

SECTION 9

SAN ONOFRE NUCLEAR GENERATING STATION

UNITS 2 AND 3

FACILITY CHANGES IMPLEMENTED FOR THE PERIOD
FROM MAY 9, 1999 THROUGH FEBRUARY 3, 2001

Barrier Program Evaluations

SONGS 2 & 3 Hazard Barrier Program

Control of SONGS 2 & 3 hazard barriers is governed by plant procedure, which describes the responsibilities of individuals and work groups with respect to the breaching of plant hazard barriers. Hazard barriers are doors, walls, floors, ceilings, plugs, hatches, gates, manhole covers, penetration seals, etc., that protect plant equipment from fires, flooding and other hazards.

Given a planned work scope requiring a barrier breach, a 10CFR50.59 Hazard Barrier Safety Evaluation identifies the hazard barrier function of the hazard barrier and determines suitable compensatory measures such that no unreviewed safety question exists with regard to the propagation of the hazard through the barrier breach. Once the work scope is complete the hazard barrier is restored.

Breaches of Plant Barriers

During the time period from May 9, 1999 through February 3, 2001 approximately 422 10CFR50.59 Hazard Barrier Safety Evaluations were completed in support of planned barrier breaches. As discussed above, 10CFR50.59 Hazard Barrier Safety Evaluations are performed for work requiring a barrier breach; the 10CFR50.59 Hazard Barrier Safety Evaluation identifies the hazard barrier function of the hazard barrier and determines suitable compensatory measures. The compensatory measures are implemented such that the plant is not in an unanalyzed configuration during the performance of the work activity, while the barrier is breached. Once the work activity is completed, the barrier is restored and no longer breached.

10CFR50.59 Hazard Barrier Safety Evaluations are prepared in support of breaches to both movable and fixed hazard barriers. Certain types of hazard barriers can be opened and closed, such as doors, plugs, hatches, and manhole covers, and these features are part of the licensed plant design; opening and closing such movable barriers does not constitute a change to the plant design. Certain types of hazard barriers are fixed, such as walls, floors, ceilings, and penetration seals; they cannot be readily opened or closed. Breaches of these types of barriers are changes to the facility and are also documented via the design change process.

10CFR50.59 Hazard Barrier Safety Evaluation Conclusions

For each planned activity, accidents involving design basis events were reviewed. The planned activities were implemented consistent with the restrictions, limitations, and compensatory measures described in the 10CFR50.59 Hazard Barrier Safety Evaluations, ensuring that the consequences of the original accident analyses remain bounded. The planned activities were conducted so as not to degrade structures, systems, or components or to adversely affect any environmental qualification criteria, providing assurance that required safety related and important to safety equipment were able to perform their intended safety functions. Appropriate restrictions, limitations, and measures were maintained during the barrier breach to compensate for any design basis protective functions of the affected barrier. The probability of occurrence, or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Evaluation Report (UFSAR), were found not to increase as a result of the planned activities.

The reviewed activities involved opening and maintaining open plant barriers. With the restrictions, limitations, and compensatory measures described in the 10CFR50.59 Hazard Barrier Safety Evaluations, the safety functions of the affected barriers were maintained to provide adequate assurance that the barrier would perform its intended safety function. With the barrier's function maintained and without affecting the operation of any plant system, the proposed activity does not create the possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR.

With the restrictions, limitations, and compensatory measures in-place as described in the 10CFR50.59 Hazard Barrier Safety Evaluations, the safety functions of the affected barriers were maintained to an appropriate level of protection. Actions, if required by Technical Specifications or Licensee Controlled Specifications, were also implemented during the work activities. In addition, safe work practices were conducted in the affected areas. Therefore, the evaluated activities did not reduce the margin of safety as defined in the basis for any Technical Specification or Licensee Controlled Specification.

5059Barrier

SECTION 10

SAN ONOFRE NUCLEAR GENERATING STATION

UNITS 2 AND 3

**FACILITY CHANGES IMPLEMENTED FOR THE PERIOD
FROM MAY 9, 1999 THROUGH FEBRUARY 3, 2001**

Offsite Dose Calculation Manual (ODCM) Revisions

Unit 2/3 ODCM REVISIONS

Title: Offsite Dose Calculation Manual (ODCM) Revisions

Description:

These ODCM revisions implement the following changes:

Rev 34 / Issued November 9, 1999

Reflects changes in radiation monitor instrumentation under design change package 6926. Instrumentation replaced under the design change includes 2/3RT-7808 (common Plant Vent Stack noble gas monitor) and liquid effluent monitors [2/3RT-7813, 2(3)RT-7817, and 2(3)RT-7821]. Associated changes included modifying the setpoint equation for liquid monitors to exclude Xe-133, crediting the automatic check of the reference source by the new digital monitors as a source check, and use of a digital acquisition system to collect, process, and store information from the radiation monitors. In addition, instrumentation tables were revised to include the existing process flow instrumentation for liquid radiation monitors.

Safety Evaluation:

These new liquid effluent monitors are designed to alarm and terminate discharges before concentrations in the unrestricted area exceed the 10 CFR 20 limits. Liquid effluent monitors are independent systems powered from the Non-1E instrument bus. Malfunction of an individual monitor or loss of all effluent monitors is a credible event described in the UFSAR. There are no other changes to the effluent control program for liquid releases nor will there be any increase in either the amount of liquid or airborne discharges. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this ODCM revision. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This ODCM revision has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Rev 35 / Issued February 29, 2000

Adds a new setpoint equation for particulate monitors at the South Yard Facility, a building constructed in 1995 to house refurbishment of equipment and radioactive material handling activities. Also adds the digital acquisition system used to collect, process, and store information from the radiation monitors at the South Yard Facility to the instrumentation tables for airborne monitors.

Safety Evaluation:

The incorporation of a particulate monitor setpoint methodology at the South Yard Facility ensures compliance with ODCM specifications and provides additional assurance that the margin of safety in the ODCM is maintained. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), will not increase as a result of this ODCM revision. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This ODCM revision has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

SECTION 11

SAN ONOFRE NUCLEAR GENERATING STATION

UNITS 2 AND 3

FACILITY CHANGES IMPLEMENTED FOR THE PERIOD
FROM MAY 9, 1999 THROUGH FEBRUARY 3, 2001

Control of Core Protection Calculator (CPC) Constants and
Core Operating Limit Supervisory System (COLSS)
Addressable Constant Changes

Control of Core Protection Calculator (CPC) Constants

Numbers: 2-00-001 and 3-00-001

Description:

CPC constants BERR1 and BERR2 were increased to recover reserve margin that had been previously released to accommodate possible year 2000 (Y2K) rollover issues and to further increase reserve margin for possible emergent Unit 2 Cycle 11 reload analysis issues.

Safety Evaluation:

Increasing CPC constants BERR1 and BERR3 is conservative and will result in more a more conservative calculation of DNBR and Local Power Density (LPD). The design bases of the CPCs (i.e., reactor protection based on the calculation of Departure From Nucleate Boiling (DNBR) and LPD) is maintained well above the design limits. Since the new BERR1 and BERR3 constants are more conservative, there is no challenge to reactor protection. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change had no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Control of Core Protection Calculator (CPC) and Core Operating Limit Supervisory System (COLSS) Addressable Constants Changes

Numbers: CPC Constant Changes 2-99-004 and 3-99-005
 COLSS Constant Changes 2-99-001 and 3-99-001

Description:

CPC constants ARM1 and BERR1 were adjusted to restore DNBR margin due to the declining value of Fxy during Cycle 10 operation.

Safety Evaluation:

Decreasing BERR1 and decreasing the multiplier (ARM1) on the ARO peaking factor resulted in a less conservative calculation of DNBR and LPD. However, decreasing the value of BERR1 was permissible because it was originally set more conservatively than required in order to provide reserve margin and the new value is still greater than the minimum required value. Reducing Fxy was determined to be acceptable because the All Rods Out (ARO) radial peak had burned down to the extent there is an unnecessarily large Fxy margin. The new radial peaking factor was still bounded by the Technical Specification SR 3.2.2.1 surveillance limits for radial peaking factor. The design bases of the CPCs is maintained and there is no challenge to the reactor protection system as the result of this change. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change had no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

**Control of Core Operating Limit Supervisory System (COLSS) Addressable
Constants Change**

Numbers: 2-00-002 and 3-00-002

Description:

COLSS input cross-check computer alarm setpoints K9046 (A5) and K9048 (A11) were adjusted to levels consistent with recent operating experience. These changes eliminated continual nuisance alarms associated with COLSS Thot and turbine first stage pressure inputs during operation.

Safety Evaluation:

The cross-check computer alarm setpoints were intended to identify gradually degrading COLSS inputs and were not used in COLSS calculations or outputs. The new cross-check alarm threshold settings reflect the current operating conditions and provide margin for natural signal fluctuations thereby allowing the cross-check alarm to be restored to service. There is no change in the design basis of COLSS and the functionality of COLSS is improved by restoring the cross-check alarm to service. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change had no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Control of Core Operating Limit Supervisory System (COLSS) Addressable Constants Change

Number: 3-01-001

Description:

The COLSS Feedwater Flow Venturi Constants (K9660 and K9661) were adjusted to match more accurate ultrasonic flow measurements of main feedwater flow.

Safety Evaluation:

A more accurate input of feedwater flow rate is provided to COLSS. The design bases and the functionality of COLSS was not changed. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change had no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

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SECTION 12

SAN ONOFRE NUCLEAR GENERATING STATION

UNITS 2 AND 3

**FACILITY CHANGES IMPLEMENTED FOR THE PERIOD
FROM MAY 9, 1999 THROUGH FEBRUARY 3, 2001**

Field Change Notices (FCNs)

Unit 2/3 FCN F-20194M

Title: Containment Isolation Valve (Check Valve) in the Nitrogen Supply Line into Containment

Description:

The Kerotest check valve S22418MU002 (the containment isolation valve in the nitrogen supply into containment) was replaced with a Borg-Warner spring loaded check valve to improve check valve performance and reliability.

Safety Evaluation:

The flow and check and all other appropriate design characteristics of the replacement Borg-Warner valves satisfy the design requirements for this application. Additionally, the nitrogen system does not perform any safety function. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2/3 FCNs F20841E, 20842E, F22099E, F21194J, F21195J, F21196J, F21197, F21198J, F21199J, F21200J, and F21201J

Title: Vital Bus Inverters 2(3)Y001, 2(3)Y002, 2(3)Y003, and 2(3)Y004 Volt Meters

Description:

The vital bus inverters 2(3)Y001, 2(3)Y002, 2(3)Y003, and 2(3)Y004 analogue volt meters were replaced with digital volt meters.

Safety Evaluation:

This replacement enhanced meter accuracy and readability. The new digital meters were separated from the circuits they were measuring by the same protective fusing and circuitry as the previous analogue meter. The meters do not perform any safety function, and a meter failure will not cause a failure of vital bus inverters 2(3)Y001, 2(3)Y002, 2(3)Y003, or 2(3)Y004. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2/3 FCN F14911E

Title: Sequence Event Recorder (SER)

Description:

An SER was installed in the Unit 2 and 3 switchyard to monitor grid disturbances and evaluate their effect on SONGS equipment and systems. Installation of this SER is in direct response to the large disturbance that occurred in the Western States Power Grid on August 10, 1996.

Safety Evaluation:

The SER was installed to facilitate the monitoring of grid related disturbances that may affect San Onofre. The SER is non-safety-related with no interaction with safety-related equipment either electrically or physically. The SER is designed to Seismic Category II requirements. There is no increase in the potential for a loss of offsite power event at San Onofre. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2 FCN F20878M

Title: Main Steam Relief Header Drain Line to Atmosphere Valve

Description:

Main steam relief header drain line valves S21301MR1024 and S21301MR1015 were relocated to a more accessible and operationally safe area.

Safety Evaluation:

There was no change to the size nor capacity of the drain lines and valves. The main steam relief header drain lines and valves S21301MR1024 and S21301MR1015 have no design basis safety-related function and are not credited for mitigation of any design basis accident. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2/3 FCNs F20935J and F20946J

Title: Control Room Indication for the Component Cooling Water (CCW)
Miniflow Valves

Description:

Indication and switches for the CCW miniflow valves were removed from the control room.

Safety Evaluation:

To ensure adequate cooling flow during postulated accident conditions, the CCW miniflow valves are required to be closed during any design basis event. To preclude the possibility that one or more CCW miniflow valves could spuriously open during a design basis event, these valves were previously de-powered and placed in their closed position. Since control room switches and indication were no longer required, control room switches/indication for CCW miniflow valves were removed. Removing the control room switches/indication for the CCW miniflow valves, when combined with depowering the CCW miniflow valves, ensures these valves are always in their correct position for all design basis events. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Units 1, 2 and 3 FCN F20385E, F21026E, F22830E, and F22868E
(ARs 000300586, 000800969, and 000901426)

Title: Lighting for the Protected Area (PA) Boundary Separating Unit 1 from Units 2 and 3 & Closed Circuit Television (CCTV) Cameras Installation Along the New Protected Area (PA) Boundary

Description:

Lighting for the new PA Boundary separating Unit 1 from Units 2 and 3 included the following electrical changes:

1. A new non-safety related lighting distribution panel in the Turbine Building area with its corresponding 25 KVA single-phase dry-type transformer and associated conduits and feeder cable coming from the Unit 2 and 3 non-1E UPS bus
2. New lighting fixtures; rewired existing lighting circuits to the new panel and upgraded/replaced lighting fixtures.
3. Raceways along the new PA Boundary for future cable connections.

New CCTV cameras and security lighting were installed along the new PA boundary between Units 2/3 and Unit 1.

Safety Evaluation:

NRC approval of exemption requests to eliminate the Unit 1 PA was received in advance of the proposed modification. The new PA boundary around Units 2/3 contains all Unit 2/3 Vital Areas as required by the Physical Security Plan. The modification transferred the power source for PA Boundary Lighting from a Unit 1 supply to a new Unit 2/3 supply to support the decommissioning of Unit 1. Only non-safety related equipment was modified by this change. The functional operation of the Security Lighting System is unchanged.

The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2 FCN F21291M, F22068E, and F22069E

Title: Steam Moisture Separators/Reheaters (MSRs) External Piping

Description:

MSR external piping was modified and the high-pressure bundle temperature thermocouples for MSR E-112 and MSR E-113 were modified as is part of a total work scope to improve the MSR moisture separation and removal capabilities to the latest industry standards to preclude potential turbine damage.

Safety Evaluation:

The MSR modifications did not affect the turbine overspeed protective trip functions (electrical and mechanical) in any way and reduced the potential for long-term turbine degradation. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications; thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 3 FCN F21771E

Title: Resistive Thermal Detector (RTD) in the Emergency Diesel Generator (EDG) Stator Winding

Description:

RTD element #3 in the EDG 3G003 stator winding was jumpered-out.

Safety Evaluation:

The EDGs are provided with 6 RTDs per generator, 2 in each of three phases of the stator. The RTDs monitor local stator temperature and are connected to a local temperature indicating relay (K29) which provides high temperature alarm and trip functions for the EDG. This trip function is a non-critical protective feature of the EDGs and is bypassed during emergency operation. After this modification, each stator phase still has a minimum of 1 RTD that will continue to provide the non-critical alarm and trip functions. The thermal protective features of the EDG remain functional.

The RTD removed from service does not have any effect on the safety related functions of the EDG. As previously stated, all EDG non-critical protective trips are bypassed during emergency operation. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2/3 FCN F21797E

Title: Protective Fuses for Boric Acid Makeup (BAMU) Pump P174

Description:

Fuses were added and other fuses replaced to ensure that a fault in the non-safety-related portion of the control circuit for BAMU pump P174 will not cause the safety injection function of P174 to be unavailable.

Safety Evaluation:

Fuses were added to isolate postulated faults in the non-safety related portions of the control circuitry for P174 from the safety-related portions. The modifications did not affect the pump itself nor the manner in which it responds to design basis conditions. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2/3 FCNs F22373E, F22374E, F22375E, and F22376E

Title: Protective Fuses for Digital Fault Recorders (DFR)

Description:

Protective fuses were added between the non-safety-related DFRs and the safety related equipment they monitor.

Safety Evaluation:

Digital Fault Recorders are a non-safety-related electrical diagnostic tool and are not required for plant operation. Fuses were added to isolate postulated faults in the non-safety related portions of the DFRs from the safety-related portions of equipment they monitor. Adding protective fuses did not affect the operations of interfacing safety-related equipment and eliminated the potential for a fault in non-safety-related DFRs from causing safety-related equipment from becoming inoperable. A fault in the safety related portion would continue to be monitored by the DFRs. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2/3 FCNs F-20622M and F20627M

Title: Auxiliary Feedwater (AFW) Turbine Steam Supply Check Valves

Description:

Tilting disc check valves were replaced with flanged-end, normally-open nozzle check valves in the AFW Turbine steam supply lines.

Safety Evaluation:

Due to very low steam flow during AFW standby operation, the previously existing tilting disc check valves continuously oscillated from open to closed. This caused accelerated wear of the valve hinge pins, pin bushings, valve seats, and disc seating surfaces. The replacement valves are flanged-end, normally-open nozzle check valves, which are provided with springs to hold the valve in the open position during normal (non-backflow) conditions. This design prevents valve oscillation during normal operation and improves system reliability.

The AFW systems for Units 2 and 3 are provided with check valves in the steam supply line from each of the two steam generators. These check valves have two safety functions: In the event of a postulated main feedwater line rupture or a main steam line break, the check valves will (1) limit the amount of steam backflow from the intact steam generator to the affected steam generator, and (2) open when needed to supply steam flow to the AFW turbine. For this modification, the replacement valves were chosen to ensure that all valve flow parameters remain bounded by the original system design. Additionally, a postulated failure of the valve spring will not prevent the valve from performing either safety function. System reliability was increased. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2/3 FCNs F22098E, F22099E and F22100E

Title: Protective Fusing for Level Control Circuits for the Volume Control Tank (VCT) and the Refueling Water Storage Tank (RWST)

Description:

Protective fusing was added between safety- and non-safety-related portions of the level control interlock circuits for the VCT and the RWST.

Safety Evaluation:

The functioning of the VCT and RWST level control systems was not modified. The fuses isolate postulated faults in the non-safety related portions of the VCT level control circuit so that the safety related portions of the control circuit may perform their safe shutdown functions. This modification precludes a postulated ground fault in the non-safety related portions of the VCT level control interlock circuit from causing a loss of control power and loss of function to the safety-related portions of the RWST level control system. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2/3 FCNs F21603J, F21604J, F20414J, and F20416J

Title: Chemical and Volume Control System (CVCS) and Flow Transmitters

Description:

Chemical and volume control system (CVCS) Foxboro/Weed flow transmitters were replaced with equivalent, environmentally qualified Rosemount flow transmitters.

Safety Evaluation:

The functioning of the CVCS flow control systems was not modified. The flow transmitters were replaced with like kind equipment. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2/3 FCNs F15269E, F15271E and F15272E

Title: Network Print Stations in the Unit 2/3 Control Room

Description:

An HP 5000 Laserjet printer and an HP 1120C color inkjet printer were installed in the Unit 2/3 Control Room at the common console 2/3CR66.

Safety Evaluation:

The installation of these printers enables Operations to improve work processes and reduce the number of hard copy drawings stored in the Control Room. The printers are powered by the non Class 1E Uninterruptible Power Supply (UPS). The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2/3 FCNs F21311E, F21313E, F21314E, F21315E, F21316E, F21317E, F21318E, F22894E, F23600E, and F23204

Title: Swing Charging Pump Class 1E Transfer Switch Circuit Breaker Modification

Description:

The thermal and magnetic trip functions of the molded case circuit breakers that feed the class 1E transfer switch 2(3)DB0410 to the swing charging pump were disabled. The disabling of the automatic trip features of the circuit breakers converted the circuit breakers into disconnect devices as described in electrical drawings and UFSAR section 8.3.1.1.3.5.

Safety Evaluation:

UFSAR section 8.3.1.1.3.5 and electrical drawings describe the class 1E transfer switch 2(3)DB0410 as a manual transfer switch. Inspection of the transfer switch revealed automatic circuit breakers were installed instead of non-automatic circuit breakers or manual switches. The disabling of the automatic trip functions of the molded case circuit breakers feeding the transfer switch converted the breakers into disconnect devices as described in the Updated Final Safety Analysis Report (UFSAR) and design documents. Electrical protection from sustained overload conditions is provided in the upstream load center circuit breaker and is coordinated to provide selective tripping that precludes malfunction of other equipment important to safety if there is a fault on the swing charging pump circuit. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the UFSAR, did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2/3 FCN F21173E

Title: Engineered Safety Features (ESF) Battery Rooms HVAC Heater

Description:

The existing 67.4 kW heaters in the ESF battery room HVAC system were replaced with 46.1 kW heaters.

Safety Evaluation:

The new 46.1 kW heaters in the ESF battery room HVAC system satisfy the Technical Specification 3.8.6.B requirement to maintain the electrolyte temperature of representative cells above 60°F. In addition, this modification enhances the ability of the batteries to attain normal service life since they can maintain the ESF battery room temperature below the vendor prescribed yearly average of 77°F. The reliability and availability of the ESF battery room HVAC system is enhanced by the reduction in replacement of heating elements. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2/3 FCN F20193M

Title: Degraded Type 2 Cerablanket Fire Barriers

Description:

Degraded Type 2 Cerablanket Fire Barriers were replaced with Type 2 3M E50 Series Fire Wrap.

Safety Evaluation:

The replacement of the Type 2 Cerablanket material with Type 2 3M E50 material did not decrease the level of fire protection provided for the Appendix R Safe Shutdown circuits. This modification improved the capacity of the circuits and did not adversely affect the raceway supports. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2/3 FCNs F8234J and F8235J

Title: Minimum Condensate Storage Tank Temperature

Description:

The minimum temperature for the Condensate Storage Tank (T-121) from was changed 70°F to 40°F.

Safety Evaluation:

Reducing the minimum temperature of the Condensate Storage Tank T-121 from 70°F to 40°F resulted in no detrimental effect on the performance of the auxiliary feedwater system (AFW), AFW instrumentation, AFW and main feedwater piping and supports, T-121 level instrumentation, or the steam generators. The Condensate Storage Tank T-121 low temperature alarm setpoint was changed from 70°F to 46°F and the T-121 room heater controller lower setpoint range was lowered to 50°F from 75°F. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2/3 FCN F20430E and F20435E

Title: Y001/Y002 Inverter and Emergency Feedwater Actuation

Description:

This modification prevents inadvertent initiation of emergency feedwater actuation upon loss of either vital bus inverters Y001 or Y002.

Safety Evaluation:

This modification changed the subgroup relay assignments in the emergency feedwater actuation system for valves HV-4712 and HV-4714 to prevent the inadvertent initiation of emergency feedwater into the steam generators caused by a loss of either the Y001 or Y002 vital bus inverters. The configuration was revised such that no single loss of vital buses will provide a path for inadvertent emergency feedwater injection into the steam generators. With implementation of these FCNs, loss of Y002 will still result in starting of the steam driven AFW pump P140 and opening of HV4712 and HV4705. However, no emergency feedwater will be added to the steam generators because AFW valves HV4714 and HV4730 (associated with Y001) will still remain closed. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2 and 3 FCNs F21651E, F21652E, F24206E, and F24207E

Title: 800 MHZ Radio System Upgrade

Description:

The Unit 2 and 3 800 MHZ Ultra High Frequency (UHF) radio system was modified, including panels, antennas, cables and communication devices.

Safety Evaluation:

These modifications provide better communication coverage, especially for Control Room, Turbine Buildings, and offsite communication. This communication system is an independent system operating on a non 1E uninterruptible power source and has no physical interaction with other plant equipment. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2 FCN F22346M

Title: Fuel Oil Day Tank

Description:

An extension was added to the fuel oil day tank sample line.

Safety Evaluation:

Sampling procedures will utilize the same valve as currently used, and existing controls on that valve will be maintained. This change is limited to adding an extension to an existing pipe nipple that is located downstream of a locked closed safety related boundary valve. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2 FCN F8227J & F8228J

Title: Spent Fuel Pool (SFP) Temperature Control/Alarm Setpoint Change

Description:

Margin to the setpoint on the SFP temperature control/alarm was added.

Safety Evaluation:

This modification lowered the SFP temperature setpoint to a new value to account for instrument uncertainties. This change actuates the alarm setpoint and purification pump cutout switch at a lower, and more conservative, temperature. This change will increase assurance that the SFP temperature limit will not be exceeded. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This modification has no effect on either the existing Limiting Conditions for Operation or the Surveillance requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2 and 3 FCN's F15424E and F15426E

Title: Main Turbine Axial Thrust Bearing Wear Turbine Trip Signal

Description:

The main turbine axial thrust bearing wear turbine trip signal was removed to prevent spurious actuation. Due to the rotor upgrade, the previous thrust wear trip settings required adjustments to levels that could only be determined following stable operation of the turbine.

Safety Evaluation:

The pressure transducers used to initiate the thrust bearing wear trip and alarm were dedicated to the bearing wear function and are not credited for the IEEE 279-1971 requirements for overspeed. Wear of the turbine thrust bearing to an extent requiring immediate action should not occur under normal conditions due to minimal axial loads being applied by the rotor design flow path and the protection that the lube oil system provides within the bearing design. Movement in the axial direction beyond design allowances will not impact functioning of the turbine overspeed protection features. Therefore, removing the thrust bearing turbine trip signal did not effect the functioning of any of the other turbine trip functions. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2 and 3 FCN F16705M

Title: Condenser Backpressure Turbine Trip

Description:

The administrative controlled condenser backpressure turbine trip restriction was increased from 6.5" Hg A to 9.1"HgA at 100 % power to provide a wider trip margin during normal operation and during heat treats. The setpoint on 3PSL 3335 was increased from 4.0" HgA to 7.5" HgA to support plant operation with condenser back pressure above 6.5"HgA and to ensure that the vacuum pump will continue to operate with the air assist ejectors. This ensures cooler temperatures at the discharge of the vacuum pump. The heat tracing setpoints were raised for the 3RE-7870 sample flow filters.

Safety Evaluation:

During the Cycle 10 refueling outage a new programmable logic controller (PLC) was installed in Unit 3 to provide a turbine trip on low condenser vacuum that varies based on turbine load. The maximum setpoint of 9.1"HgA at 100% load compares with the previous fixed setpoint of 6.5"HgA above 70% load. The increase in condenser back pressure increased the condensate and air ejector/vacuum pump exhaust temperatures. Margin existed in the original analysis and design to accommodate the increased temperature.

The 7.5" HgA setpoint for 3PSL 3335 ensures that exceeding component design temperatures will not occur. The 3RE7870 monitors are located in the turbine building and are not a credible initiator or contributor to any accident evaluated in FSAR Chapter 15 including Steam Generator Tube Rupture (SGTR). The function of 3RE7870 monitor is to provide the operator with early detection of SGTR. All temperature and operational concerns related to these changes were evaluated and determined to not have an unacceptable impact in the system because all piping and components will operate within their design margins. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

FCN's F20693J, F20694J

Title: Explosive Gas Monitoring Hydrogen and Oxygen Alarm Setpoints

Description:

The Explosive Gas Monitoring high hydrogen alarm setpoint was changed from 3.25% to 3.0% and the oxygen alarm setpoint was changed from 2.0% to 1.0% for the Waste Gas analyzers to incorporate Total Loop Uncertainty (TLU).

Safety Evaluation:

The Standard Review Plan (SRP) guideline is to dilute an explosive hydrogen mixture upon receipt of a High-High alarm (4% hydrogen) for systems designed to control oxygen concentration alone. The previous configuration contained extra conservatism and margin since dilution was initiated on receipt of the High alarm (1% hydrogen). The new setpoint of 3% accommodates the TLU associated with the analyzer such that the alarm would occur prior to exceeding 4% hydrogen. There are no new or different system interactions, functions or operating conditions created from lowering the setpoints for the Explosive Gas monitoring system because the changes only affect the threshold of the instrument response. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

FCN's F22430E

Title: Unit 2 and 3 Control Circuits for the Recirculating Water Pumps and the Discharge Valves

Description:

A bypass of the permissive (interlocks) was installed to start the circulating water pumps (P115 thru P118) and electrically open the discharge valves (HV-5288 through HV-5291).

Safety Evaluation:

A bypass switch was added on the door of 4KV breaker cubicle for each pump. Each discharge valve control circuit was re-wired to allow the valve to be opened locally by the electrical OPEN switch, bypassing the vent valve interlock. The changes eliminated the need to install jumpers, as per Operations procedure, to bypass interlocks. The circulating water system is not a safety system, is not required to mitigate an accident, is non-Class 1E, and this modification has no impact on the diesel loading. Any unauthorized use will be alarmed in the control room. These changes do not later the performance of barriers credited in the safety analysis, nor adversely affect the radiological dose rate to the public, nor is the normal operation of the circulating water system altered. Therefore, there is no increase in the probability of causing Loss of Condenser Vacuum flow event due to loss of circulating water flow. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2 and 3 FCNs F24875J, FCN 24876J, and F8254J

(AR 010200171)

Title: Control Logic for Main Turbine Low Vacuum Trip and Alarm
Programmable Logic Controller (PLC)

Description:

The methodology for handling the three pressure transmitters that generate condenser vacuum setpoints for turbine trip was changed. The modifications allow a single transmitter to reset itself into service when the transmitter value returns to within the acceptable deviation band and stays there for a period of thirty seconds. The time delay for reinstatement ensures that a marginal transmitter bouncing around the deviation setpoint will not be cycled in and out of the PLC calculation for variable back pressure setpoint generation. The man machine interface (MMI) display was also modified to display group related vacuum pressure transmitters together for ease of operation.

Safety Evaluation:

The turbine trip circuitry is not safety related, is not relied on to mitigate the consequences of an accident, and does not directly interface with nor have any impact on the overspeed protection system or rotor. The assumptions and consequences of events bounded by the loss of condenser event in UFSAR Chapter 15 do not depend on crediting the turbine vacuum trip, and therefore are unaffected. This change continues to allow the turbine trip and alarm setpoints associated with low condenser vacuum to vary with turbine load as per the original design. The original design requiring two transmitters as the source of information in calculating turbine power and the need to manually reset when all three transmitters are locked out is retained. This change results in less spurious alarms during normal plant start-ups, shutdowns, and normal turbine valve testing. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2/3 FCNs F14949M to 41610M

Title: Electric Water Heaters (EWH) ME646 and ME644

Description:

Electric water heaters ME646 and ME644 were replaced on the roof of the Auxiliary Control Building.

Safety Evaluation:

The new water heaters require less heating capacity as compared to the previous units. All affected electrical calculations have been revised and shown to have no adverse impact on the existing electrical systems. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2/3 FCNs F15480E, F15481E, F15483E

Title: Salt Water Cooling (SWC) System Normal Discharge Valves 2HV6495 (Train B), 2HV6497 (Train A), 3HV6495 (Train B) and 3HV6497 (Train A)

Description:

The auto-close function of the SWC discharge valves was removed.

Safety Evaluation:

This change prevents a common mode failure which would cause both train valves to close and to remain closed while associated SWC pumps are in operation, rendering both SWC trains inoperable and potentially damaging SWC pumps by deadheading. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2/3 FCN F15554E and F15559E

Title: Condensate Storage Tank T-121 Room Cage Door and Space Heaters

Description:

A cage door was added and the control circuit of the space heaters in the Condensate Storage Tank (CST) T-121 room was modified to allow control of the space heater fan from outside the T-121 room.

Safety Evaluation:

Adding a cage door maintains the structural integrity of the tank T-121 room and allowing control of the space heater fan operation from outside of the T-121 room provides for maintaining the T-121 room temperature. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2 FCNs F15651M to F40151A

Title: Low Pressure Turbine (LPT) Rotor Back Pressures

Description:

Operation of the LPT rotors is allowed at higher back pressures without damaging last stage blades due to buffeting.

Safety Evaluation:

The ability to operate at higher back pressures will allow operation at a higher reactor power during heat treatment of the circulating water channels. The newly installed turbines allow operation at the higher back pressures. Consequently, the new higher allowable setpoints do not compromise the structural integrity of the turbine rotor blades. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications; thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2/3 FCN F16648M

Title: Radwaste Area Addition Ventilation System

Description:

The HVAC units ME701 and ME702 and their associated thermostats were replaced.

Safety Evaluation:

The HVAC units were replaced due to excessive internal corrosion of the previous units. The replacement HVAC units are an updated version of the previously installed units. There is no impact on the function of the Radwaste Area Addition Ventilation System from these changes. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2 FCN F16783M

Title: Unit 2 Nitrogen Injection Points Addition/Inboard of Condenser

Description:

Four new condenser nitrogen injection points were added; one to the inboard side of each hotwell.

Safety Evaluation:

This modification provides only the ability to inject nitrogen gas to the inboard side of the condenser to provide more effective reduction in oxygen concentration in the condensate. The total amount of Nitrogen gas injected into the condenser is not increased by this modification. The consequential reduction in oxygen concentration in the condensate increases plant reliability. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2 FCN F20493M

Title: Component Cooling Water (CCW) Flow to the Emergency Chiller

Description:

CCW flow was throttled to the Emergency Chiller.

Safety Evaluation:

CCW flow to the Train B Emergency Chiller [ME335] may be throttled to less than design flow in support of improved chiller operability. The result of increased throttling is that the Emergency Chillers will be inoperable less frequently than with in-excess-of-design flow. Historically, Emergency Chiller Operability has sometimes been challenged by the combination of excess cooling via the condenser section, due to more than design flow CCW, and CCW temperatures near 55 degrees F. Throttling CCW flow to ME335 will result in a lower band of acceptable CCW supply temperatures that is more appropriate for San Onofre conditions, based on seawater temperatures. Therefore, this change increases the margin to tripping on low refrigerant temperature for ME335. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2/3 FCN F21175E

Title: Emergency Safety Feature (ESF) Battery Room Heaters

Description:

The 67.4 kW ESF Battery Room heaters were replaced with 46.1 kW heaters.

Safety Evaluation:

This change, while meeting the minimum temperature requirements of Technical Specification 3.8.6.B, enhanced the ability of the batteries to attain their normal service life. The replacement heaters have been calculated to satisfy the Technical Specification requirement to maintain the battery electrolyte temperature at or above 60 degrees F. In addition, the replacement heaters enhanced the ability of the batteries to attain a normal service life, since the heaters can maintain the ESF battery rooms at approximately 71 degrees F at winter design ambient, which is below 77 degrees F (EXIDE's prescribed yearly average room temperature). The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2/3 FCN F20706E

Title: Circulation Water Pump Start Sequence

Description:

The starting sequence of the circulation water pumps was changed to bypass the permissive interlocks to start the circulation water pumps and electrically open the discharge valves, eliminating the need to install temporary jumpers.

Safety Evaluation:

There are no changes to the circulation water system functions. No new failure mode has been introduced for the pumps or the valves, nor is there any impact on diesel loading. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2/3 FCN F20968C

Title: Spent Fuel Pool Handrail

Description:

A hinge was added to the Spent Fuel Pool handrail to allow the handrail to be lowered for short periods of time while moving components with the overhead polar crane.

Safety Evaluation:

This change will not affect any other systems or system's interfaces in a way that would increase the likelihood of an accident or put the plant in a condition where it would function differently. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2 FCN F20913M

Title: Steam Generator Blowdown Piping Support

Description:

A snubber was removed and a rigid pipe support was added to the steam generator blowdown piping.

Safety Evaluation:

This change involves pipe supports only and did not change the design function of the piping system. Design, material, and construction standards applicable to the piping system were met. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2/3 FCN F-21393-M and F-21394-M

Title: Salt Water Cooling (SWC) Butterfly Valves

Description:

A long shaft was installed in SWC valve bodies originally furnished with a short shaft.

Safety Evaluation:

This change will not interfere with the response of the salt water cooling pumps or system and will not reduce the margin of safety that is needed for the response time of the SWC system. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications; thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2/3 FCN F-20372M, F20344M, F23032M, and F23033M

Title: Low Pressure Turbine Instrumentation

Description:

A trip circuit was added to the low pressure turbine thrust pad temperature circuit, an alarm was added to the proximity probe circuit, and the existing thrust bearing wear alarm was removed.

Safety Evaluation:

The new trip which uses thrust bearing pad temperature is considered more reliable and more responsive to a catastrophic bearing failure than the former system based on oil pressure. None of the critical operating characteristics of the main turbine were impacted by the change. The turbine generator has no safety design basis as stated in UFSAR chapter 10.2.1. The conclusions of UFSAR section 3.5 are based on main turbine operating characteristics, principally overspeed, that are not in any way impacted by the features removed or added by the proposed change. Removing the thrust bearing wear alarm function and adding a thrust bearing pad temperature trip and electronic proximity probe alarm will increase turbine protection and provide reliable automatic advance warning of excessive thrust bearing wear. The diverse mechanical overspeed trip and electro-hydraulic governor trips are not in any way impacted by the proposed change. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2/3 FCN F20723M and F20648M

Title: Component Cooling Water (CCW) Non-Critical Loop (NCL) Isolation Valve Closing Time

Description:

The closing time of the CCW NCL exhaust isolation valve was increased such that the CCW NCL supply valve will close first, reducing the likelihood of waterhammer.

Safety Evaluation:

The new closing time of these valves allows HV6219 to close after HV6213, ensuring that water hammer could not occur in the CCW critical loop. This change will not affect the ability of the CCW system to provide the required heat sink for the removal of heat from safety related components during a design basis accident or transient. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2/3 FCN 8108J

Title: Circulating Water Temperature Data Logger

Description:

The circulating water temperature logger was replaced with a similar but improved model.

Safety Evaluation:

The data logger monitors the circulating water temperature for compliance with environmental permits. Impact of the accuracy of the new system versus the old data logger is bounded by the margin provided in the original calculations. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2/3 FCN F21796E

Title: Boric Acid Makeup Control Circuits

Description:

Fuses in the Boric Acid Makeup pump control circuit were added and replaced to help ensure the pumps will not fail due to faults in non-safety related equipment.

Safety Evaluation:

The addition of these fuses did not introduce any possibility of a common mode failure that could disable both BAMU pumps. Addition of the fuses increased the availability of each BAMU pump with regard to safe shutdown function of boration, since ground faults in the non-safety related Volume Control Tank (VCT) level control circuit will not be able to disable the BAMU pump. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2 and 3 FCN F21106M

Title: Turbine Plant Cooling Water (TPCW) Headers Isolation Valves

Description:

Backup isolation valves to the Units 2 and 3 TPCW cross-tie were added.

Safety Evaluation:

This change enhances the TPCW system by adding backup isolation to the TPCW cross-tie supply and return headers. These new valves provide backup isolation during Heat Treatment cycles, limit unit crossover leakage, and provide for positive unit isolation during system/unit outages. The TPCW system and its cross-tie headers are not credited for safe shutdown or accident mitigation. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2 FCN F21158M

Title: Component Cooling Water (CCW) Heat Exchanger S21203ME001

Description:

Unit 2 CCW heat exchanger S21203ME001 was replaced.

Safety Evaluation:

This change enhanced the CCW system by replacing Unit 2 CCW heat exchanger S21203ME001, which was degraded and had close to 15% tube plugging. The new heat exchanger was designed to meet the existing design criteria. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2/3 FCNs F21537J and F21538J

Title: Diverse Scram System (DSS) Power Supplies/Transducers

Description:

Diverse Scram System (DSS) power supplies were replaced with transducers.

Safety Evaluation:

This change enhanced the capability to monitor Instrument Bus voltages to the DSS. A voltage monitoring device for a non-safety related Critical Function Monitoring System (CFMS) alarm circuit was replaced. The regulated power supply was replaced with a transducer to provide proper voltage monitoring. This change did not add a load to the Class 1E battery systems, and the existing battery loading profiles and surveillance testing were not affected. This change had no impact on emergency diesel generator loading. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications; thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2 and 3 FCNs F221249M and F221252M

Title: Charging Pump Check Valves

Description:

Unit 2 and 3 charging pump P190 check valves were replaced.

Safety Evaluation:

This change enhanced the Chemical and Volume Control System reliability by replacing charging pump P190 check valves with a new soft seat design. The previous valve was subject to leaking. The valve safety functions are to open to provide injection flow when the charging pump P190 is operating and close to provide isolation when the other charging pumps, P1919 or P192, are operating and P190 is not operating. The check valves also close in the event of an upstream high energy line break. The original 2" Kerotest valves were replaced with more reliable Borg Warner valves, which have a better seating capability. The new valve's construction code exceeded the original code and met all functional requirements of the original equipment. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 3 FCN F16770M

Title: Low Pressure N2 Check Valve

Description:

Unit 3 low pressure N2 check valve S3-2418-MU002 was replaced.

Safety Evaluation:

This change enhances the Unit 3 containment integrity by replacing containment isolation valve S3-2418-MU002 with a new soft seat design. The previous valve was subject to leaking. The safety function of the valve is to prevent a radioactive release in the event of an accident. The new valve met the system functional and design requirements. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2 and 3 FCN F20768J and F20770J

Title: Main Steam Flow Transmitters

Description:

The Main Steam Flow Transmitters were recalibrated to a lower steam pressure.

Safety Evaluation:

This recalibration of the transmitters to a new lower steam pressure restored the transmitters' original operating range. The nominal steam pressure was previously lowered as part of the Tcold reduction and resulted in the transmitters reading near or above the upper limit of their scaling. Rescaling and recalibrating the transmitters to the new lower steam pressure allowed a more accurate indication of the uncompensated instruments (feedwater and steam bypass control systems). Normal operation of this system will not be impacted. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2 and 3 FCN 20933M and F20944M

Title: Component Cooling Water (CCW) Pump Miniflow Valves

Description:

Changes were made to the circuits associated with control board switches 2/3HS6220 and 2/3HS6221 for CCW pump miniflow valves.

Safety Evaluation:

The safety function of these valves (close or remain closed) is accomplished by permanent, positive de-powering, and the safety functions of the valves are passive, only. The configuration resulting from de-powering the miniflow valves and removal of the associated control room instrumentation is consistent with the Surveillance Requirement in that the miniflow valves are being secured in their correct operational position. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 3 FCNs F21261M and F21076M

Title: Letdown Backpressure Control Valves

Description:

Unit 3 letdown backpressure control valves 3PV0201A and 3PV0201B were replaced.

Safety Evaluation:

This change enhanced the Chemical Volume and Control systems response to prevent high letdown backpressure spikes during transients. The backpressure valves 3PV0201A and 3PV0201B have no safety function. The replacement valves have the same functional and design requirements as the existing ones. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2 and 3 FCNs F21560J, F21855C, and F21856C

Title: Low Pressure Turbine (LPT) Pressure Transmitters

Description:

The turbine vacuum trip circuitry was modified to change the methodology for handling pressure transmitters.

Safety Evaluation:

The methodology for handling pressure transmitters that generate condenser vacuum setpoints for turbine trip and pretrip alarm sequence was changed. The result of this change will be fewer spurious alarms during normal plant start-ups, shut-downs, and normal turbine valve testing. This change only modified the non safety related turbine trip circuit ladder logic for the handling of LPT pressure transmitter data and condenser pretrip alarms and does not impact overspeed protection. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2 and 3 FCN F21796E and F21812E

Title: Boric Acid Make Up (BAMU) Pumps P174 and P175 Control Circuit Fuse

Description:

Fuses were added to the BAMU Pumps P174 and P175 control circuits.

Safety Evaluation:

The reliability of the BAMU pump control circuit was enhanced by adding fuses which isolate faults in the non-safety related portions of the control circuits. There was no change in the BAMU pump control circuit functions due to the addition of two isolation fuses and replacement of control circuit fuse. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2 and 3 FCN F21866J

Title: Rosemount 2TE9178-4 Resistance Temperature Detector

Description:

The Rosemount RTD and associated thermowell were replaced with a Weed RTD and thermowell.

Safety Evaluation:

The Weed thermowell was fabricated to the same requirements as the previous thermowell. The installation of the Weed RTD and associated thermowell meets existing quality class and seismic criteria. The Thermowell will not interfere with the normal operation of the Core Protection Calculator (CPC). Thus, the modification will not change any plant design bases or functions. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2 and 3 FCN F22118E

Title: Fire Detection Panel/Data Gathering Panel

Description:

Fire Detection Panel/Data Gathering Panel 2L1971 & 2L1972 was temporarily removed to support the CCW HX replacement.

Safety Evaluation:

This modification provided a splice box for a communication cable tie between data gathering panels 2L204-2 and 2L198-2. Modifications were done in accordance with appropriate construction specifications. A fire watch was in place for the temporary change described to ensure equipment important to safety was protected by appropriate fire detection. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2 and 3 FCN F22225E

Title: Annunciator Retransmit Card

Description:

An annunciator retransmit card was replaced with a new model card that provides the correct contact configuration of an “open” contact instead of the “closed” contact when 125V dc power is removed.

Safety Evaluation:

This design change affects only the control room indication for 3G002 Fuel Filter, 3G002 Day Tank, and Loss of 124 V dc status light indications in the control room. There is no other effect on the performance of involved components, systems or structures. This new card enables control room indication of status in the event of removal of 125V dc. No other function of any system is affected. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2/3 FCN F20802M

Title: Letdown Water Inlet Valves

Description:

Letdown inlet valves in Zone IV may be operated locally or remotely for improved operational flexibility.

Safety Evaluation:

This change clarifies the UFSAR by providing an option for local operation of valves in Zone IV areas based on a health physics evaluation and plant operating experience. The current CVCS source terms, based on the maximum expected activity in each component, are listed in UFSAR table 12.2-6. As discussed UFSAR in paragraph 12.2.1.5.2, the Chemical and Volume Control System is not considered to contain highly radioactive fluid. This is because (1) the letdown system is automatically isolated during accidents, (2) the letdown system is not required for accident mitigation, and (3) post-accident degassing capability of the primary system is provided by remotely operated reactor coolant high point vents. As described in UFSAR section 12.2, Radiation Sources, the shielding design for postulated radiation sources is based on 1% fuel cladding defects at normal power operation. This design assumption remains unchanged. This change does not increase the probability of fuel cladding degradation, and, since the letdown system isolates on SIAS/CIAS, accidents evaluated previously in the UFSAR are not affected. UFSAR Table 12.3-1, Radiation Zones, defines the Zone IV designation as including areas where postulated dose is <100 MREM/HR. This definition remains unchanged. Zone IV areas are not typically high radiation areas, and as such, local access would normally not be prohibited. The proposed clarification to the Zone IV designation to allow for local or remote manual valve operation based on assessment of radiological hazards by the plant health physics staff is consistent with the processes described in the UFSAR. The definition of Zone IV areas is unchanged, and the processes for determining access restrictions and radiological hazards based on evaluation by the plant health physics staff in accordance with established procedures is unchanged. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2 FCN F21036M

Title: Snubber S2-RC-031-H-001

Description:

Snubber S2-RC-031-H-001 located on the Reactor Coolant system drain line S2-1201-ML-031-2"-A-FEO inside Containment was removed.

Safety Evaluation:

Removing this snubber increased plant reliability. The optimized configurations of the pipe supports have been verified by stress analysis in accordance with the NRC approved criteria and the ASME Code. The removal of the snubber had no impact on the system function or the pressure boundary of the piping systems. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2 FCN F21347M and Unit 3 FCN F21732M

Title: Main Generator Retaining Rings

Description:

The Main Generator Rotor End winding retaining rings were replaced with 18 Mn/18Cr alloy material.

Safety Evaluation:

This change significantly reduced the potential for the initiation and propagation of stress corrosion cracking (SCC). The new material is less susceptible to SCC initiation and propagation and has superior fracture toughness properties compared to the existing material. The new material did not change the design function of the generator, and with the exception of being less susceptible to SCC the material is in compliance with the original design specification requirements. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR) did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2/3 FCNs F21958M, F22516M, F22608M, and F23041M

Title: Moisture Separator Reheater (MSR) Steam Distribution System

Description:

The size of 4 MSR drains was increased from 6" to 10", loop seals were added to two of the existing 6" drains for each MSR, a 6" MSR drain was converted to a vent between the MSR and its associated MSR drain tank, and an additional 6" drain line with loop seal was added for each MSR. In addition to these modifications, the 7% live steam tube bundle vent orifices were replaced with manual valves.

Safety Evaluation:

The new internal MSR components and changes to the MSR vents and drains improved the MSR's ability to meet its design requirements for moisture separation, moisture removal, efficient reheat of the steam, and balanced steam flow distribution to the low pressure turbines. MSR internals and MSR vent and drains were modified including a tube temperature monitoring system for optimization of excess steam venting. The MSR is not safety related nor discussed in the basis for any Technical Specification. The changes did not alter the design function of the MSR nor have a negative impact on operation of the main turbine. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR) did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2/3 FCNs F22422E, F22430E, and 20995E

Title: Circulating Water Pumps Permissives

Description:

Permissive (interlocks) to start the pumps (P115 THRU P118) and electrically open the discharge valves (HV-5288 thru HV-5291) were bypassed..

Safety Evaluation:

Bypassing the permissive interlocks prevents the delay in the pump start due to installation of jumpers or manual stroking of the discharge valve, to reduce the loss of revenue due to loss of MWe-hours to the grid. The change in the discharge valve control circuit allows the valve to open in a timely manner by the local control switch bypassing the interlock making the circulating water to flow through the condenser to maintain the required vacuum. The change did not affect the functions of the pumps or the valves. Since the circulating water system is non-Class 1E, the proposed modification has no impact on the diesel loading. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR) did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2/3 FCN F22608E

Title: Control Room Habitability

Description:

A 480/120V control power transformer, two fuses, and a 120V control relay in each transfer switch DB0415 and DB0615 were added.

Safety Evaluation:

The design change ensures that outside air, if supplied to the control room during a safety injection actuation signal, will always be filtered to maintain control room habitability meeting the Updated Final Safety Analysis Report (UFSAR) Section 6.4.1 requirements. The design and installation of this design modification met the same requirements as for the control room emergency air cleanup system (CREACUS) original design and creates no new failure modes of CREACUS. This modification has no physical or functional impact on any other system important to safety and complies with the design and licensing bases. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the UFSAR, did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2/3 FCN F22618E, F22619E, F22620E, and 22621E

Title: Emergency Diesel Generator (EDG) Breakers

Description:

The interlock of the EDG lockout relay K23 was moved from the breaker closing leg to an interposing (auxiliary) relay K23X, and K23X contact is used in the breaker closing leg of EDG breaker 2A0413 control (see Elementary Diagram 30328 for details).

Safety Evaluation:

These changes only move EDG breaker control interlocks from one leg of the circuit to another to improve the control voltage available for the breaker closing coil and meet the equipment manufacturer's minimum voltage requirement limit. This change brought the equipment in conformance with the design basis and did not alter the breaker operating function. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2/3 FCNs F22864E and F23203E
(AR 000201885)

Title: Monitor Main Turbine Generator Stator Winding

Description:

Partial discharge monitoring equipment was installed to trend the generator stator insulation condition.

Safety Evaluation:

The design identifies loose, contaminated, or overheated swelled stator winding to aid in early assessment of the risk of stator winding degradation or failure. The main generator is a non-safety related and any changes to its systems do not have direct or indirect impact on any safety related systems or components or important to safety systems/components. Slot Couplers were installed in the stator generator slot above the winding insulation, without compromising the insulation integrity, which did not affect the normal functioning of the generator. These Slot Couplers provides indication of partial discharge activities in the generator winding. The isolation transformer connected to one of the channel of the generator potential transformer is isolated by a 1/10 amp fuse. The burden of the isolation transformer is negligible as it is used only for reference voltage. Two new electrical penetrations were installed on the generator housing by welding per appropriate codes and standards, and the hydrogen system was tested before the turbine generator startup. Components installed did not have any adverse effect on the generator operation or performance. The activity meets the design, material and construction standards applicable to the system and did not degrade the any structure or component reliability. In addition the activity is also not defined in the safety analysis report or safety evaluation report. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR) did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2/3 FCNs F2323J and F2322J

Title: Radiation Monitor 2(3)RT7828

Description:

Noise suppression was installed in the radiation monitor actuation logic and power supply.

Safety Evaluation:

This change prevents spurious actuation of the radiation monitor from noise arising in the actuation logic or from electrical loads on the monitor supply. The ability to continually measure gaseous radiation levels is improved by the reduction of system noise and power supply electrical transient. The modification improve the monitor's ability to provide NUREG 0472 and NUREG 1301 monitoring. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR) did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2 and 3 FCNs F23571J, F23572J, F23573J, F23574J, F23575J, F23576J, F23577J, F23577J, F23578J, F23579J, F23580J, F23581J, F23582J, F23583J, F23584J, F23585J, F23586J, F23587J, F23588J, F23956J (Including SYF FCN's F24478J and F24479J) (AR000101463)

Title: Display Unit Running Software for the Radiation Monitoring System

Description:

The radiation monitoring software was modified for vendor recommended enhancements to run display unit software for the radiation monitoring system.

Safety Evaluation:

The proposed change changes modifies the Display Unit (DU) running software for the radiation monitoring system. The change enhances system performance making it more reliable. The software modification did not change the function or the ability of the system to detect radiation, set relay logic for actuation systems, or alarm abnormal conditions as required by the UFSAR and system design. The UFSAR description of the radiation monitoring systems is unchanged.

The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2 FCN F22586M (AR 000300024)

Title: Snubbers in Shutdown Cooling System

Description:

Snubbers S2-RC-017-H-00A and S2-RC-017-H-00B in the Shutdown Cooling System were removed.

Safety Evaluation:

These snubbers were located on the relief line S2-1201-ML-017-1"-C-KEO upstream of relief valve 2PSV-9387 in the penetration area near penetration 9. This line is to be operable during Mode 5 and 6. This line meets its code allowable without these snubbers. Removal of these snubbers increased the plant reliability. There is no impact to the Technical Specification or LCS. The removal of the snubbers meets the ASME code and the NRC approved snubber reduction criteria.

The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2 and 3 FCNs F23834M, F23838M, F23842M, F23846M, F23854M, F23850M, F23859M, F23863M (AR 000401454)

Title: Salt Water Cooling (SWC) Pump Discharge Valves Mechanical
Travel Stops

Description:

The mechanical travel stops were removed from the SWC pump discharge valve actuators (2/3HV6200-6203). The mechanical travel stops were installed to prevent the valves from inadvertently shutting following a loss of pneumatic motive force.

Safety Evaluation:

This change restores the SWC pump discharge valves to their original configuration by removing the mechanical travel stops on the valve actuator. Engineering analysis and testing determined the discharge valves will remain open following a loss of pneumatic motive force. The functional operation and the design bases of the SWC system is unchanged.

The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2 and 3 FCN F24561M (AR 000800626)

Title: Data Acquisition System (DAS) System

Description:

Hubs, Bridges, Routers, and Network Interface Cards in the DAS system were replaced to provide an Ethernet protocol, switched network.

Safety Evaluation:

The DAS network interface (Token Ring) was replaced with a functionally equivalent network interface (Ethernet) to enhance reliability of the system. The functional operation and the design basis of the DAS are unchanged.

The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2 and 3 FCN's F24870A and F24871A (AR 000800916)

Title: Flammable Liquid Lockers

Description:

Flammable liquid lockers were installed to provide storage of small amounts of gasoline in the Unit 2 and 3 50' Safety Equipment Building.

Safety Evaluation:

The safety related/safe shutdown components/cables located in the area/zone are not adversely impacted due to increase of combustible loading. The gasoline will be stored in accordance with NFPA 30 requirements for flammable liquid storage, and the flammable liquid storage cabinet is seismically restrained to meet interaction II/I requirements. The addition of combustible loading has been evaluated to ensure that the bases and results of previously performed fire hazards analyses are not invalidated. Fire Extinguishers were also installed to aid in manual fire fighting efforts as a result of this installation.

The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2 and 3 FCN F24847E (AR 010200212)

Title: Bus 3A07 Cabling

Description:

The electrical cabling from Reserve Auxiliary Transformer 3XR2 to non-1E bus 3A07 was disconnected to repair damage to bus 3A07 and breaker 3A07-14. This allowed 3XR2 to be reconnected electrically to the switchyard and normal downstream electrical loads while 3A07 was being repaired.

Safety Evaluation:

Disconnecting cabling to non-1E Unit 3 bus 3A07 did not impair reliability of the Reserve Auxiliary Transformer 3XR2 to feed Unit 3 safety related bus 3A06 or Unit 2 safety related bus 2A06.

The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2 and 3 FCN F23975M (AR 980101148)

Title: Auxiliary Radwaste Building Ionization Early Warning Smoke Detectors

Description:

Two early warning ionizing smoke detectors were replaced with heat detectors near the men's and women's locker rooms in the Auxiliary Radwaste Building.

Safety Evaluation:

The replacement heat detector is more suited a high moisture environment inherent to locker rooms and is not susceptible to the spurious or inadvertent alarms caused by high moisture or high humidity environments. The use of the heat detector is an accepted practice and conforms with the guidance provided by the National Fire Protection Association (NFPA). There is no impact to plant operation as a result of this change, and the early warning heat detectors are compatible with the existing fire detection system. The fire detection is administratively controlled by LCS 3.3.106.

The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2 FCN F-22270M, F-22108M, F-22109M (AR 980400169)

Title: Electro-Hydraulic Actuators for Auxiliary Feedwater (AFW) Bypass Valves HV4762 and HV4763

Description:

Electro-hydraulic actuators for AFW bypass valves HV4762 and HV4763 were replaced with safety related, spring to close, pneumatic piston actuators.

Safety Evaluation:

This change provided a more reliable actuator for the AFW bypass valves. The functional operation and the safety features provided by the AFW system are unchanged.

The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2 FCNs F20933M and Unit 3 FCN F20944M (AR 981100386)

Title: Component Cooling Water (CCW) Miniflow Isolation Valves and CCW Swing Pump Miniflow Block Valves Instrumentation

Description:

Instrumentation associated with the CCW miniflow isolation valves and power leads to the CCW swing pump miniflow block valves and associated instrumentation interlocks were disconnected.

Safety Evaluation:

The CCW miniflow isolation valves do not provide a required active safety function. The removal of the CCW miniflow valve control room instrumentation and the associated instrumentation interlocks does not change the design, radiological, operational, equipment protection, single failure, or safety margin requirements of the CCW system.

The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2 and 3 FCNs 22346M & 22352M (AR 990101656)

Title: Emergency Diesel Generator (DG) Fuel Oil Day Tank Drain Lines

Description:

An extension to the EDG fuel oil day tank drain line was added to enhance its use as a fuel oil sample point by Operations.

Safety Evaluation:

No change was made to safety related boundary valves or piping of the EDG Fuel Oil Day Tank. The additional tubing used for the sample point was added downstream of the existing drain valve. There is no seismic concern since the added mass of the tubing is insignificant as is the volume of the tubing. All other functions and qualifications of the diesel fuel oil system remain unchanged.

The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2 FCNs F22946N, F22947N (AR 990102483)

Title: In-Core Instrumentation Cables

Description:

Mineral Insulated Cables for the In-Core Instrumentation (ICI) Core Exit Thermocouple (CET) circuits were replaced with EGS Corporation Head Lift Rig (HLR) Cables.

Safety Analysis:

This change is a replacement of the In-Core Instrumentation cable with an equivalent cable from a different manufacturer. The design bases and functional operation of the ICI and CET circuits are unchanged. Environmental qualification testing of the replacement cables demonstrated acceptable design, material, and construction of the in-kind replacements for performance during postulated environmental and seismic conditions.

The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2 and 3 FCNs F23757E and F23761E (AR 990600795)

Title: Incorrect Identification (ID) Tags in the Emergency Safeguard System (ESF) Switchgear Rooms

Description:

Identification tags for temperature switches for the ESF Switchgear Room air temperature were replaced to correctly describe the type of installed temperature indicating instruments.

Safety Evaluation:

No functional change to the ESF Switchgear Room Emergency AC system or any other system was caused by this instrument tag change. The change does not impact any other equipment or system important to safety described in the UFSAR.

The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2 and 3 FCN F24236M (AR 990701248)

Title: Remote Venting Station Outside the Spent Fuel Pool (SFP) Heat Exchanger Room

Description:

A remote venting station for the Component Cooling Water System (CCW) was added outside the SFP Heat Exchanger Room. The remote venting station will reduce operator radiation exposure during CCW non-critical loop restoration following a Loss of Coolant Accident (LOCA).

Safety Evaluation:

The design basis and functional operation of the CCW system is maintained. Extending the vent line to and adding a remote venting station in the Radwaste Building does not affect any systems important to safety nor does it change the facility as described in the UFSAR.

The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications; thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2 and 3 FCN's F23271M and F23273M (AR 990801013)

Title: Operating Setpoints for the Emergency Chillers

Description:

Two operating setpoints were changed for the Emergency Chillers. The Low Refrigerant Temperature Trip setpoint was lowered from 34 degrees F to 32.5 degrees F and Hot Gas Bypass setpoint was raised from 45.25 to 47.0 degrees F to reduce nuisance trips.

Safety Evaluation:

The design basis and the functional operation of the Emergency Chillers is unchanged. The margin to freezing water in the Evaporator tubes was reduced, and the operability requirements in Technical Specification 3.7.10 are maintained while minimizing exposure to nuisance trips, making the Emergency Chillers more reliable.

The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2 and 3 FCNs F24917M and F24922M (AR991100880)

Title: Vacuum Breakers in Fire Water Lines

Description:

Vacuum breakers were installed in fire water lines to alleviate the effects of water hammer to the fire protection system.

Safety Evaluation:

The change was in response to NRC Information Notice 98-13. The vacuum breakers, valves, and piping are designed in accordance with the applicable piping specification requirements for pressure and temperature. These modifications do not introduce any piping/stress concerns that could jeopardize the operation of the firewater system. Installation of vacuum breakers in the firewater lines does not affect the operation of the firewater system such that safe shutdown of the plant is jeopardized. The ability of the firewater system to perform its intended function as defined in the BASES for LCS 3.7.105 is maintained. No passive fire protection features are being modified.

The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

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SECTION 13

SAN ONOFRE NUCLEAR GENERATING STATION

UNITS 2 AND 3

**FACILITY CHANGES IMPLEMENTED FOR THE PERIOD
FROM MAY 9, 1999 THROUGH FEBRUARY 3, 2001**

**Control of Work Storage areas in Protected Area
(Combustible Control)**

SO123-XV-4.13, "Combustible Control Evaluation"

Safety evaluation for Unit 3 Diesel Generator (DG) Building Combustible Control Zone #7 dated August 16, 1999.

Description:

Scaffolding for work on a concrete crack repair project introduced combustible materials in the area along the wall of DG building fire area 2-YD-30-200B, which is a COMBUSTIBLE CONTROL ZONE.

Safety Evaluation:

The proposed activity will not affect any system interface or how a plant system will be operated. The proposed activity will introduce combustible material in COMBUSTIBLE CONTROL ZONE #7 around the exterior wall of the Unit 3 DG building. The fire loading of the combustible material is bounded by the limits previously analyzed. Consequently, the probability of occurrence or the consequences of an accident previously evaluated in the Updated Final Safety Analysis Report (UFSAR) will not be increased as a result of this change. The possibility of either an accident or malfunction of a different type that previously evaluated in the UFSAR was not created as a result of this change. This introduction of combustible material has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

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SECTION 14

SAN ONOFRE NUCLEAR GENERATING STATION

UNITS 2 AND 3

**FACILITY CHANGES IMPLEMENTED FOR THE PERIOD
FROM MAY 9, 1999 THROUGH FEBRUARY 3, 2001**

Action Requests (AR) Safety Evaluations

AR 000100442-9

Title: Unit 3 Saltwater Cooling (SWC) Pump 3P114

Description:

A protective coating was applied to portions of the internals of SWC pump 3P114.

Safety Evaluation:

The SWC pumps have stainless steel components that are susceptible to pitting and crevice corrosion due to their contact with salt water. The intent of this protective coating is to increase the reliability of the SWC pumps by reducing the area of the stainless steel that is in contact with the ocean water. The discharge head will be coated with Duratough, and the top casing will be coated with Belzona 1321 Ceramic S-metal. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), will not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. Applying this coating has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

ARs 000101643-1 and 000101767-2

Title: Unit 2 Saltwater Cooling (SWC) Valves 2HV6200, 2HV6201, and 2HV6203 Single Stud Removal

Description:

One stud at a time was removed for cleaning, then replaced and re-tightened, with the SWC system in operation.

Safety Evaluation:

Allowing one stud at a time to be removed for cleaning during system operation was justified by an approved engineering calculation that confirmed valve operability with one stud removed. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), will not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This stud removal activity has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

AR 000300024-9

Title: Unit 2 and 3 Shutdown Cooling Line (SCL)

Description:

SCL snubbers were removed and tested during Modes 5 and 6 of the Cycle 11 refueling outages since there was no normal defueled work window when these snubbers would normally be tested.

Safety Evaluation:

The piping analysis showed that this line met the faulted allowable stress without these snubbers (one location at time) with installation of temporary support required for some cases. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), will not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. Removing these snubbers has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

AR 000400061-5

Title: Unit 2 and 3 Control Room Emergency Air Cleanup System (CREACUS)
Heating Ventilation Air Conditioning (HVAC) Units

Description:

A cap or plug was placed on the normal HVAC condensate drain line as a compensatory measure to account for the potential that unfiltered outside air could enter the ducting in quantities in excess of that assumed in the safety analysis for control room radiation exposure.

Safety Evaluation:

Adding a cap or plug to the normal HVAC condensate drain line might allow the system to retain condensate, if it occurs. Therefore, following installation, periodic inspections are made to identify and then drain accumulated condensate, if any. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), will not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This activity has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

AR 000400392-26

Title: Unit 2 Drain Lines in the Control Room Emergency Air Cleanup System (CREACUS) (with Check Valves) May Allow Charcoal Filter Bypass

Description:

Due to air in-leakage concerns from the drain valves, the drain check valves located in the downstream drain lines for emergency ventilation supply units and the emergency air-conditioning units were removed and a piece of pipe with a drain plug was installed in place of the check valves.

Safety Evaluation:

These modifications did not introduce any unwanted system interaction, and did not impact the CREACUS HVAC equipment in performance of their intended design functions. The drain lines' only function is to remove water following an actuation of the charcoal filter fire protection suppression system. Draining of this system may still be accomplished via the remaining drain line, and by manual methods, if required. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), will not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. Removing these check valves has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

AR 000400960-14

Title: Unit 2 and 3 Continuous Air Ejector (CAE) Exhaust Stacks - Wide Range Gas Monitors (WRGMs)

Description:

The CAE WRGMs are equipped with process and sample flow measuring devices and active valve control to achieve precise representative (isokinetic) sampling. In the event the process monitoring devices become inoperable, a substitute flow valve may be temporarily entered (operator action required) to provide the monitor with an estimated process flow to keep sampling as near isokinetic as possible. This change allows the process flow instrumentation loops (2/3RT7870) to automatically insert the substitute value into the monitor.

Safety Evaluation:

The monitor is not a credible initiator or contributor to any accident evaluated in Chapter 15 of the UFSAR, nor does it provide any credited direct accident mitigation functions or automatic actuation functions. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

AR 001000154-8

Title: Unit 3 Relay Internals - 3G003

Description:

The internals of the negative phase sequence relay in service on pump 3G003 were used as a seismic test specimen during the qualification process, so the remaining seismic life of the internal components of this relay was in question. Therefore, the relay internals were electrically disabled and left installed in their relay case in 3A0614 Switchgear Panel until replacement parts became available. Based on additional testing, it was concluded that the relay currently in service on 3G003 is capable of fulfilling all intended safety functions and that it will not create a loss of circuit integrity or a spurious trip during a seismic event.

Safety Evaluation:

Electrical disabling of the relay prevented the possibility of a spurious relay trip during a seismic event. The safety function of the negative phase sequence relay is to maintain circuit integrity such that it will not initiate a protective trip when no valid trip condition exists. The ability of the relay to trip on a valid signal is not a safety function of the relay; it is an equipment protective feature, installed for economic benefit. Overlapping protection for this condition was provided by other relays in the protection scheme. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications; thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

AR 001000275-1

Title: Unit 2 and 3 Determination of Reactor Shutdown Margin (SDM)

Description:

SDM was determined with regard to the specification of cooldown temperature limits (460 and 290°F's) and the use of very specific restrictions on the trip condition and Xenon worth history following a reactor shutdown.

Safety Evaluation:

The SDM was determined using the identical considerations for determining the SDM as is normally used. The only difference was that this SDM was performed with judiciously selected initial conditions, and identified very unique trip requirements and temperature limits for use. The proposed strategy for calculating SDM is consistent with industry/NRC practice and the approved methodologies outlined in Technical Specification Bases 3.1. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

AR 001000306-1

Title: Unit 2 and 3 Teflon Packing for use in Critical Valves Located in Non-Radiation Areas

Description:

Teflon packing was installed (in place of graphite) in critical secondary plant control valve applications to improve valve/system performance.

Safety Evaluation:

The restrictions for use of Teflon are mainly due to mechanical/physical changes due to exposure to radiation. Due to these uncertainties, Teflon will not be used in systems that are in radiation fields. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

AR 001201091-1

Title: Unit 2 and 3 Determination of Reactor Shutdown Margin (SDM)

Description:

SDM for permissible cooldown allowed immediately after a reactor shutdown was determined.

Safety Evaluation:

The SDM evaluation used similar considerations for determining the SDM as described in the Bases for LCO 3.1.1, "SDM Tave > 290° F" with some exceptions which were unique initial conditions, trip requirements, and temperature limits for use of the calculation. SDM, is not an accident initiator, but an SDM that is below the TS required minimum could increase the probability that an unrelated malfunction or accident results in a total loss of SDM. The TS requirement of 5.15% SDM was preserved. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications; thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

AR 010102226-1

Title: Unit 2 and 3 UFSAR Chapter 15.10 and Accident Analysis Design Basis Document (DBD) Updates

Description:

The UFSAR and Accident Analysis DBD (AADBD) were updated to implement the analysis of Chapter 15 Loss of Condenser Vacuum (LOCV) and LOCV+Single Failure (SF) Events using the NRC approved "CENTS" Computer Code and Methodology.

Safety Evaluation:

The re-analysis did not change any analysis results or change how the plant is operated. The results of this re-analysis show that LOCV and LOCV+SF Events, Reactor Coolant System (RCS) Pressure, the Secondary Pressure, and Dose Criteria are within the acceptance criteria as documented in UFSAR Chapter 15.10 2.1.3 and Chapter 15.10 2.2.3, respectively. The "CENTS" Computer Code and Methodology have been approved by the NRC. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

AR 960500848-4

Title: Unit 2 Addition of Packing to the Spent Fuel Pool (SFP) Cooling 10 inch Butterfly Valves.

Description:

Packing was added to stop minor packing leaks that could not be resolved by packing follower tightening, because there was insufficient adjustment left.

Safety Evaluation:

The SFP cooling system remained in service throughout the work, and therefore the temperature was maintained as normal. In the event a packing leak had increased while the packing follower was loose, the leakage rate would have been substantially below the makeup capacity. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

AR 971201610-32

Title: Unit 2 and 3 Condensate Tank Rooms 2T121 and 3T121

Description:

The tell-tale drain valve, S22426MR077, was left open to provide a continuous drain path from Auxiliary Feedwater (AFW) Storage Tank 2T121 vault to the Storage Tank Area (Aux. Feedwater) Sump.

Safety Evaluation:

This change did not affect the capabilities or operability of any of the AFW trains or Storage Tank 2T121. In particular, leaving the drain for the AFW tank vault open does not affect the volume of the tank, or the required volume for AFW in any accident. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

AR 980200813-6

Title: Unit 2 and 3 Reactor Coolant System(RCS) Hot Leg Vent Path

Description:

The Steam Generator Cold Leg manway was used as a Reactor Coolant System (RCS) Vent Path at mid-loop conditions. Prior to this change, only the Steam Generator Hot Leg (SGHLM) manway was permitted to be used for this purpose.

Safety Evaluation:

The probability of a loss of Shutdown Cooling (SDC) event at mid-loop conditions is not increased by using either of the steam generator manway openings as an RCS vent path. Use of the Steam Generator Cold Leg Manway (SGCLM) opening as an RCS vent path is for the purpose of reducing the likelihood of uncovering the core during a loss of SDC Event at mid-loop condition is associated with the response to GL 88-17. The likelihood of uncovering the core during a loss of SDC Event at mid-loop conditions remains unchanged whether the steam generator hot leg or cold leg manway opening is used as an RCS vent path. As such, any radiological consequences associated with using the SGCLM opening is bounded by the use of SGHLM opening as an RCS vent path at mid-loop conditions. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

AR 980200815-4

Title: Unit 2 and 3 Turbine Plant Cooling Water (TPCW) System

Description:

The TPCW system was operated in a one pump-two heat exchanger configuration.

Safety Evaluation:

The TPCW has no safety design basis, and was not credited for initiating or mitigating the consequences for any accidents or malfunctions. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

AR 980400169-10

Title: Unit 2 and 3 Electro-Hydraulic Actuators for Auxiliary Feedwater (AFW) Bypass Valves

Description:

The existing electro-hydraulic actuators for AFW bypass valves HV4762 and HV-4763 were replaced with safety related, spring to close, pneumatic piston actuators.

Safety Evaluation:

The safety function of the bypass valves is to close automatically on a Main Steam Isolation Signal (MSIS) or Emergency Feedwater Actuation Signal (EFAS) to mitigate the consequences of an accident during Modes 2, 3, and 4. The valves are maintained closed in Mode 1. HV-4762 and HV-4763 are required to close in 40 seconds to comply with the overall 40.9 second MSIS response time per LCS 3.3.100. The purpose for this change was to supply a more reliable actuator for the AFW bypass valves. The replacement of the AFW bypass actuator did not prevent the AFW bypass valves or AFW System from performing their safety function. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

AR 980600386-3

Title: Unit 2 and 3 Diesel Generator

Description:

Plenum and exhaust enclosure boxes (panels) for the Unit 2 and 3 Diesel Generators were missing.

Safety Evaluation:

The effects of the missing plenum and exhaust enclosure boxes (panels) on the surrounding concrete plenum and structures, and the engine back pressure effects on the diesel engine, were evaluated. The calculation results indicated (1) lower plenum hot side and the lower cold side concrete surface temperatures were as expected compared to the existing valves, (2) higher pressure drop across the 20-cylinder engine exhaust piping/plenum arrangement compared to the existing value, (3) lower pressure drop across the 16-cylinder engine exhaust piping/plenum arrangement compared to the existing value, and (4) reconfirmed the fuel consumption per train is expected to be within the allowable value at the highest recorded ventilation air flow rates. The safety function of the emergency diesel generator system, which is to mitigate the consequences of a design basis accident, was not being changed by this activity. There was no degradation in the reliability of the emergency diesel generator system. The back pressure on the diesel engines and fuel consumption as well as the concrete plenum temperatures remained within the allowable limits. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

AR 990201434-8 and -13

Title: Unit 2 and 3 Reactor Coolant Pump (RCP) Oil Reservoirs

Description:

Use of the remote RCP oil addition system.

Safety Evaluation:

The remote RCP oil fill system extends outside the RCP oil collection system boundaries. However, based on the inherent design features of the remote addition system and administrative controls, the probability of spillage using the proposed method is not increased from the probability of spillage associated with the existing oil fill process. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

AR 991001327-8

Title: Unit 2 and 3 Main Steam Line Breaks (MSLB)

Description:

A revised spectrum of design basis large Main Steam Line Breaks (MSLBs) was used in the containment post accident pressure analysis to lower the resultant post accident peak containment pressure and temperature, increasing the margin to maximum allowable containment pressure.

Safety Evaluation:

The lower peak containment pressure and temperature reduce the consequences of the design basis MSLB event, and increase the margin of safety. The radiological consequences of design basis MSLB events in containment remain unchanged from that based on the previous analysis of record. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

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SECTION 15

SAN ONOFRE NUCLEAR GENERATING STATION

UNITS 2 AND 3

**FACILITY CHANGES IMPLEMENTED FOR THE PERIOD
FROM MAY 9, 1999 THROUGH FEBRUARY 3, 2001**

Design Change Notices (DCNs)

Unit 2/3 DCN ABG-15518:

Title: Steam Generator Blowdown Flow Reduced to 200 gpm

Description:

The steam generator blowdown flow was reduced to 200 gpm to minimize the potential for water hammer.

Safety Evaluation:

Reduction of steam generator blowdown flow from approximately 400 gpm to 200 gpm reduced the potential for water hammer in the steam generator blowdown line which could compromise the safety-related function of blowdown isolation upon a Main Steam Isolation Signal (MSIS) or Emergency Feedwater Actuation Signal (EFAS). The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This blowdown flow change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications; thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2/3 DCN ABG-15812:

Title: Revise Design Documentation to Reflect the Actual Location of Valves and Associated Equipment Outside of a Harsh Environment

Description:

The Environmental Qualification Master List (EQML) was revised to reflect the actual location of two valves 2/3HY6261 and 2/3HY6213 and their associated equipment outside of a harsh environment category and to add a limit switch to the EQML.

Safety Evaluation:

This change reflects the as-built plant configuration with this equipment not located in a harsh environment and required no physical plant change. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This EQML correction has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2 DCN ABG-16005 and Unit 3 DCN ABG-16006:

Title: Revise the Normal Operating Position of Valves S2/3 1305MU1124 and S2/3 130MU1127 as Shown on Piping and Instrument Drawing (P&ID) 40160A

Description:

The normal operating position of valves S2/3 1305MU1124 and S2/3 130MU1127 as shown on P&ID 40160A was revised to ensure that the Auxiliary Feedwater (AFW) system remains isolated from the boric acid injection system.

Safety Evaluation:

This change ensures that the AFW system remains isolated from the boric acid injection system. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. Revising the normal operating position of these valves had no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications; thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2 and 3 DCN ABG-17400 (AR 000500338)

Title: Reactor Coolant Pump (RCP) Vibration Monitoring Cables

Description:

A note was added to the wiring diagram that specifies cable routing requirements for the RCP Vibration Monitoring Cables are outlined in AR 000500338-3.

The installed configuration of RCP Vibration Monitoring Cables does not conform to design or construction installation specifications and has been evaluated to be acceptable.

Safety Evaluation:

This safety evaluation addresses High Energy Line Break (HELB), Loss of Coolant Accident (LOCA) and UFSAR impact on RCP Vibration Monitoring Cables routed in containment in a manner that does not conform to cable design or construction standards. These RCP Vibration Monitoring Cables have no safety related function. The cabling is secured with tie-wraps which assures that the cabling will not become a sump concern nor effect any important to safety equipment in the area. The RCP Vibration Monitor Cables were inspected for compliance to the installation guidelines provided in AR 000500338. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this configuration. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. The vibration monitoring cables have no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2 and 3 DCN ABG F-23235E (AR 000800916)

Title: Appendix R Circuit Changes

Description:

Two Appendix R circuits were modified to support the ability to cope with a beyond design basis Station Blackout (SBO) Event. A 1000 Watt portable generator was also added to provide 120VAC power to panel L-411 and neutron flux detector.

Safety Evaluation:

Licensee Controlled Specification (LCS) 3.7.113 addresses Appendix R Safe Shutdown Components. These changes increase the ability of the plant to cope with a beyond design basis SBO event. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. Modifying these circuits has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2 and 3 DCN ABG-17500 (AR 961200135)

Title: Toxic Gas Isolation System (TGIS) and Offsite Hazards Analysis Update

Description:

The new TGIS limit for ammonia was established and a different stability class was used for the onsite ammonia tank for the Offsite Hazards Analysis.

Safety Evaluation:

The TGIS has been credited in updates of the San Onofre Unit 2 and 3 Offsite Hazards Analysis (OHA) to ensure that the cumulative risk from potential offsite toxic hazards is below the evaluation guidelines. Known hazards identified in the current and prior updates of the OHA are outside the bounds of calculations prepared to develop the TGIS set points. The differences between the hazards previously evaluated in calculation N-4090-006 and the OHA were: increased shipment size of butane and shipped by rail which is closer than the highway, increased shipment size of chlorine on the highway, and increased shipment size of anhydrous ammonia on the highway. As a result of these differences between the OHA and calculation N-4090-006, a separate analysis was performed under calculation N-4090-012, Toxic Gas Concentrations in the Control Room for TGIS Monitored Chemicals. In performing calculation N-4090-012, a new toxic limit for ammonia was established and a different stability class was used for the onsite ammonia tank. TGIS response times and set points were unaffected by the proposed changes. Each of the hazard frequencies remained below the 1.0E-6 per year Standard Review Plan Section 2.2.3 acceptance criterion. The OHA is in compliance with the Technical Specification requirement to monitor and report the hazardous cargo shipments on Interstate 5 and the railroad. Additionally, LCS 3.3.100 and 3.3.101, TGIS instrumentation response times and allowable values, were not impacted by the proposed changes. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This OHA change has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2 and 3 DCN ABG-15677 (AR 980901332)

Title: Change to the Accident Analysis Design Basis Document (DBD)

Description:

The Accident Analysis DBD was revised to reflect that the calculation of minimum containment pressure as a result of an inadvertent containment spray actuation has been revised to incorporate Total Loop Uncertainty (TLU).

Safety Evaluation:

The change to the Accident Analysis DBD reflects that the calculation of minimum containment pressure as a result of an inadvertent containment spray actuation has been revised to incorporate TLU. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This DBD change had no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2 and 3 DCNs ABG-16986 and ABG-17261 (ARs 990200059 and 990500059)

Title: Addition of In-Core Instrument Nozzle Details

Description:

Details to the In-Core Instrument Nozzle Detail drawings were added to show additional Air Seal Plate designs that were installed to fit replacement of the existing Head Lift Rig Mineral Insulated (MI) cables with a larger diameter Stainless Steel (SS) flexible cable. The particular part impacted by this DCN was the Air Seal Plate. The Air Seal Plates interact as a boundary for the Control Element Drive Mechanism (CEDM) Cooling Subsystem. The function of the Air Seal Plate is to fit around the instrument cables to reduce the amount of air flow bypassing the CEDM housings.

Safety Evaluation:

The Air Seal Plates are Quality Class III parts and provide an interface boundary to the Quality Class III, Important to Safety, CEDM Cooling Subsystem. The CEDM Cooling Subsystem is not an initiator or mitigator of any accidents. The Air Seal Plate has no failure modes other than altering the amount of bypass air flow. Total loss of CEDM cooling is already addressed in the plant design bases documents; therefore, degradation of flow is bounded. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This change had no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

Unit 2 and 3 DCN ABG-16248 (AR 991100286)

Title: Fire Protection Capabilities of the Equipment Hatches Located in the Ceiling of the Main Lube Oil Room

Description:

Document 90041BC was updated to reflect engineering evaluations of the fire protection capabilities of the equipment hatches located in the ceiling of the Main Lube Oil Room.

Safety Evaluation:

The engineering evaluations assessed the capabilities provided by the fire protection features such as fire suppression and detection which are available in the lube oil room. Although the hatch configuration is regarded as a non-rated configuration, the evaluations concluded that given the fire protection features and the administrative controls applied to the area, the hatch configuration did impede propagation of fire beyond the boundaries of the lube oil room. The hatches have gaps filled with a silicone based sealant. The analysis assumes that this sealant will be consumed during a fire event from the lube oil room. However due to the small size of these gaps, the effects of fire on these gaps is of insignificant consequence in relation to the overall fire event. Given the unlikely event the fire propagates through the hatch seal, the evaluations conclude that the ability to achieve and maintain safe shutdown will not be compromised. The evaluations consider fire events in adjacent areas, and subsequent damage to equipment located in the main lube oil room. It is concluded that the presence of the non-rated hatches will have no impact on the plant's ability to achieve safe shutdown. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), did not increase as a result of this change. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. These hatches have no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

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SECTION 16

SAN ONOFRE NUCLEAR GENERATING STATION

UNITS 2 AND 3

**FACILITY CHANGES IMPLEMENTED FOR THE PERIOD
FROM MAY 9, 1999 THROUGH FEBRUARY 3, 2001**

**Software Changes
(Software Modifications and Installations)**

Software Modification Request (SMR) Log # 99-0012

SMR99-0012 changes the FLOW code which is utilized by Reactor Engineering to perform the monthly Reactor Coolant System (RCS) flow Surveillance Requirement (SR 3.3.1.5).

The change involved three items:

- 1) Revision of the error trap range for Relative Power Fraction (RPF) input
- 2) Revision of the logic used by the code when an RPF is outside the error trap range
- 3) Correction of several minor syntax errors

Safety Evaluation:

The FLOW code is strictly an offline code that is utilized for Surveillance purposes, and does not physically interface with any plant system, hardware, or software. The changes do not affect the quality of the flow results or change any flow limits. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), will not increase as a result of this software modification. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This software modification to the FLOW code has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

NUCLEAR ENGINEERING DESIGN / MECHANICAL ANALYSIS

Title: WATERNET Code Version 3.14 Software Validation, June 4, 1999

Description:

The WATERNET code version 3.14, replaced the previous version 3.12 of this code. The WATERNET code is a hydraulic analysis computer program that is used as an evaluation tool to determine, in liquid systems, the steady state flow distribution and pressures in the system. Calculations which use the WATERNET program analyze the steady state hydraulic conditions in safety systems to demonstrate that system parameters are within design basis requirements.

Safety Evaluation:

The WATERNET code has no direct connection to plant operations. The probability of occurrence or the consequences of an accident, or malfunction of any equipment important to safety, previously evaluated in the Updated Final Safety Analysis Report (UFSAR), will not increase as a result of using this code. The possibility of either an accident or malfunction of a different type than previously evaluated in the UFSAR was not created as a result of this change. This WATERNET code has no effect on either the existing Limiting Conditions for Operation or the Surveillance Requirements in the Technical Specifications: thus, the margin of safety as defined in the bases for the Technical Specifications was not reduced as a result of this change.

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ENCLOSURE 2

SAN ONOFRE NUCLEAR GENERATING STATION

UNITS 2 AND 3

**REPORT ON THE COMMITMENT CHANGES MADE PER
NEI "GUIDELINES FOR MANAGING NRC COMMITMENTS"**

**FOR THE PERIOD
FROM MAY 9, 1999 UNTIL JUNE 30, 2001**

**REPORT ON COMMITMENT CHANGES MADE PER
NEI "GUIDELINES FOR MANAGING NRC COMMITMENTS"**

NRC letter to Mr. Jose Colvin, Executive Vice President, Nuclear Energy Institute (NEI), dated January 24, 1996 had as an attachment SECY-95-300. This letter and the attached SECY-95-300 both state that the NEI "Guidelines for Managing NRC Commitments" Revision 2, dated December 19, 1995, was an acceptable guide for licensees to follow for managing and changing their commitments to the NRC. Part of the commitment change process, given in the NEI guidelines, identifies that various commitments can be changed with the notification to the NRC made in a report submitted annually or along with the FSAR updates as required by 10CFR50.71(e). The intent of this report would be to provide a brief summary of the commitments changed since the last report in lieu of filing individual notifications as commitments are revised.

The following summarizes the commitment changes for San Onofre Units 2 and 3 that are to be reported and have occurred from May 9, 1999 until June 30, 2001.

1. Elimination of the Attention to Detail Video in Training

On February 13, 1985, with San Onofre Unit 1 in Mode 3, a security guard left two doors of the San Onofre Unit 1 Sphere hatch open. This event was reported in License Event Report (LER) 85-006, March 18 1985, and was cited as a Severity Level 3 Notice of Violation (NOV), April 19 1985. As part of the response to this event, commitments were made to have all personnel with unescorted access to the Protected Area view a video tape presentation on the necessity for strict attention to detail.

The Southern California Edison (SCE) commitment made in LER 85-006 was :

The necessity for strict attention to detail and, among other things, the obligation to promptly report any discrepancies which occur, is included in a video tape presentation from the Edison Chairman and CEO to all personnel with unescorted access to the Protected Area. This presentation will be initiated in March 1985.

The SCE response to the April 19, 1985 NOV, dated May 17, 1985, made the following commitment:

The necessity for strict attention to detail and, among other things, the obligation to promptly report any discrepancies which occur, has been

included In a video tape presentation from the Edison Chairman and CEO to all personnel with unescorted access to the Protected Area.

The commitments that were made in the LER and NOV response initiated a presentation on attention to detail. There were no words in either of the commitments on the closure of the commitments. These commitments have been part of the curriculum for unescorted access to the Protected Area training for the last 15 years. Through this training, attention to detail and prompt notification of any discrepancies have been made part of the existing work culture. As a result, it is no longer deemed necessary to formally track this training as a regulatory based commitment to maintain the awareness for attention to detail at San Onofre.

This commitment change is being reported to the NRC in the Refueling interval summary report per the NEI Guidelines. This is a change to a commitment identified as both a long term corrective action in response to an NRC Notice of Violation and as a long term corrective action stated in an LER.

2. Reporting Unattended Weapons as 1-Hour Reports

As a result of an event which occurred at another nuclear power plant, SCE revised its Security procedure to make an unattended weapon in the Protected Area a 1- hour report instead of a 24-hour logable event.

On February 18, 1998, a Notice of Violation was issued for an unattended weapon which stated:

...on July 30, 1997, Security Procedure SO123-IV-11.2 was not adequately implemented when no 1-hour report was made to the NRC upon discovery of a weapon which was out of the control or physical custody of security personnel for several hours. Specifically, a contingency weapon container located inside the protected area, with a weapon and ammunition inside, was unlocked and unattended. The incident was logged in the safeguards event logs instead of being reported within 1-hour to the NRC.

The SCE response to the February 18, 1998 NOV, dated March 20, 1998, made the following commitment:

The reasons for the violation were: 1) the wording in one section of Security Procedure SO123-IV-11.2 was ambiguous, leading to the conclusion that events were to be logged instead of reported, and, 2) a misunderstanding of regulatory guidance for reporting a lost weapon.

Security Procedure SO123-IV-11.2 was revised to clarify the reporting requirements.

A subsequent unattended weapon event occurred inside the Protected Area and a 1-hour report was made. After the report for an unattended weapon was made, SCE concluded that the unattended weapon event did not meet the 1-hour reporting requirements specified in 10CFR73.71, Reporting of Safeguard Events, and as clarified by Regulatory Guide 5.62, 1987. 10CFR73.71, as amplified by Regulatory Guide 5.62, indicates that such an unattended weapon event would be logable only. After reviewing NRC reporting requirements, the Security procedure was revised back to make an unattended weapon in the Protected Area a 24-hour logable event instead of a 1-hour report.

This commitment change is being reported to the NRC in the Refueling interval summary report per the NEI Guidelines. This is a change to a commitment made to minimize the recurrence of an adverse condition, and the revised commitment is still necessary to minimize recurrence of the adverse condition. This is a change to a commitment identified as a long-term corrective action in response to an NRC Notice of Violation.

3. Storage of Training Records

To meet the 10 CFR 50.120 requirements for maintaining sufficient records to verify the adequacy of the training program, hard copies of the training attendance sheets and exam results were transmitted to the Corporate Document Management (CDM) Center for archiving. Generic Letter (GL) 88-018 provides guidance on the storage of plant records on optical discs. Regulatory Guide 1.88 provides guidance for collection, storage, and maintenance of nuclear power plant Quality Assurance records. Instead of transmitting hard copies of training attendance sheets and exam results to the CDM Center for archiving, these annual training records will now be electronically generated and stored consistent with the requirements of Regulatory Guide 1.88 and GL 88-018.

This commitment change is being reported to the NRC in the Refueling interval summary report per the NEI Guidelines. This is a change to a commitment that was necessary for compliance with an Obligation. The original commitment had been implemented, and the revised commitment preserves compliance.

4. Corporate Document Management Reviewer Comment Retention Requirements

10 CFR 50 Appendix B states that measures be established to control documents which prescribe all activities affecting quality. Records are to be maintained to furnish evidence of the results of the review. To meet this requirement, all reviewer comments

on procedure changes, design documents, and licensing basis document changes were transmitted to the Corporate Document Management (CDM) Center for archiving. The regulations and standards do not specifically define what constitutes the record of review or do not specify or require reviewer comments be considered as part of the record of review except for design documents (ANSI N45.2.11-1974). The reviewer comments are no longer considered part of the record of review for procedure changes or licensing basis document changes and are not maintained as a record of review. The record of review for procedure changes and licensing basis documents are the review and sign-off sheets.

This is being reported to the NRC in the Refueling interval summary report per the NEI Guidelines. This is a change to a commitment that was necessary for compliance with an Obligation. The original commitment had been implemented, and the revised commitment preserves compliance.

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