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U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D. C. 20555

Subject: Docket Nos. 50-206, 50-361, and 50-362
Annual Facility Change Report
San Onofre Nuclear Generating Station,
Units 1, 2, and 3

The enclosure to this letter provides the 1990 Annual Facility Change Report for the San Onofre Nuclear Generating Station as required by 10 CFR 50.59(b)(2). The report provides a brief description and a summary of the safety evaluation of each San Onofre Unit 1, 2, and 3 facility change, implemented from January 1 through December 31, 1990, which constituted a change to the facility as described in the Updated Final Safety Analysis Report (UFSAR).

During this period, there were no changes to the procedures that are described in the UFSAR, and San Onofre did not conduct any tests or experiments beyond those that are described in the UFSAR.

If you require any additional information, please let me know.

Very truly yours,

Enclosure

cc: J. B. Martin (Regional Administrator, USNRC Region V)
C. W. Caldwell (USNRC Senior Resident Inspector, Units 1, 2 and 3)
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ENCLOSURE 1

SAN ONOFRE NUCLEAR GENERATING STATION
UNITS 1, 2 AND 3

FACILITY CHANGES IMPLEMENTED IN 1990

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Unit 1/2/3

Facility Change: 1-88-3501.01, Revision 1

Title

Feedwater System Modifications to Meet Single Failure Criteria

Description

This facility modification replaced the existing Unit 1 Main Feedwater Block Valves and valve actuators with Environmentally Qualified (EQ) valves and actuators. The change was part of the required modifications to meet single failure and design basis transient acceptance criteria for the Main Feedwater isolation function of the Safety Injection System.

Safety Evaluation

The replacement of existing feedwater block valves with EQ valves did not adversely affect any systems function. Rather, isolation redundancy of the main feedwater lines is ensured during Safety Injection System (SIS) operations to eliminate the possibility of uncontrolled feedwater addition to the steam generators during either a Main Steam Line Break (MSLB) or Loss of Coolant Accident (LOCA). The components selected ensured that the affected systems and safety functions were not degraded by a common failure of a component that could occur due to exposure to post-accident environmental conditions. Although the replacement valve actuators required more power than the existing actuators, the additional electrical load on the diesel generators was less than 0.2%. This modification did not add any loads to either the 125 V DC batteries or the 120 V AC vital/regulated buses. The dynamic loads (i.e., water hammer) created by the valves decreased closing time were determined to be within the design limits of the existing piping. No new seismic, High Energy Line Break (HELB), or fire protection interactions resulted from these modifications.

The facility change did not affect any existing design bases or system functions assumed in the safety analysis. The probability of occurrence and the consequence of an accident or malfunction of any equipment important to safety previously evaluated in the Updated Final Safety Analysis Report (UFSAR) was not increased as a result of this change. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR was not created as a result of this change. This change had no effect on either the Limiting Condition for Operations (LCOs) or the Surveillance Requirements (SRs) in the Technical Specifications (TS), thus, the margin of safety as defined in the basis for any TS was not reduced as a result of this change.

Facility Change: LCP 1-3517, Revision 0

Title

Replacement of Anaconda Cables

Description

This facility change replaced butyl-rubber insulated Anaconda cables with environmentally qualified cables for the following components:

- The valves for the reactor coolant pump seal filter manifold bypass (MOV 19).
- The charging pump suction from the spent fuel pool/refueling water storage tank (MOV 1100B, and MOV 1100D).
- The solenoid valves of the excess letdown to seal water return control valve (CV412).
- The boric acid to volume control tank control valve (CV406A).
- The boric acid to charging pump suction control valve (CV406B).
- The turbine plant cooling water pump discharge pressure switch (PS80).
- The position limit switches for the control block valve to volume control tank (ZSO1410, ZSC1410, ZSO1411, and ZSC1411).
- The breaker for the containment sump recirculation pump (CBT45B).

Safety Evaluation

Replacing the existing butyl-rubber insulated cables with IEEE 383-1980 environmentally-qualified cables ensures that circuit integrity is maintained from an environmental and fire protection standpoint. This change does not affect the loading on the emergency diesel generators or batteries. The change in combustible loading resulting from the cable replacement is within the maximum allowable loading in the Updated Fire Hazards Analysis (UFHA).

The facility change did not affect any existing design bases or system functions assumed in the safety analysis. The probability of occurrence and the consequence of an accident or malfunction of any equipment important to safety previously evaluated in the UFSAR was not increased as a result of this change. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR was not created as a result of this change. This change had no effect on either the LCOs or the SRs in the TS, thus, the margin of safety as defined in the basis for any TS was not reduced as a result of this change.

Facility Change: MMP 1-3548.3SM, Revision 0

Title

Backup Nitrogen for the Hot Leg Recirculation (HLR) Components

Description

This facility change provides backup nitrogen from the Backup Nitrogen Supply (BNS) system to the primary HLR path valves FCV-1112 and CV-305 in the event instrument air is lost. A manual bypass around the backup nitrogen containment isolation valve (CV-532) is provided to prevent the loss of both HLR flow paths due to a single electrical failure. The existing four DOT 3AA 2400 bottles of the BNS were replaced with DOT 3AA 6000 bottles to provide sufficient nitrogen inventory to supply the requirements of both the Power Operated Relief Valves (PORVS) and the HLR path components.

Safety Evaluation

This facility change connected the existing BNS with existing plant components and functionally provided a backup for the instrument air system (IAS). The failure modes of the affected components remained unchanged on loss of their respective electrical power or motive pressure. Failure of the affected components on loss of IAS pressure was not credited in any existing failure modes and effects analysis.

The only potential accident-initiating effect of the BNS is due to its high pressure and as an internally generated missile source. However, the installed bottles and high pressure portions of the system are located far from other safety related equipment, and are provided with missile shields.

Connecting the HLR components to the modified BNS has improved the components reliability. The modified BNS system meets the functional capacity and flow rate requirements of the connected components for all applicable events.

The facility change did not affect any existing design bases or system functions assumed in the safety analysis. The probability of occurrence and the consequence of an accident or malfunction of any equipment important to safety previously evaluated in the UFSAR was not increased as a result of this change. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR was not created as a result of this change. This change had no effect on either the LCOs or the SRs in the TS, thus, the margin of safety as defined in the basis for any TS was not reduced as a result of this change.

Facility Change: MMP 1-3549, Revision 0

Title

Fuel Storage & Ventilation Buildings Roof Scupper Modifications

Description

This facility change modified the roof drain scuppers on both the Fuel Storage Building (FSB) and Ventilation Building (VB) to implement changes discussed in the 1984 probable maximum flood (PMF) analysis. The change implemented a more conservative design criteria for the orifice flow coefficient and rainfall intensity value recommended by the NRC following review of the PMF analysis. The scuppers involved in the change included the FSB north and south walls enlarging the existing scuppers from 2" x 8" to 3.5" x 8", and the VB east wall with from 2" x 8" to 3" x 8".

Safety Evaluation

The facility change ensures that the PMF water ponding heights, calculated using the NRC recommended values, do not exceed the original design values. This ensures that structural elements will not be overstressed due to ponding during a PMF and that the buildings will continue to perform their safety related functions. This change ensures that the FSB and the VB are in accordance with the analysis in the UFSAR and that these buildings remain qualified per seismic Category A criteria and Quality Class SR. This change does not modify the function or design of any existing safety related equipment and no safety related equipment was added. The enlargement of the roof scuppers ensures the buildings' roofs are designed for the PMF criteria and do not change any other plant functions or design bases.

The facility change did not affect any existing design bases or system functions assumed in the safety analysis. The probability of occurrence and the consequence of an accident or malfunction of any equipment important to safety previously evaluated in the UFSAR was not increased as a result of this change. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR was not created as a result of this change. This change had no effect on either the LCOs or the SRs in the TS, thus, the margin of safety as defined in the basis for any TS was not reduced as a result of this change.

Facility Change: MMP 1-3577.00SE, Revision 0

Title

8-Hour Emergency Lighting in Diesel Generator Building Vestibules

Description

This facility change installed 8-hour emergency lighting units (ELUs) in the Emergency Diesel Generator (EDG) Building vestibules as a result of a NRC Notice of Deviation (NOD) issued on October 26, 1989. Two self-contained 8-hour Emergency Lighting units, each with a minimum illumination level of 0.5 ft-candle, were installed to cover an area of 12 feet by 5 feet. The units provide sufficient illumination for safe operator access to the EDG building in the event all AC power is lost.

Safety Evaluation

This facility change provides an illumination level which meets the level required in UFSAR Section 9.5.3 for access and exit routes. The UFHA requires the EDG local control panels to be operable as safe shutdown equipment for the Unit 1 Appendix R Fire Areas 17A and 18 (Diesel Generator Building). The ELUs enhance operator safety in entering the vestibule area to perform safe shutdown activities.

The ELUs are connected to the same distribution panel lighting circuit for other existing ELUs. Emergency lighting is considered non-safety related fire protection equipment and does not interact or relate to the function of safety related equipment.

The probability of occurrence and the consequence of an accident or malfunction of any equipment important to safety previously evaluated in the UFSAR was not increased as a result of this change. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR was not created as a result of this change. This change had no effect on either the LCOs or the SRs in the TS, thus, the margin of safety as defined in the basis for any TS was not reduced as a result of this change.

Facility Change: 2-84-6238.00 , Revision 4

Title

Letdown System Modifications (Chemical and Volume Control System, CVCS)

Description

The facility change improves the characteristics and control of flow through the boronometer and Process Radiation Monitor (PRM) by:

- Providing an optimum flow of 8 and 5 gpm for the boronometer and the PRM, respectively, taken downstream of the filter to avoid instrument fouling.
- Replacing the existing flow indicator downstream of the boronometer and PRM with a venturi flow element equipped with a flow indicating transmitter.
- Adding a control valve provided with isolation and bypass valves and a spring loaded check valve in the main letdown line.
- Adding throttle valves downstream of the boronometer and PRM to allow individual flow control.
- Adding a high flow alarm annunciator at the main control panel 2CR-58A24, and a flow signal to the Critical Function Monitoring System (CFMS) that provides flow rates through the boronometer and the PRM.

Safety Evaluation

This change does not adversely affect the operation of the CVCS. There are no changes in the design function of the system. The system function remains as originally intended and the design bases are unaffected. The existing Seismic, HELBA and Fatigue analysis for the CVCS discussed in the FSAR were determined unaffected by this change, and therefore, all existing accident scenarios, consequences and probabilities are bounded by the existing FSAR analyses. The CVCS failure modes and effects are no different from those previously analyzed since the design bases and operating limits are unaffected.

The probability of occurrence and the consequence of an accident or malfunction of any equipment important to safety previously evaluated in the Updated final Safety Analysis Report (UFSAR) was not increased as a result of this change. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR was not created as a result of this change. This change had no effect on either the Limiting Condition for Operations (LCOs) or the Surveillance Requirements (SRs) in the Technical Specifications (TS), thus, the margin of safety as defined in the basis for any TS was not reduced as a result of this change.

Facility Change: 2-85-6106, Revision 0

Title

UHF & Private Automatic Exchange (PAX) Telephone Systems Modification

Description

This facility change expanded the capacity of the internal SCE telephone system (PAX) and UHF radio systems. The change also relocated four UHF repeater cabinets away from an ALARA zone. The increased PAX capacity was achieved by installing a high capacity VLCBX switching center. An 800 MHz in-line UHF repeater system provided additional radio channels beyond the existing 450 MHz system.

Safety Evaluation

This change did not modify the function or design of any existing safety related equipment and no safety related equipment was added. All changes addressed by this modification were related to telecommunications and lighting. The probability of occurrence and the consequence of an accident or malfunction of any equipment important to safety previously evaluated in the UFSAR will not be increased as a result of this change. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR was not created as a result of this change. This change had no effect on either the LCOs or the SRs in the TS, thus, the margin of safety as defined in the basis for any TS was not reduced as a result of this change.

Facility Change: 2-87-039, Revision 2

Title

Valve Stem Packing Configuration Change

Description

This facility change replaced existing valve stem packing, gland studs, and lantern rings in each of the eighteen valves targeted by the Valve Packing Quality Circle. The eighteen valves consisted of Main Feedwater (MFW) isolation valves, MFW block valves, MFW regulating valves, MFW regulating bypass valves, Main Steam (MS) isolation valves, Shutdown Cooling block valves, and Safety Injection Tank outlet motor operated valves (MOVs). This change used new materials to reduce boric acid related corrosion, and an advanced packing design, consistent with the results of the Electric Power Research Institute (EPRI) studies to improve valve stem leakage.

Safety Evaluation

The packing configuration change is superior to the original design and exceeds stem leakage requirements. The new materials were procured in accordance with applicable quality standards and met or exceed previous strength requirements. These changes did not affect the High Energy Line Break Analysis (HELBA) evaluation or the missile hazards described in the UFSAR. Based upon the unchanged design basis of all components affected by this change, the probability of occurrence and the consequence of an accident or malfunction of any equipment important to safety previously evaluated in the UFSAR was not increased. The minor changes in the valve stem packing configuration and materials whose operation and failure had been previously discussed in the FSAR did not create the possibility of an accident or malfunction of a different type than any already evaluated in the UFSAR. This change had no effect on either the LCOs or the SRs in the TS, thus, the margin of safety as defined in the basis for any TS was not reduced.

Facility Change: 2-87-6360, Revision 1

Title

Auxiliary Boiler Condensate System

Description

This facility change provided alternate flow paths for high conductivity water from the Auxiliary Boiler Deaerator to either the Unit 2 or 3 main condensers, the main condensate storage tank T-120, or to the Unit 3 outfall via the Steam Generator Processing Line. The overflow water was originally routed to the Temporary Startup Waste Water System which has now been dismantled. Block valves are installed to prevent leakage of Miscellaneous Waste Tank radioactivity to the Auxiliary Boiler Deaerator Tank.

Safety Evaluation

The high energy lines in the radwaste building are not sufficiently rerouted to affect the existing UFSAR analysis. The HELBA analysis for turbine building lines are bound by the effects of other lines (main steam) already addressed in the existing analysis. Therefore, no changes are required to mitigate HELBA effects as a result of this modification. The existing radiation monitor RE-7812 will cause diversion of condensate flow from the Condensate Tank to the Miscellaneous Waste Tank in the event of leakage in the gas stripper.

This facility change did not modify the function or design of any existing safety related equipment and no safety related equipment was added. The probability of occurrence and the consequence of an accident or malfunction of any equipment important to safety previously evaluated in the UFSAR was not increased as a result of this change. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR was not created as a result of this change. This change had no effect on either the LCOs or the SRs in the TS, thus, the margin of safety as defined in the basis for any TS was not reduced as a result of this change.

Facility Change: 2-88-6674, Revision 2

Title

Feedwater Isolation Valves (FWIVs), Feedwater Block Valves (FWBVs), and Main Steam Isolation Valves (MSIVs) Control System Modification

Description

This facility change upgraded the control systems of the FWIVs, FWBVs, and MSIVs and their associated hydraulic power units (HPUs). These improvements increased reliability and will preclude a single component failure from causing a spurious valve closure and subsequent plant trip. The FWIV and FWBV control systems originally had Marotta 1½" single-solenoid dump valves. This change replaced these dump valves with Enertech Paul Munroe 4" dual-solenoid dump valves. A Sollex solenoid life-extension unit was added to the control circuitry to reduce the solenoid coil voltage for approximately 5 seconds after energizing the solenoid. A bypass was also added to the Sollex life extension unit circuit. The bypass is used only for the MSIV 10% stroke test and is administratively controlled. Solenoid current monitors were added to provide an additional input to the control room "trouble" annunciator and will activate a white backlight on the control room handswitch when a solenoid is energized.

Separate DC breakers provide an independent 1E power source for each solenoid of each dual solenoid dump valve to diversify the power supply and improve reliability. New ESFAS subgroup MDR relays were installed and relay contact assignments were made such that each solenoid on a dump valve originates from a separate trip leg. This diversification will prevent a plant trip from occurring due to a spurious single leg trip.

The safety related battery load additions (deletions) for Cycle V Unit 2 DCPs, and the battery load service profile for Cycle V operation were included in this facility change package. Battery load calculations E4C-017, Revision 9 has been issued to address all of the Unit 2 Cycle V DCPs including the increased loads to batteries B007 and B008.

This facility change also provided for a separate non-1E 120 VAC power source for each hydraulic pump control circuit. Fuses were added to the HPU auto start/sequence circuitry to limit the current through a control relay according to Regulatory Guide 1.75, "Physical Independence of Electric Systems."

Facility Change: 2-88-6674, Revision 2 (continued)

Safety Evaluation

This facility change neither alters the design criteria nor adds any components whose single failure would prevent the MSIVs, FWIVs, or FWBVs from performing their designed safety functions. The Enertech control valves allow two solenoid pilot valves to be controlled independently such that a single failure will not result in the closure of an MSIV, FWIV, or FWBV. The redundant dump valve configuration and fail-safe design permits closure of the MSIV, FWIVs and FWBVs following an Engineered Safety Feature Actuation or on control room demand, but the valves remain open in the event of a single component failure. The Response times for the MSIVs, FWIVs and FWBVs were verified to be within the limits of the governing TS. Adding the Sollex solenoid life-extension unit into the MSIV, FWIV and FWBV control circuits will not prevent them from performing their safety functions. The MSIV Sollex bypass switch is a non-operational bypass which has no affect on the safety functions of the MSIV. The solenoid current monitors activate the valve trouble annunciator and extinguishes an indicating light on the control room handswitch when the solenoid current exceeds or falls below the solenoid design limits. The use of a separate control circuit power supply and the redundant hydraulic dump valve configuration provide adequate single failure protection with the Sollex units and current monitors. The net load addition for Cycle 5 DCPs to batteries 2B007 and 2B008 is within their available capacity.

Separate HPU power supplies improve the reliability of the HPU control circuits. The addition of fuses to the 120 VAC HPU control circuitry provide current limitation on the 1E safety relay contacts should the non-1E portion of the circuit develop a current fault. The fuses have no adverse impact and will protect the safety related function of the MDR relays.

All components added or used for replacement were qualified in accordance with the quality classes and seismic categories of the original components. The hydraulic control valves were all QC II, SC I design and were environmentally qualified for MSIV and FWIV service. This change did not affect the existing high energy line break analysis, the accident analysis, and the transient analysis because the design basis and function of the FWIVs, FWBVs, and MSIVs were not affected. The probability of occurrence and the consequence of either an accident or a malfunction of any equipment important to safety previously evaluated in the UFSAR was not increased as a result of this change. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR was not created as a result of this change. This change had no effect on either the existing LCOs or the SRs in the TS, thus, the margin of safety as defined in the basis for any TS was not reduced as a result of this change.

Facility Change: 2-89-053, Revision 0

Title

Unit 2 Cycle 5 Core Reload

Description

This facility change refueled San Onofre Unit 2 for Cycle 5 using the debris-resistant fuel assembly design introduced at SONGS Unit 3 (See Facility Change 3-88-032 included in this report). The expected End of Cycle (EOC) burnup is 19,250 MWD/MT (508 EFPD) with 108 new assemblies loaded. The engineering evaluation of the Cycle 5 fuel reload and extended fuel cycle was performed by Combustion Engineering (CE). The safety analysis for Units 2 and 3 previously used the Standard Review Plan's "fuel rod internal pressure less than RCS pressure" criterion. Now the fuel rod fission gas "critical Pressure" criterion is used, as justified in Combustion Engineering's report CEN-372-P, 1988. The NRC issued a Safety Evaluation Report on April 10, 1990, accepting this change in the safety analysis criteria.

Safety Evaluation

The Cycle 5 core reload replaced burned fuel with fresh fuel and thus did not involve major plant modifications. The only potential accident associated with this change concerns a refueling accident. However, this type of accident has been previously considered and there has been no change which would increase the probability of this type of occurrence. Since the fuel is not an event initiator, it will not increase the probability of occurrence of a malfunction of equipment important to safety. Combustion Engineering's safety analysis for the new fuel assemblies concluded that the consequences of all incidents reported in the FSAR was not increased due to the Cycle 5 core reload. The predicted results for all Design Basis Events (DBE's) for Cycle 5 are bounded by the Cycle 5 safety analysis and the margin of safety has not degraded from previous values. Therefore, the probability of occurrence and the consequence of an accident or malfunction of any equipment important to safety previously evaluated in the UFSAR was not increased as a result of this change. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR was not created as a result of this change. This change had no effect on either the LCOs or the SRs in the TS, thus, the margin of safety as defined in the basis for any TS was not reduced as a result of this change.

Facility Change: 2-89-6651, Revision 0

Title

Relocation and Addition of CVCS Letdown Accumulator

Description

This facility change modified the letdown back-pressure control portion of the Chemical and Volume Control System (CVCS) to improve system performance and maintainability. The existing letdown accumulator was moved to Room 218A and a second accumulator was added downstream of the letdown heat exchanger. The accumulator inlet piping and shutoff valves were changed from 1" to 2", and the drain line shutoff valves were changed from 2" to 3/4". A control panel to allow nitrogen charging of the accumulators, and a drain line to the floor drain were installed near the entrance of Room 218A.

Safety Evaluation

This change improved the reliability, maintainability, and performance of the letdown back-pressure control. The addition of the second accumulator to the letdown line and the configuration change to the inlet line increased the backpressure stability of the letdown heat exchanger under normal conditions. Room 218A does not contain equipment important to safety. HELB effects are bounded by the existing analysis in Section 3.6 of the UFSAR. The accumulators, associated piping, and supports were designed to the quality class, seismic category, and code requirements of the letdown line.

This change did not modify the function or design of any existing safety related equipment. The probability of occurrence and the consequence of an accident or malfunction of any equipment important to safety previously evaluated in the UFSAR was not increased as a result of this change. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR was not created as a result of this change. This change had no effect on either the LCOs or the SRs in the TS, thus, the margin of safety as defined in the basis for any TS was not reduced as a result of this change.

Facility Change: 2-89-6683.2, Revision 0

Title

Snubber Reduction Program, Phase III.b

Description

This facility change removed and/or replaced approximately 141 safety related mechanical snubbers with rigid sway struts or guides. These snubbers were located in the Containment Spray, Safety Injection, Fuel Storage Pool and Refueling, Reactor Coolant, Boric Acid Make-up, Chemical and Volume Control, Component Cooling Water, and Nuclear Sampling piping systems. Additionally, the blind flange at the end of the pressurizer spray line test connection were changed to a welded cap to reduce the seismic loads and eliminate the test line snubber. This facility change was limited to the piping, snubbers, struts, and supports in the nine pipe stress calculations which provide the bases for the Phase III.b Snubber Reduction Program, namely: PSG-40, 52, 62, 77, 82, 211, 316, 328 and 353.

Safety Evaluation

The Snubber Reduction Program design criteria approved by the NRC, has been incorporated in the SONGS Units 2/3 UFSAR. The optimized configurations of the nine Unit 2 pipe stress and pipe support calculations have been verified by stress analyses to be in accordance with the NRC approved criteria and ASME code criteria. The removal/replacement of the snubbers does not adversely impact the system function or the pressure boundary of the piping systems. There are instances where the expected stresses will be higher than indicated in the original analysis. However, these stresses are below those allowed by applicable ASME codes. The probability of a high energy line break in the optimized configuration will not be increased and the modes of failure are no different than previously analyzed.

All design functions of the piping systems were not changed. The probability of occurrence and the consequence of an accident or malfunction of any equipment important to safety previously evaluated in the UFSAR was not increased as a result of this change. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR was not created as a result of this change. This change had no effect on either the LCOs or the SRs in the TS, thus, the margin of safety as defined in the basis for any TS was not reduced as a result of this change.

Facility Change: 2-89-6696.08, Revision 1

Title

Temporary Gantry Crane Lateral Support Rail

Description

This facility change provided for permanent plant modifications in support of a temporary gantry crane required for the spent fuel rerack project. The existing fuel handling machine rails were extended two feet at the cask pool end of the fuel handling building. Also, a lateral restraint rail was installed on the west wall of the Fuel Handling Building with lateral restraint supports and a festoon track for crane power. Non-1E Power was provided from cubicle 2BN02 with a 480V, 90A, disconnect switch and pull box electrical feeder.

Safety Evaluation

It has been determined that the west wall of the Fuel Handling Building has adequate capacity for the additional seismic lateral loads associated with this change. All of the new supports located in the Fuel Handling Building are designed for seismic interaction II/I because of the proximity to the fuel pool. This change did not modify the function or design of any existing safety related equipment and no safety related equipment was added. The probability of occurrence and the consequence of an accident or malfunction of any equipment important to safety previously evaluated in the UFSAR was not increased as a result of this change. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR was not created as a result of this change. This change had no effect on either the LCOs or the SRs in the TS, thus, the margin of safety as defined in the basis for any TS was not reduced as a result of this change.

Facility Change: LCP 2-6358.00 SE, Revision 0

Title

Permanent Cables to Replace Undocumented Temporary Cables

Description

This facility change replaced existing undocumented temporary cables (2AC-19, 2EGT-03, 2PB-07, and 2TB-07) which supply power, telecommunications, testing, calibration, etc. in support of day to day plant activities. The permanent cables were installed in existing raceways, and new Seismic Category I conduits were provided where existing trays were not available.

Safety Evaluation

These permanent cables and new conduits did not impact the existing safety systems. Functions of the cables remained the same. Only cable #2AC-19 will be connected to a safety related system for rod drop testing and only during outages. At all other times the cable will remain disconnected in accordance with procedures. The remaining cables providing lighting, telecommunications, power supply, and control will not cause a malfunction or accident. Conduits were installed per Seismic Category I requirements.

This change did not modify the function or design of any existing safety related equipment and no safety related equipment was added. The increase in combustible loading due to the permanent cables was insignificant and determined to be within the allowable loading in the UFHA. The probability of occurrence and the consequence of an accident or malfunction of any equipment important to safety previously evaluated in the UFSAR was not increased as a result of this change. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR was not created as a result of this change. This change had no effect on either the LCOs or the SRs in the TS, thus, the margin of safety as defined in the basis for any TS was not reduced as a result of this change.

Facility Change: MMP 2-6795.00SM , Revision 0

Title

Diesel Generator Fuel Oil Day Tank Level Settings

Description

This facility change verified and adjusted the setpoints of the fuel oil day tank level instruments and deleted the high level alarm. This change resulted from a concern, which was identified during a Safety System Function Inspection of electrical systems conducted by the NRC on September 12-18, 1989, that the setpoints of the fuel oil transfer system for the diesel generators may not have been consistent with Technical Specification 3/4.8 requirements. Nonconformance Report NCR #2-3050 was generated to address the lack of formal calculations for the day tank volume and the design bases for the level setpoints.

Safety Evaluation

This facility change did not add, modify or delete any automatic signals which control the operation of any safety related equipment. The new setpoints ensure that the fuel oil level in the day tank is consistent with the Technical Specification requirements. The remaining functions of the fuel oil day tank level control system remain the same with the new setpoints based on a revised day tank useable volume, instrument tolerances, and calibration tolerances.

The probability of occurrence and the consequence of an accident or malfunction of any equipment important to safety previously evaluated in the UFSAR was not increased as a result of this change. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR will not be created as a result of this change. This change had no effect on either the LCOs or the SRs in the TS, thus, the margin of safety as defined in the basis for any TS was not reduced as a result of this change.

Facility Change: 3-87-015, Revision 0

Title

Unit 3 Containment Utility Power Supply

Description

This facility change provided permanent 480 V, 400 A, Unit 3 containment utility power from Load Center 3B08 Breaker 02. This change eliminated the need to install temporary cabling for power source requirements greater than the existing welding receptacles can handle, and resolved Site Problem Report 860256.

Safety Evaluation

This modification meets the design requirements for a continuously energized feeder inside containment. Load Center 3B08 Breaker 02 is Quality Class III and the cabling is 500 MCM routed through penetration 75. This change will have no adverse impact on the load center and its associated loads. This modification neither alters the established design criteria nor affects the design functions of load center 3B08 or penetration 75. The probability of occurrence and the consequence of an accident or malfunction of any equipment important to safety previously evaluated in the UFSAR was not increased as a result of this change. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR was not created as a result of this change.

This feeder will not be energized in Modes 1-4 unless Technical Specification 3.8.4, which governs the electrical penetrations, is revised. Operating procedure for containment integrity verification ensures that load breaker 3B0802 remains racked out in Modes 1-4. This change had no effect on either the Limiting Condition for Operations (LCOs) or the Surveillance Requirements (SRs) in the Technical Specifications (TS), thus, the margin of safety as defined in the basis for any TS was not reduced as a result of this change.

Facility Change: 3-87-6553, Revision 1

Title

Addition of an Anticipated Transient Without Scram Diverse Scram System.

Description

This facility change implemented the Diverse Scram System (DSS) portion of the Anticipated Transient Without Scram (ATWS) requirements of 10 CFR 50.62. The DSS will trip the reactor and turbine, mitigating the consequences of an ATWS. The ATWS/DSS is a four-channel, two-out-of-four logic reactor trip actuation system consisting of four pressure transmitters, a two-bay cabinet, a system alarm and status displays in the Critical Functions Monitoring System (CFMS), and associated cabling. The two-bay DSS cabinet is located in the Control Element Drive Mechanism Control System (CEDMCS) equipment room. The DSS bistables and two-out-of-four logic are configured with Foxboro Spec 200 and Spec 200 micro modules which are totally diversified from the existing Reactor Protection System (RPS) components.

In addition, the watch-dog timer circuit card of the CFMS was modified to enable the "ATWS/DSS Trouble," "CFMS/QSPDS Trouble," and "Reactor Coolant Pressure Boundary / Unidentified Leakage Abnormal" alarms in the Control Room to operate whenever the CFMS computer fails. A detailed description of the ATWS/DSS design was provided to the NRC in a letter on November 22, 1988, M. O. Medford to USNRC Document Control Desk, "Additional Information Concerning the Diverse Scram System (DSS) and Diverse Turbine Trip (DTT) Proposed in 10 CFR 50.62," Docket Nos. 50-361 and 50-362.

Safety Evaluation

The DSS is a completely independent and diversified system from the existing RPS. The design complies with the functional and quality assurance requirements of 10 CFR 50.62, and incorporates the recommendations of Generic Letter 85-06. The DSS is a stand-alone system which does not interface with any other equipment important to safety except the pressurizer pressure transmitter (PPT) sensing lines. The reliability and integrity of the PPT sensing lines are not affected because any fault developed in the DSS is provided the proper isolation. The DSS is built to Quality Class III/ATWS, Seismic Category II/I design requirements. The four new DSS Rosemount pressure transmitters and the associated inside-containment tubing are Class 1E qualified, QC II, and Seismic Category I design.

Facility Change: 3-87-6553, Revision 1 (continued)

This change did not modify either the function or the design of any existing safety related equipment. The probability of occurrence and the consequence of either an accident or a malfunction of any equipment important to safety previously evaluated in the UFSAR was not increased as a result of this change. The possibility of either an accident or a malfunction of a different type than any previously evaluated in the UFSAR was not created as a result of this change. This change had no effect on either the existing LCOs or the SRs in the TS, thus, the margin of safety as defined in the basis for any TS was not reduced as a result of this change.

Facility Change: 3-88-032, Revision 0

Title

Unit 3, Batch F Fuel Design Change

Description

The SONGS Unit 3 batch F fuel incorporated a debris-resistant design which moved the fuel column above the lower grid to avoid clad fretting wear induced by trapped debris. To allow for the lengthened solid lower end cap, the fission gas plenum length was reduced, one pellet was removed from the fuel pellet stack, and the upper and lower end fittings were shortened. These design changes were specified for all new fuel in both Units 2 and 3, beginning with the Unit 3, cycle 4 refueling.

Safety Evaluation

The SONGS 2/3 fuel assembly design basis includes fuel assembly and fuel rod structural integrity criteria for design conditions I, II, III, and IV as described in section 4.2.1.1 of the UFSAR. The potential impact from the proposed modifications on structural design was reevaluated for seismic and accident conditions by Combustion Engineering. The solid lower end fitting improves the mechanical integrity of the fuel cladding design. The decrease in fission gas plenum length does not affect fission gas accumulation volume due to the decrease in spring volume. The spring constant is unchanged.

The debris resistant design impacted the nuclear design criteria through a small axial displacement in the active fuel region. The active fuel zone was raised by two inches and affected the Core Monitoring and Protection Systems, Power Dependent Insertion Limits and Axial Shape Index Monitoring. Combustion Engineering provided software data changes needed to accommodate the axial shift in fissile material.

The thermal and hydraulic design basis parameters affected by the new fuel design include the linear heat generation rate and core averaged heat flux. These factors increased due to the reduction in active fuel length and the associated reduction in heat transfer. The resulting penalty in calculating DNB overpower margin was explicitly accommodated in the core power distribution monitoring systems, COLSS and CPC. Combustion Engineering performed air flow model tests which indicate no increase in core pressure drop.

Facility Change: 3-88-032, Revision 0 (continued)

Combustion Engineering, the designer of the fuel assemblies, was responsible for performing the associated safety analysis. Combustion Engineering's review followed the guidelines of 10 CFR 50.59 and resulted in a finding that no unreviewed safety question resulted from the incorporation of the debris-resistant design change in SONGS Units 2 and 3. The modification to the lower end cap and lower end fitting did not affect the probability of occurrence for a previously evaluated accident since the fuel is not an event initiator. The non-LOCA and LOCA safety analysis was unaffected by this design change.

The probability of occurrence and the consequence of an accident or malfunction of any equipment important to safety previously evaluated in the UFSAR was not increased as a result of this change. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR was not created as a result of this change. This change had no effect on either the LCOs or the SRs in the TS, thus, the margin of safety as defined in the basis for any TS was not reduced as a result of this change.

Facility Change: 3-89-047, Revision 0

Title

Temporary Support Facility for the Refueling Organization

Description

This facility change documents the construction of a prefabricated metal building located on the mobile radwaste pad south of the Unit 3 turbine building. The building is called the Refueling Organization Staging, Training, and Equipment Repair Building (ROSTER), and is used for the training, staging and repair of radiation contaminated tools and equipment. The building is supported by the concrete perimeter berm of the Mobile Radwaste Pad and is attached to the berm by concrete expansion anchors. The building consists of four walls and a roof with no interior walls or flooring. This change was prepared in response to Corrective Action Request (CAR) SO-P-1209, Rev. 0 which identified the ROSTER was installed prior to generating the Proposed Facility Change documentation.

Safety Evaluation

The ROSTER building is located beyond the 20 foot Protected Area Isolation Zone requirement and is quality class IV, seismic category III and designed to the appropriate Uniform Building Code (UBC) loading conditions. Engineering evaluation determined the potential tornado generated missile effect of this building on the nearest Safety Related structures (Unit 3 Tank Building and Diesel Generator Building), have been previously considered in the design of safe shutdown structures shown in table 3.5-6 of the UFSAR.

This change did not modify the function or design of any existing safety related equipment and no safety related equipment was added. The probability of occurrence and the consequence of an accident or malfunction of any equipment important to safety previously evaluated in the UFSAR was not increased as a result of this change. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR was not created as a result of this change. This change had no effect on either the LCOs or the SRs in the TS, thus, the margin of safety as defined in the basis for any TS was not reduced as a result of this change.

Facility Change: 3-6605.02BJ, Revision 0

Title

Modification of Atmospheric Dump Valves to Provide "Auto" Function

Description

A Detailed Control Room Design Review (DCRDR M37328) based on the guidelines provided by NUREG-0700 resulted in the generation of Human Engineering Discrepancies (HEDs) and identified the Atmospheric Dump Valve (ADV) controllers to require improvement with respect to human factors layout. This facility change provided the option for control room operators to automatically operate the ADVs to control steam generator (SG) pressure in the pressure control mode, in addition to the manual control (fail safe) mode. In the automatic mode, the ADVs will control SG pressure to a setpoint entered into the Continuous Display Stations (CDSs). The ADV controllers were provided with two SG pressure inputs, the lower of these two pressure signals is used for control to prevent the ADV from opening if a transmitter fails high. If a transmitter fails low, the ADV controller loses its capability to operate in the automatic mode and returns to the manual control mode.

The existing Bailey ADV positioners were replaced with Moore positioners equipped with position transmitters to allow the actual valve position to be displayed in the main control room. The Foxboro Spec 200 micro CDSs replaced the hand indicating controllers and provided input to the Critical Function Monitoring System (CFMS) and the Plant Monitoring System (PMS). The Foxboro 2CCA card was programmed for the ADVs to close and revert control to manual (fail safe) if control power was lost and subsequently restored.

Safety Evaluation

The most severe consequences of a possible accident caused by this change would be those associated with an ADV failing open. However, this scenario is already bounded by the existing analysis presented in UFSAR section 15.1.1.4, "Inadvertent Opening of Steam Generator Atmospheric Dump Valve". Alternate means are provided to close the ADVs assuming a single electrical failure, i.e., the manual controller in case the automatic controller fails or the solenoid valves in case the manual controller fails. In either case, a handwheel is provided to operate the ADV manually. The controllers are maintained in the manual mode when the ADVs are not in use to preclude the ADV associated with the intact SG from automatically opening, due to an accident initiated pressure transient, or failing to close.

Facility Change: 3-6605.02BJ, Revision 0 (continued)

The probability of occurrence and the consequence of an accident or malfunction of any equipment important to safety previously evaluated in the UFSAR was not increased as a result of this change. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR was not created as a result of this change. This change had no effect on either the LCOs or the SRs in the TS, thus, the margin of safety as defined in the basis for any TS was not reduced as a result of this change. The addition of the automatic controller and maintaining it in manual when the ADVs are not in use does not affect either the TS 3.3.2 response time or operability of the ADV.

Facility Change: 3-6605.03BJ, Revision 1

Title

Condensate Pump P-053 Autostart

Description

This facility change incorporated an auto start feature with a time delay to one of the four condensate pumps (P053) for Unit 3. This change saves approximately one megawatt of power by having three condensate pumps in service and the fourth pump in standby instead of all four pumps in service simultaneously. A time delay was added to the hotwell high conductivity auto start circuitry to filter out spikes in the conductivity signal and prevent frequent pump starts. The auto start signal is actuated by any of the following: a condensate or heater drain tank pump trip, a pressure drop in condensate header or feed pump suction, or a 30-second period of high hotwell conductivity.

Safety Evaluation

This change did not affect the safety related portions of the condensate and feedwater systems. The systems affected were the non-safety related portions upstream of the feedwater isolation valves which are not covered by the Technical Specifications. The 56 watts of power required by this change was provided by the non-safety related 125 VDC battery (3B011) which has a sufficient margin to accommodate this requirement.

This change did not add any safety related equipment or modify the function or design of any existing safety related equipment. The probability of occurrence and the consequence of an accident or malfunction of any equipment important to safety previously evaluated in the UFSAR was not increased as a result of this change. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR was not created as a result of this change. This change had no effect on either the LCOs or SRs governed by existing TS, the margin of safety as defined in the basis for any TS was not reduced as a result of this change.

Facility Change: 3-6651.00, Revision 0

Title

Letdown System Modification

Description

This facility change implemented several plant modifications to facilitate surveillance and maintenance activities related to the letdown system accumulators. The following improvements were made:

- Relocation of the letdown accumulators to room 218H, downstream of the letdown heat exchanger and upstream of the backpressure control valves.
- The addition of a nitrogen charging control panel near the entrance to room 218H for monitoring and recharging the accumulators.
- The accumulator drains were routed to a radioactive drain to prevent spillage of radioactive fluid.
- Replacement of the single packless isolation valve located upstream of each backpressure control valve with two packed isolation valves for positive isolation during maintenance activities.

Safety Evaluation

This change did not alter the intended function of the letdown system, accumulators or backpressure control valves. This change did not modify the function or design of any existing safety related equipment. The piping, piping components, accumulators, and accumulator charging units up to, and including, the first isolation valve are safety related, Quality Class II, Seismic Category I. The piping, piping components, and pipe supports downstream of the accumulator drain valves are Quality Class III, Seismic Category II/I. The piping was analyzed in accordance with ASME Section III Subsection NC 1974 and addenda through Summer 1974. Code case N-411 damping was used for the dynamic seismic analysis.

The probability of occurrence of the two postulated incidents involving the Chemical and Volume Control System (CVCS) (UFSAR Sections 15.4.1.4, 15.5.1.1 and 15.5.2.1) was not increased and did not involve the CVCS letdown subsystem. The accumulators were located in a valve room with no safety related components and as such, HELB effects were bounded by the existing HELB analysis. The probability of occurrence and the consequence of an accident or malfunction of any equipment important to safety previously evaluated in the UFSAR was not increased as a result of this change. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR was not created as a result of this change. This change had no effect on either the LCOs or the SRs in the TS, thus, the margin of safety as defined in the basis for any TS was not reduced as a result of this change.

Facility Change: 3-6696.08, Revision 1

Title

Temporary Gantry Crane Lateral Support Rail

Description

This facility change provided for permanent plant modifications in support of a temporary gantry crane required for the spent fuel rerack project. The existing fuel handling machine rails were extended two feet at the cask pool end of the fuel handling building. Also, a lateral restraint rail was installed on the west wall of the Fuel Handling Building with lateral restraint supports and a festoon track for crane power. Non-1E Power was provided from cubicle 3BN19 with a 480V, 90A, disconnect switch and pull box electrical feeder.

Safety Evaluation

It has been determined that the west wall of the Fuel Handling Building has adequate capacity for the additional seismic lateral loads associated with this change. All of the new supports located in the Fuel Handling Building are designed for seismic interaction II/I because of the proximity to the fuel pool. This change did not modify the function or design of any existing safety related equipment and no safety related equipment was added. The probability of occurrence and the consequence of an accident or malfunction of any equipment important to safety previously evaluated in the UFSAR was not increased as a result of this change. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR was not created as a result of this change. This change had no effect on either the LCOs or the SRs in the TS, thus, the margin of safety as defined in the basis for any TS was not reduced as a result of this change.

Facility Change: 3-6713.00BM, Revision 0

Title

Unit 3 Fuel Handling Building Isolation System Condensate Removal

Description

The Fuel Handling Isolation System (FHIS) was designed to respond to signals from radiation monitors 3RE-7822-1 and 3RE-7823-1. However spurious actuations of the FHIS were attributed to flooding of the detector caused by condensation in the sample lines of the monitors. This facility change installed a 10-gallon condensate drain pot on the FHIS radiation monitor sample lines to prevent detector flooding and spurious actuations. The drain pot consisted of a 1" manual ball valve and 1/4" tubing for draining the condensate to the radioactive drain system.

Safety Evaluation

This facility change enhanced the operation and reliability of the FHIS by preventing spurious activation signals due to radiation detector flooding. The failure modes are no different than those previously analyzed since the added components are passive and the design bases and operating limits remain unchanged. Calculation N-0720-010 performed for this change concludes the concentration of iodine/particulate remaining in the monitors' sample lines following a design basis fuel handling accident is sufficient to actuate the FHIS. The 10-gallon drain pots and piping are supported to meet Seismic Category I requirements. The drain collection header is Seismic Category II. This change does not modify the function or design of any existing safety related equipment and no safety related equipment was added.

The probability of occurrence and the consequence of an accident or malfunction of any equipment important to safety previously evaluated in the UFSAR was not increased as a result of this change. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR was not created as a result of this change. This change had no effect on either the LCOs or the SRs in the TS, thus, the margin of safety as defined in the basis for any TS was not reduced as a result of this change.

Facility Change: LCP 3-6358.00 SE, Revision 0

Title

Permanent Cables to Replace Undocumented Temporary Cables

Description

This facility change replaced three temporary cables at Unit 3 which supply power for testing/calibration, lighting, and telecommunications. Temporary cables 3AC-18, 3IS-02, and 3PB-02, respectively, provided power for rod drop testing during outages, illuminating an area below the fish trailer, and linking the in-line amplifiers to the 800 MHz radio systems at the 63' elevation Penetration Building. The new permanent cables were routed in the existing trays. New conduits were used where trays were not available.

Safety Evaluation

The new cables and conduits do not impact the existing safety systems. Although cable 3AC-18 connects to a safety related system, it remains disconnected, in accordance with procedural guidelines, except during outages when the power is used for rod drop testing. Cables 3IS-02 and 3PB-02, which provide power for lighting and telecommunications, respectively, and will not cause a malfunction or accident affecting safety related systems. New conduits are designed to Seismic Category I requirements.

This change did not add any safety related equipment and did not modify the function or design of any existing safety related equipment. The probability of occurrence and the consequence of an accident or malfunction of any equipment important to safety previously evaluated in the UFSAR was not increased as a result of this change. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR was not created as a result of this change. This change had no effect on either the LCOs or the SRs in the TS, thus, the margin of safety as defined in the basis for any TS was not reduced as a result of this change.

Facility Change: MMP 3-6759, Revision 0

Title

Pressurizer Auxiliary Spray Line Modification

Description

A modification to the pressurizer auxiliary spray line was implemented to reduce cyclic thermal stress at the check valve. In order to reduce the temperature difference across the check valve, it was relocated approximately 10 ft. to an upstream position. The check valve and piping material from the check valve to the main pressurizer spray line was replaced. Additionally, a minor pipe reroute was done and a pipe support was changed from a snubber to a rigid strut. This change was in response to the NRC Bulletin 88-08.

Safety Evaluation

The relocation of the check valve does not result in any change to the original plant design. The extension of high energy piping does not create any new HELBA considerations which were not previously considered. This change results in a decrease in potential failure by reducing the fatigue induced by high thermal cyclic stress associated with isolation leakage and check valve chattering. Therefore, the probability of a potential LOCA is reduced.

This change did not modify the function or design of any existing safety related equipment. The probability of occurrence and the consequence of an accident or malfunction of any equipment important to safety previously evaluated in the UFSAR was not increased as a result of this change. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR was not created as a result of this change. This change had no effect on either the LCOs or the SRs in the TS, thus, the margin of safety as defined in the basis for any TS was not reduced as a result of this change.

Facility Change: MMP 3-6787.00SC , Revision 0

Title

Cargo Container and Tool Trailer Structure West of Unit 3 Diesel Generator Building

Description

Six cargo containers and a 40 foot tool trailer, were installed west of the Unit 3 Diesel Generator Fuel Oil Storage Tank, to provide office and material storage space within the protected area during outages. The cargo containers and tool trailer were welded to plates embedded in concrete footings level with the surrounding asphalt pavement.

Safety Evaluation

This minor modification provides for the temporary installation of six cargo containers and a tool trailer located west of the unit 3 Diesel Generator Fuel Oil Storage Tank. The foundations and attachments are Quality class II and seismic category I/II due to the container's proximity to the Unit 3 Diesel Generator Fuel Oil Storage Tanks and safety related cables in nearby manholes. This installation does not adversely affect the basis for the Appendix R deviation request submitted to the NRC on November 21, 1988.

This change did not modify the function or design of any existing safety related equipment and no safety related equipment was added. The probability of occurrence and the consequence of an accident or malfunction of any equipment important to safety previously evaluated in the UFSAR was not increased as a result of this change. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR was not created as a result of this change. This change had no effect on either the LCOs or SRs in the TS, thus, the margin of safety as defined in the basis for any TS was not reduced as a result of this change.

Facility Change: MMP 3-6788, Revision 0

Title

CEDM Snubber Removal and Replacement with Rigid Strut

Description

This facility change replaced 216 Control Element Drive Mechanism (CEDM) mechanical snubbers with rigid struts. The replacement struts were designed to fit existing mounting studs on the shroud assembly and the seismic plate for the existing snubbers. This change eliminated the periodic surveillance testing required for these snubbers.

Safety Evaluation

Replacing the CEDM snubbers with rigid struts did not modify the dynamic response of the CEDMs and the Reactor Coolant System. The replacement struts were designed to limit the motion of the CEDMs and to withstand the dynamic loads during a Design Basis Earthquake. A computer model incorporating this change was developed by Combustion Engineering to ensure proper operation of the CEDMs in accordance with the UFSAR and ASME Codes. The physical modifications involved in this change did not affect the pressure boundary or the internals of the CEDMs. The installed change was verified to be in accordance with the applicable sections of the UFSAR and ASME codes.

The probability of occurrence and the consequence of an accident or malfunction of any equipment important to safety previously evaluated in the UFSAR was not increased as a result of this change. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR was not created as a result of this change. This change had no effect on either the LCOs or the SRs in the TS, thus, the margin of safety as defined in the basis for any TS was not reduced as a result of this change.

Facility Change: MMP 3-6795.00SM , Revision 0

Title

Diesel Generator Fuel Oil Day Tank Level Settings

Description

This facility change verified and adjusted the setpoints of the fuel oil day tank level instruments and deleted the high level alarm. This change resulted from a concern, which was identified during a Safety System Function Inspection of electrical systems conducted by the NRC on September 12-18, 1989, that the setpoints of the fuel oil transfer system for the diesel generators may not have been consistent with Technical Specification 3/4.8 requirements. Nonconformance Report NCR #3-2512 was generated to address this concern and as well as the lack of formal calculations for the day tank volume and the design bases for the level setpoints.

Safety Evaluation

This change did not add, modify or delete any automatic signals which control the operation of any safety related equipment. The new setpoints ensure that the fuel oil level in the day tank is consistent with the Technical Specification requirements. The remaining functions of the fuel oil day tank level control system remain the same with the new setpoints based on a revised day tank useable volume, instrument tolerances, and calibration tolerances.

The probability of occurrence and the consequence of an accident or malfunction of any equipment important to safety previously evaluated in the UFSAR was not increased as a result of this change. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR was not created as a result of this change. This change had no effect on either the LCOs or the SRs in the TS, thus, the margin of safety as defined in the basis for any TS was not reduced as a result of this change.

Facility Change: 2/3-87-002, Revision 1

Title

Main Feedwater Control System Modifications

Description

This facility change involved four modifications related to the root cause of several reactor trips associated with steam generator water level transients at low power levels. The change added a wide range steam generator level indication with alarm function, a differential pressure indication across feedwater control valves, and dual speed chart drives for several recorders. The Plant Protection System (PPS) pre-trip alarm setpoints were reduced for narrow range steam generator level, high and low. These changes allow for new operating guidelines to be implemented which address the "shrink-and-swell" phenomenon responsible for steam generator high level trips at low power.

Safety Evaluation

This change added display and alarm instrumentation for wide range steam generator level, Feedwater Control Valve differential pressure, and lowers the PPS steam generator level pre-trip setpoints. This enhanced the operator's ability to control the steam generator level at low power levels. The instrumentation was for alarm and indication only and will not perform any control function. This change did not modify the function or design of any existing safety related equipment and no safety related equipment was added.

The probability of occurrence and the consequence of an accident or malfunction of any equipment important to safety previously evaluated in the Updated Final Safety Analysis Report (UFSAR) was not increased as a result of this change. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR will not be created as a result of this change. This change had no effect on either the Limiting Condition for Operations (LCOs) or Surveillance Requirements (SRs) in the Technical Specifications (TS), thus, the margin of safety as defined in the basis for any TS was not reduced as a result of this change.

Facility Change: 2/3-84-131, Revision 1

Title

Respiratory / Service Air Hose Station Modifications

Description

This facility change modified existing service air facilities inside the Unit 3 containment to accommodate the need for a personnel respiratory air system to meet 10 CFR 20.103 and NUREG 0041. This facility change was limited to piping modifications for providing additional respiratory air connections at service air hose stations.

Safety Evaluation

This change did not modify the function or design of any existing safety related equipment and no safety related equipment was added. Section 9.3.1 of the UFSAR addresses the design bases of the service air which is combined with the instrument air system. The improved design applicable for respiratory use ensures that operation is within the original design bases.

The probability of occurrence and the consequence of an accident or malfunction of any equipment important to safety previously evaluated in the UFSAR was not increased as a result of this change. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR was not created as a result of this change. This change had no effect on either the LCOs or the SRs in the TS, thus, the margin of safety as defined in the basis for any TS was not reduced as a result of this change.

Facility Change: LCP 2/3-6677.00, Revision 0

Title

Charging Pump Room HVAC Upgrade

Description

This facility change increased the exhaust capacity of the non-safety related, HVAC ductwork in the Units 2&3 charging pump rooms, and replaced the existing one exhaust register with two new exhaust registers, one near the ceiling, one near the floor, and added an exhaust hood above the charging pump packing cooling tank vent pipe. The additional exhaust capacity was required to reduce noble gas levels in the charging pump rooms and in the corridor adjacent to the charging pump rooms. The charging pump packing cooling tank vent for each charging pump was changed to a straight pipe terminating at a level approximately even with the bottom of the new exhaust hood.

Safety Evaluation

All support details and support calculations were performed to seismic category II/I standards. This modification did not create any new seismic interactions or increase the possibility of postulated missiles being generated. This change will reduce the levels of airborne activity in the charging pump room and the adjacent hallways.

This change did not modify the function or design of any existing safety related equipment and no safety related equipment was added. The probability of occurrence and the consequence of an accident or malfunction of any equipment important to safety previously evaluated in the UFSAR was not increased as a result of this change. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR was not created as a result of this change. This change had no effect on either the LCOs or the SRs in the TS, thus, the margin of safety as defined in the basis for any TS was not reduced as a result of this change.

Facility Change: LCP 2/3-6768, Revision 0

Title

Installation of a Whole Body Counter in Control Area El. 70'-0"

Description

This facility change included the installation of a Whole Body Counter (WBC) system in the Control Area of the Auxiliary Building. The WBC was determined necessary to improve detection capabilities presently available on-site for internally deposited irradiated fuel particles. The new system was placed in a new room (Rm. 430) created by partitioning the existing Health Physics Office Room 406. The other new room (Rm. 431) created by the partitioning will be used as a conference room. The WBC weighs approximately 9000 lbs, and was mounted on the floor at the 70 ft. elevation. A dedicated power circuit was created for the WBC and telecommunications were installed in each of the two new rooms. The HVAC system for the area was modified and the existing air flow balanced to accommodate the new WBC room and conference room.

Safety Evaluation

Calculations were made to verify that there was no impact on the structural integrity of the concrete floor slab due to the new loading. The new partition walls were located such that the fire protection system was not impacted. All walls, electrical, telecommunications, and HVAC system modifications were of the same design and material types as those existing in the area. The existing fire protection sprinkler system was determined to be adequate for the new areas. Combustible loading in the area remains essentially the same. There was no impact on Appendix R requirements, and the safe shut down path was not affected by this change.

This change did not modify the function or design of any existing safety related equipment and no safety related equipment was added. The probability of occurrence and the consequence of an accident or malfunction of any equipment important to safety previously evaluated in the UFSAR was not increased as a result of this change. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR was not created as a result of this change. This change had no effect on either the LCOs or the SRs in the TS, thus, the margin of safety as defined in the basis for any TS was not reduced as a result of this change.

Facility Change: MMP 2/3-6358.01 SE, Revision 0

Title

Permanent Cables to Replace Undocumented Temporary Cables

Description

This facility change replaced five temporary cables which were used to monitor fuel movement, monitor hotwell conductivity, and provide power to Chemistry panel 2/3L27B. The temporary cables had panel connections with improper terminal blocks and without design documents reflecting their existence. The new cables, installed in existing cable trays, did not result in a significant increase in combustible loading to the trays.

Safety Evaluation

The addition of these permanent cables and conduits did not impact the existing safety systems. The Hotwell sample conductivity annunciator Cables 2AC-20/3AC-15 and the Chemistry panel power cables 3AC-25 were not connected to any safety system. The source range cables used to monitor fuel movement were only connected to the safety related source range monitors during Mode 6 refueling outages. During Mode 6, the safety related post-accident monitoring function of the source range monitors is not required to operate. New conduits were installed per seismic category SI II/I where trays were not available. The installation met the separation criteria set forth for SONGS 2&3 and had no impact on existing safety systems.

This change did not modify the function or design of any existing safety related equipment and no safety related equipment was added. The probability of occurrence and the consequence of an accident or malfunction of any equipment important to safety previously evaluated in the UFSAR was not increased as a result of this change. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR was not created as a result of this change. This change had no effect on either the LCOs or the SRs in the TS, thus, the margin of safety as defined in the basis for any TS was not reduced as a result of this change.

Facility Change: MMP 2/3-6627.00SE, Revision 0

Title

Agilis System Telecommunication Cable Installation

Description

This facility change provided Health Physics (HP) personnel with data transmission capabilities at the Units 2/3, 63 foot elevation containment hatch control point. The Agilis system provided HP with a 928 MHz, wireless computer local area network connection using the existing 800 MHz "leaky" antenna network. A new fixed computer was connected to the "leaky" antenna network at the 70 foot communications room. Portable Agilis field units are to be used during outages.

Safety Evaluation

The cable added by this change does not interface with any safety related system. The cable is fire resistant and the signal carried is of low energy, therefore, any fault which may occur will not affect adjacent circuits. The cables are supported in a manner to avoid any Seismic II over I interactions. Operation of the Agilis field units is prohibited in areas with RF sensitive equipment and UHF radio transmitters. Filters are provided to restrict any interference with existing telecommunication systems.

This change did not modify the function or design of any existing safety related equipment. The probability of occurrence and the consequence of an accident or malfunction of any equipment important to safety previously evaluated in the UFSAR was not increased as a result of this change. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR was not created as a result of this change. This change had no effect on either the LCOs or the SRs in the TS, thus, the margin of safety as defined in the basis for any TS was not reduced as a result of this change.

Facility Change: MMP 2/3-6696.95, Revision 0

Title

Alternate Fire Tanker Location

Description

The existing SONGS Units 2 and 3 fire suppression system consists of three mobile fire tankers and five Seismic Category I tiedown locations for the tankers. This change added a sixth Seismic Category I Fire Tanker tiedown on the east side of the Unit 3 diesel generator building. To provide space for the sixth tie down, the existing fire hose house in the east side of the Unit 3 diesel generator building was removed and a bigger fire hose house was provided in the area west of the Unit 3 Turbine Plant Cooling Water Storage Tank. To allow room and access around the new fire hose house, the Auxiliary Boiler Propane Tank (T-138) was removed and the associated piping capped. A security light was provided in the new fire hose house location.

Safety Evaluation

This facility change provided an alternate location for a seismic tiedown of a water tanker. There were no non-seismic structures in the area of the tiedown that could adversely affect the tankers. The tanker was credited only after a seismic event for fire protection and after a loss of the normal capability for Component Cooling Water makeup. Relocation and enlarging of the fire hose house did not affect any fire protection systems or impact any equipment important to safety. Although, combustible loading was added to the area, the amount was not significant to affect the conclusions stated in the UFHA. The 108 gallon propane tank was part of ignitor assembly for the non-safety related Auxiliary Boiler System. The Auxiliary Boiler System is not used and will be decommissioned in the near future. The design bases for the seismic tankers described in the FSAR was unchanged.

This change did not modify the function or design of any existing safety related equipment and no safety related equipment was added. The probability of occurrence and the consequence of an accident or malfunction of any equipment important to safety previously evaluated in the UFSAR was not increased as a result of this change. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR was not created as a result of this change. This change had no effect on either the LCOs or the SRs in the TS, thus, the margin of safety as defined in the basis for any TS was not reduced as a result of this change.

Facility Change: MMP 123-7015, Revision 0

Title

EOF Meteorological Tower and Instrumentation

Description

This facility change provided a backup Meteorological Tower (MET) with the required instrumentation at the Emergency Operating Facility (EOF). The 10-meter tower, located on the roof of the EOF, can be tilted manually for instrument maintenance and calibration. Instrumentation included on the tower will record wind speed, wind direction, sigma theta (stability), and precipitation. Data will be displayed and recorded in the EOF Offsite Dose Assessment Center room and will be fully automated.

Safety Evaluation

This tower is not required by any Technical Specification or Licensing requirements. The Station already has a Primary MET and a backup MET. This new tower was provided only as a means of providing a backup source of weather data for use in dose assessment activities in the unlikely event that communication is interrupted between the EOF and the Station. The tower design precludes any damage to the EOF or its operation in case of tower structural failure.

This change did not modify the function or design of any existing safety related equipment and no safety related equipment was added. The probability of occurrence and the consequence of an accident or malfunction of any equipment important to safety previously evaluated in the UFSAR was not increased as a result of this change. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR was not created as a result of this change. This change had no effect on either the LCOs or the SRs in the TS, thus, the margin of safety as defined in the basis for any TS was not reduced as a result of this change.