be implemented for ESFAS analog channel testing and is no longer required for RTS analog channel testing. Approved by NRC via Amendment 64, 10/9/91.

OL 1107

Maximum Allowable Leakage of RCS Isolation Valves

Revise Technical Specifications to change allowed leakage limit for reactor coolant system pressure isolations valves (RCS PIVs) and to correct valve numbers and descriptions in Table 3.4-1. The change revises the acceptable leakage criteria of the PIVs to values based on valve size.

Change does not affect operability requirements of the RCS PIVs or the ability of these valves to perform their intended safety functions. No plant design changes are involved and the current practices and procedures for monitoring valve leakage are unchanged. Approved by NRC via Amendment 66, 1/24/92.

OL 1109

Surveillance Requirements for Maximum and Minimum ECCS Flowrates

Revise Technical Specifications to change charging and safety injection pump flows and to revise requirements for performing a flow balance test on an ECCS subsystem.

The design of the ECCS piping, valves, and pumps has been reviewed and found adequate to support operation with increased flow.

Callaway Safety Analysis has been evaluated based on the proposed changes to the ECCS flow criteria. Consequences of any accident or malfunction of equipment has not increased. Performing a flow balance test on just the affected ECCS subsystem has no effect on any accident as the intent of the Technical Specifications is being met. No plant design changes are involved. The current practices and procedures for operating the ECCS system will not change. Approved by NRC via Amendment 68, 3/24/92.

OL 1111

Snubber Visual Inspection Intervals and Corrective Actions

Revise Technical Specification and associated Bases to change snubber visual inspection intervals and corrective actions.

Proposed revisions are consistent with guidance of Generic Letter 90-09. Changes provide an alternative inspection interval for visual inspection that main the same confidence level as the previous schedule and generally allow the performance of visual inspections and corrective actions during plant outages. Changes do not impact reliability nor availability of plant equipment. Approved by NRC via Amendment 67, 3/5/92.

OL 1122

Mode Changes with Control Room Ventilation Tech Spec Action Statement in Effect

Revision to Technical Specifications regarding Engineered Safety Features Actuation System Instrumentation and Control Room Emergency Ventilation System (CREVS) to take exception to Specification 3.0.4 which prevents entry into an operational mode unless the conditions for the Limiting Condition for Operation (LCO) are met. The change allows operational mode changes in modes 5 an 6 while operating in accordance with existing actions which allow continued operation for an unlimited time.

Revision is consistent with guidance provided in Generic Letter 87-09. Changes do not alter the design or method of operation of the CREVS or its actuation instrumentation. Revised actions would allow operational changes while operating in accordance with existing actions which allow continued operation for an unlimited period of time after the system has been placed in its emergency (recirculation) mode of operation. Operational mode changes within the bounds of the action would not degrade the capability of the CREVS to mitigate an accident. Changes only alter restrictions on making operational mode changes and the acceptance criteria for any design basis accident is unchanged. Approved by NRC via Amendment 69, 3/26/92.

OL 1123

Diesel Generator Load Reject Testing

Revise Technical Specifications to remove value for largest single load required to be rejected for emergency diesel generator testing. Change states that the Essential Service Water (ESW) pump is the largest single emergency load.

Change is administrative in nature and does not involve any design changes or hardware modifications. Surveillance test performed meets the requirements of the regulatory guides and represents the worst case loss of a single load. Approved by NRC via Amendment 65, 1/15/92.

ETP-AQ-ST002, REVO
Morpholine Test Program

Procedure to control use of morpholine for pH control of secondary water chemistry instead of ammonia to reduce elevated erosion/corrosion rates that have been experienced in the two-phase regions at Callaway. Procedure objective is to determine optimum concentration of morpholine required to satisfactorily reduce erosion/corrosion of secondary system piping while maintaining secondary system chemistry parameters within chemistry control bands.

Evaluation of compatibility of morpholine with secondary-side materials is based on available information from laboratory corrosion studies and plant experience. A synergistic effect has not been observed other than its contribution towards the achievement of target pH levels to control corrosion. With respect to contaminant levels, the use of morpholine does not require a change in the guidelines established for secondary water chemistry after extensive study of impact of secondary water chemistry on the potential for corrosion of steam generator tubes and turbine components. Small changes in other water chemistry control parameters may be required. Secondary-side treatment with morpholine does not create corrosive conditions for steam generator materials or feedtrain materials; instead, observations from laboratory studies and plant experience indicate morpholine offers better protection to feedtrain material than ammonia. Degradation of rubber components, if any, is expected to be gradual and is not expected to result in sudden significant loss of pressure boundary integrity. The condensate chemical addition skid and associated valves, pumps and piping were evaluated for compatibility with 40% morpholine mixture, and all materials were found to be acceptable. The use of morpholine in the secondary chemistry is not expected to have an impact on the steam generator thermal-hydraulic analyses, operating parameters, design transients, or analyses of postulated accident conditions, nor adversely affect post accident radioactive release calculations.

ETP-BB-01322, REVO
Remote Welded Plug Installation

Contingency steam generator tube repair method for Refuel 5. A remote welding process consisting of a remote weld tool capable of interfacing with a remote manipulator, a plug, and a welding process.

Structural integrity of remote welded plug indicates that the plug and weld are acceptable for installation. Stress analysis shows minimum acceptable weld throat is substantially smaller than those measured in procedure qualification. Failure of one plug is bounded in the plant technical specification guidelines for safe shutdown due to tube leak. Weld has been qualified and analyzed to insure that the weld is large enough to insure that the plug will not eject or rupture during any design transient. Plug material was chosen because of its superior corrosion resistance.

ETP-BB-01325, REVO
Remote Shot Peening of Steam Generator Tubes

Shot peening of the ID of the steam generator tubes as a remedial preventive measure against pure water stress corrosion cracking (PWSCC).

Vendor has performed a number of tests which demonstrate that shot peening enhances the resistance to PWSCC of Inconel 600 tubing. They have also shown that, under the controls they impose on the peening process, secondary side stresses are not increased such that they increase the tube susceptibility to secondary side stress corrosion cracking. This remedial treatment of Inconel 600 tubing has previously been performed at several plants throughout the country.

ETP-GN-00001, REVO
Containment Cooler Performance Test

Provides instruction to verify performance of containment coolers and guidelines to predict adverse trend with the heat removal ability of the coolers. Allows RTDs to be installed in thermowells provided to test the containment coolers and cables to be routed to terminal boxes normally used for GP system computer points. Instrumentation will be removed once required operating data on containment coolers is obtained.

No change in ESW thermowells is performed by this procedure. Test instrumentation will not affect intended function of GP system

during ILRTs and will be removed before next ILRT. GP system has no normal or accident design function. Cables will be routed to maintain separation criteria from safety-related cables and routed outside combustible free zones. Additional combustible loading of cable insulation is insignificant. Cable is IEEE-383 qualified, fire-resistive cable. Weight of cable is insignificant compared to capacity of components to which cable will be tied. Cable will be secured such that there is no potential for it to enter RHR sumps. Weight of RTDs is insignificant compared to capacity of ESW pipe. RTDs do not affect inventory of aluminum or zinc.

ETP-ZZ-01210, REV4

Steam Generator Nozzle Dam Installation and Removal

Nozzle dams are installed in the primary channelheads of steam generators to allow the RCS to be brought above the channelhead elevation in order to allow refueling activities to take place coincident with primary side steam generator work (i.e., eddy current testing). A nuclear safety evaluation should be performed if nozzle dams are to be installed in all four steam generators simultaneously. This is the case in Refuel 5.

Union Electric's response to NRC Generic Letter 88-17 described actions to be taken upon loss of RHR at reduced inventory with nozzle dams installed in all steam generators. These actions include use of safety injection pumps to provide cooling. Based on this, if all hot legs are blocked simultaneously, two safety injection pumps are available taking suction from the RWS1 and injecting into the hot legs when all four legs are blocked simultaneously and no vent path is provided. Two safety injection pumps provide adequate flow and cooling to prevent pressurization of the upper plenum and prevent core uncover.

ETP-ZZ-01320, REV3

Mechanical Plugging of Steam Generator Tubes

Procedure controls installation of mechanically installed roll expanded plug used to remove a steam generator tube from service by plugging both its inlet and outlet. Tubes may be plugged following eddy current indication or for preventative reasons.

The results of the vendor's Westinghouse Model F steam generator roll plug test program confirm the leak and structural adequacy of the plug-to-tube joint. The rolled plugs are fully qualified for installation in all Westinghouse Model F steam generators. The use of a rolled plug will not affect any safety systems or a system important to safety.

ETP-ZZ-ST007, REVO
Pressure Reactivity Test

Procedure raises RCS pressure to 2247 psig and lowers it to 2225 psig for several hours in order to obtain data to determine whether RCS pressure has significant effect on core reactivity.

The maximum pressure for this test was selected to assure that, when pressure is raised, it will be bounded by the assumptions of the accident analysis in the FSAR. Technical Specification Table 3.2-1 requires that indicated pressurizer pressure be maintained greater than or equal to 2220 psig. This is above the minimum assumed in FSAR 15.0.3.2. Therefore, a low pressure of 2225 psig was selected for this test. Pressure will be varied by leaving the master pressure controller in automatic and adjusting the setpoint. This will affect the setpoint of valve BBPCV0455A whose purpose is to maintain pressure to prevent the safety valves from opening. The setpoint of BBPCV0455A during this test will be 2225 psig, well below the 2485 psig setpoint of the pressurizer. Thus, BBPCV0455A will be able to perform its function throughout the test which lowers pressure will lower the setpoint of BBPCV0455A which also will not impair the ability of this valve to perform its function. Although Technical Specifications require this valve remain operable, no setpoint is specified. Therefore, it can be concluded that it will be operable throughout the test. This test only varies pressure within the range assumed in the FSAR.

OTN-BN-00001, REVO
Borated Refueling Water Storage System

Install mechanical bypass from Containment ILRT system providing Central Chilled Water to heaters on exterior of RWST.

Central chilled water system serves no safety function. Temporary cooling must be installed to maintain RWST below 100 deg F; thus, preventing plant shutdown. Temporary cooling does not affect any safety-related portion of any system. It does not prevent any of the affected systems from performing their design function. Switching conducting medium from steam to chilled water will pose no problem operationally for heat system after cooling is removed. Cooling water is not in contact with tank contents, thus preventing in dilution of contents. Cooling will enhance RWST and ECCS to ensure peak clad temperature during LOCA is below limits. Connection of hoses will affect seismic qualification of tank. Temporary cooling will ensure compliance with Technical Specifications.

OTS-KE-00028, REV2

NLI-1/2 Spent Fuel Shipping Cask Handling and Loading Procedure

The top of NLI-1/2 cask, which holds six fuel rods, is to be raised to the edge of the cask loading pit. An alignment pin will be removed from an incorrect position, installed in the proper position, and then the cask will be lowered back to the cask loading pit floor. The cask lid will not be installed during this operation. The configuration is an operation that is outside the FSAR description.

In the event that a cask in this configuration were to drop from the top of the cask loading pit to the floor, the resulting consequences are bounded by FSAR 15.7.4 and 15.7.5 analyses. The NLI-1/2 cask only contains six fuel rods rather than 264 rods that exist in an assembly. The fuel rods were discharged in 1987 which results in a fission product inventory significantly less than that assumed in the fuel handling accident analysis. Although only approximately 2 feet of water are over the fuel rods, due to the significantly smaller number of rods, the consequences of less water are more than offset. In addition, due to use of approved plant procedures, the probability of a cask drop is not increased.

RFR 07755A

Revise Setpoint for BM-PIC-0072 (Blowdown Flash Tank)

Revise setpoint listed in Callaway Equipment List (CEL) for pressure indicator controller located on blowdown flash tank outlet vent to atmosphere.

No physical setpoint changes are required. The CEL is revised to match the present plant setpoint. Revised setpoint in conjunction with the procedural method of operation is consistent with design requirements.

RFR 08718A

Signal Source for Phase Reference Generator Assembly

Drawings M22AC01 and M22AC03 which appear in the FSAR are revised to correctly depict as-built condition. Signal source for phase reference generator assembly is shown to be on bearing #2 of the main turbine, but the correct signal source is bearing #3.

Plant drawings are merely revised to correctly depict as-built condition of the plant. No changes to any plant equipment results. Whether component is mounted to bearing #2 or bearing #3 does not change its intended function. A detector at either position will provide an adequate reference for the phase angle measurement. The component is not safety-related, and its

function does not enhance or interfere with nuclear safety. "The turbine generator has no safety function and has no safety design basis." (Ref: FSAR 10.2.1.1)

RFR 08728B

Revise Secondary System pH Alarm Setpoint

Revise upper and lower alarm setpoint on pH recorder for following sample points: condensate pump discharge, low pressure feedwater, steam generator feedwater, steam generator blowdown. Current alarm setpoints for these sample points results in pH alarms coming in while chemistry pH is within the control band.

Chemistry control bands and operating limits are unchanged. Chemistry technician will continue to have valid pH alarm indication. No change to any chemistry parameters in the secondary system.

RFR 08911B

Install Corrosion Monitor of Service Water and Circ Water Systems

Permanently mount RCS-8 corrosion monitor on rack where it is currently used to monitor water conditions in Circulating and Service water systems. Also route conduit and phone line to allow remote operation via modem.

Circulating and Service water systems perform no safety function. Modification does not affect any safety-related system, structure, or component.

RFR 09034A

Evaluation of Emergency Diesel Fuel Oil Day Tank Level Instrument Scaling

Revise scaling and setpoints of Emergency Diesel Fuel Oil day tank level transmitters to make scaling more consistent with specific gravity of fuel oil that actually exists in the tank. This will also require recalculation of the setpoints for the level switches which receive signal from these transmitters.

New scaling values and setpoints were calculated using methodology (J-UGEN) to determine instrument uncertainties and even included an allowance for transmitter response time which will affect the setpoints. Bases for new setpoints are same as for existing setpoints, and since all instrument uncertainties and process uncertainties are accounted for, this change will have no effect on function of any component. Since change only involves adjustments to bistables in these instrument loops, the possibility of an accident different than any already evaluated in

the FSAR is not created. Indicator reading used to verify compliance with Technical Specification will become more accurate as a result of this change.

RFR 09076B

Install Safety Line on Radwaste Bridge Crane

Install personnel tie-off safety line to bottom of bridge girders on the radwaste building bridge crane.

No safety-related systems, equipment, components, or structures are affected by this modification. Modification may be installed and operated without increasing personnel radiation exposure beyond normal operating and maintenance activities. Safety line does not affect operation of the crane.

RFR 09130A

Change UHS Low Level Alarm Setpoint

Change low level alarm setpoint for the ultimate heat sink (UHS) from plant elevation 1992' 0" to 1993' 2" to maintain the minimum water volume in required in the UHS by Technical Specification 3.7.5.

The existing low level alarm warns the reactor operator that the UHS level has been reduced to below the automatic makeup point and is approaching the Tech Spec limit. Since low level switch performs no other function than to control an annunciator, no control function is affected by this change. Also, since the alarm setpoint is being increased, it will actuate at a more conservative volume than what exists now. Therefore, the minimum required volume is more certain to be maintained.

RFR 09154B

Replace Insulation on Roof of Condensate Storage Tank

Replace insulation on condensate storage tank with sprayed urethane foam and acrylic rubber.

More heat loss can be expected out the top of tank, but this will be minimal and will not affect the ability of the heating coils to maintain the 50 F tank temperature. Condensate storage and transfer system serves no safety function and has no safety design basis. Volume of water in tank will not be affected. Exposure fire in area of condensate storage tank will not prevent safe shutdown of plant.

RFR 09430A

Change Sulfuric Acid Day Tank Refill Level Setpoint

Change setpoint for automatic makeup by sulfuric acid transfer pumps to sulfuric acid day tank. Acid is gravity drained via a hose in the event both metering pumps are out of service. Reduced operating range of tank level will reduce undesirable flow variations in acid flow rate due to changes in tank driving head.

No part of any system associated with this setpoint change is safety related, and no part of this system is required for safe shutdown of the plant. Change in setpoint will have little or no impact on consequences of failure of the system. No part of any system associated with this setpoint (i.e., Circulating Water Chemical Control) is described in the FSAR, considered in accident analysis or covered by Technical Specifications.

RFR 09637A

Rescaling of Water Treatment Plant Sleeve Valve Controller

Rescale output circuit cards for cooling tower basin level control. System design requires controller's output control only one valve to supply the necessary makeup water to the basin.

Cooling water system serves no safety function and has no safety design basis. Water treatment plant has no safety design basis. Cooling tower basin level control is not necessary or taken credit for any FSAR accident analysis. Circuit cards and valves that control the water flow to the cooling tower basin are all classed non-safety.

RFR 09834B

Revise Label on Annunciator Window

Delete annunciator window F-65 ("ERFIS INITIATE") from ERFIS logic. Window will be reused for new operator "programmable" alarm and will be relabeled "OPERATIONAL PARAMETER SETPOINT." ERFIS INITIATE function has been duplicated by the "EVENT=" field on the computer terminal status line and is unnecessary. This window can be used to satisfy operators' request for a "programmable" alarm. Alarm will be programmed from a template display on the plant computer allowing the reactor operator to enter his selection of computer points and alarm values. This allows operator to use plant computer to monitor selected parameters at setpoints deemed important.

Annunciator nor plant computer is safety-related and does not perform a function other than indication. Modification does not involve any equipment important to safety. ERFIS nor annunciator

window are addressed in Technical Specifications. Small additional load placed on plant computer to process operator alarm will not reduce its ability to process the existing Technical Specification functions.
