Beaver Valley Power Station Unit 2
Facility Changes, Tests, and Experiments
November 1, 1997 - October 31, 1998
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CHANGE TITLE

DCP 2147, Install 2DGS-TK22 Low Point Water Trap

CHANGE DESCRIPTION

Design Change Package (DCP) 2147 cross-connected two low points that exist in otherwise interconnected vent lines from the Primary Drains Tank [2DGS-TK22] and from other plant processes. This Reactor Plant Vent and Drain System modification installed a water trap for this now common low point, which now discharges to a nearby sump [2DAS-TK203B]. UFSAR Figures 9.3-14 and 9.3-16 were updated to reflect this change.

This modification is limited to passive piping changes and a passive mechanical trap float operation. There is no effect on the performance of the safety related portions of any system. Possible vent gas or liquid leaks from the low pressure, low volume, small bore piping involved in this modification are enveloped by the more encompassing design basis accident scenarios. There are no applicable technical specifications associated with this change. This modification does not result in an unreviewed safety question.

CHANGE TITLE

DCP 2158, Alternate Backup Sources of Cooling Water for the Station Air Compressors

CHANGE DESCRIPTION

DCP 2158 changed the source of the backup water supply to the station air compressors. This change cut and capped the filtered water line which formerly supplied the station air compressors. The new backup source of cooling water is from a domestic water line in the vicinity of the compressors. A new line, with an isolation valve, was installed to connect the domestic water line to the compressors. DCP 2158 also provided for a permanent hard-piped connection between the Service Water System and the Turbine Plant Component Cooling Water System to provide a second backup cooling water supply for the station air compressors.

Since none of the systems involved perform safety functions, this change does not affect the performance of safety systems. An evaluation of the failure modes associated with this change of water supply sources determined that the probability of failure of the Station Air System was not increased. There are no design basis accidents associated with this modification and there are no technical specifications associated with the Station Air System. This change does not involve an unreviewed safety question.

CHANGE TITLE

DCP 2159, Adding Air Flow Elements for 2HVP-FE211A

CHANGE DESCRIPTION

This design change retired the existing Air Flow Monitoring Station [2HVP-FE211A] in place. Installed in the ductwork downstream of [2HVP-FE211A] were four probes [2HVP-FE212A1, A2, A3, and A4]. These new probes were connected to the existing tubing that was disconnected from [2HVP-FE211A], and will function in place of the retired flow element. UFSAR Figure 9.4-4 was updated to reflect this modification.

The Auxiliary Building Ventilation System is non-safety related and is not required to operate during any of the various design basis accidents. The system function remains unchanged and there are no new failure modes which could initiate any design basis accident. During normal operation, air from the Auxiliary Building is exhausted by the Supplemental Leak Collection and Removal System (SLCRS) and filtered prior to being released to the atmosphere. This change does not affect the SLCRS system. No technical specification acceptance limits are changed. This change is not an unreviewed safety question.

CHANGE TITLE

DCP 2166, Meteorological Tower Upgrade

CHANGE DESCRIPTION

DCP 2166 replaced obsolete Meteorological Monitoring System recorders (four primary system and four redundant system) with data loggers (one primary system and one redundant system.) The following input devices with their associated cable and mounting hardware were also obsolete and were replaced: three primary system wind speed sensors and processors, three primary system wind direction sensors and processors, one primary system temperature processor, one redundant system temperature processor, two primary system delta temperature processors, two redundant system delta temperature processors and one primary system power supply.

The failure modes identified for this modification were the same as for the replaced system and components. There were no new failure modes introduced. The system is used for monitoring; therefore, there are no design basis accidents that would be initiated by this change. The DCP replacement equipment met or exceeded the design, material, and construction standards of the original equipment. Therefore, this change did not adversely affect the technical specification acceptance limits nor any environmental impact previously evaluated. The change did not involve an unreviewed safety question.

CHANGE TITLE

DCP 2206, Vent Valves for 2CDS-P21A, B and C

CHANGE DESCRIPTION

This design change made the Chilled Water System vent valves, installed by Temporary Modification 2-95-21, a permanent installation. Valves [2CDS-1015A, 2CDS-1015B and 2CDS-1015C], had been installed on the high point of the pump casings for chilled water pumps [2CDS-P21A, B, & C]. The temporary modification had been installed to eliminate the threaded plugs and aid in adequately filling and venting each pump casing. Each valve and the associated fittings are stainless steel with threaded joints.

This change and its failure modes have no effect on the failure probability of the Chilled Water System since the installation and testing conformed to the original design document. Operating and design conditions for the Chilled Water System and associated pumps are not affected by the addition of these valves. There are no accident scenarios previously reviewed in the UFSAR which are affected by this change, nor would any new accident scenarios be created. This change is not an unreviewed safety question.

CHANGE TITLE

DCP 2239, Retirement of 2PGS-SOV104A and 104B

CHANGE DESCRIPTION

DCP 2239 retired solenoid valves [2PGS-SOV104A and B] which supplied seal water to Liquid Waste Pumps [2LWS-P21A and B]. The DCP also changed the normal system arrangement position of [2PGS-160] which is the manual isolation valve upstream of the solenoid operated valves. Closing manual valve [2PGS-160] isolated this source of primary grade water from the Liquid Waste System, thereby preventing increased radioactive waste.

The seal vendor concurred that since the pumps have tungsten seal faces, running the pumps without seal water will not affect their operability. The operation of the Liquid Waste Pumps is not safety related. The isolation of the seal water to these pumps does not affect pump seal operability. As described in Section 11.2.1 of the UFSAR, if the mechanical seal fails, the leakage is directed to a radioactive sump via a drain connection. This type of failure encompasses any failure mode, such as increased wear to the seals, and therefore, this change does not modify the function. The Liquid Waste Pumps are non-safety related and are not credited in any of the design basis accidents. This change does not represent an unreviewed safety question.

CHANGE TITLE

DCP 2294, Removal of 2ASS-RV100

CHANGE DESCRIPTION

This DCP removed Auxiliary Steam System relief valve [2ASS-RV100] from the bonnet of [2ASS-240] and installed pipe caps at the inlet and discharge piping. This relief valve had been installed as overpressure protection. This design change also removed the associated piping, piping insulation, and supports. An evaluation of overpressure protection of the valve bonnet on [2ASS-240] concluded that this relief valve was not required. UFSAR Figure 10.4-25 was updated to reflect this change.

The removal of this relief valve from gate valve [2ASS-240] will not impact the gate valve's operation. The function of the Auxiliary Steam System is not affected and this change does not affect the function of a safety system. No technical specifications are affected by this change. Furthermore, the relief valve is not credited in any of the accidents analyzed in the UFSAR. This change does not result in an unreviewed safety question.

CHANGE TITLE

DCP 2303, 1E to Non-1E Isolation Deficiency in RK-2PRI-PROC-3 & 4

CHANGE DESCRIPTION

This modification returned the steamline pressure inputs to the relay card back to the protection side of steamline pressure in order to eliminate any concerns with non-Class 1E and Class 1E isolation. The inputs had previously been moved via DCP 1596 (which removed the low feedwater trip.) Safety related relay cards were installed. This modification will prevent a fault on the non-Class 1E recorder cables for [RK-2PRI-PROC-3] or the computer cables for either [RK-2PRI-PROC-3 or 4] from propagating back into the process racks and causing a failure to Class 1E loops.

This modification will have no effect on the performance of the safety systems since it returns the loops to a configuration more closely representing their original design. This change will not affect the steamline pressure circuits in the performance of their safety related functions. No new accidents are created by this change; and this modification will prevent any faults that may occur on non-Class 1E signals, downstream of the isolator cards, from propagating into the protection racks. This change does not affect the technical specifications and does not represent an unreviewed safety question.

CHANGE TITLE

TER 10571, RCP Underfrequency Relay Time Delay Change

CHANGE DESCRIPTION

This change upgraded the BV-2 Station Service Transformer undervoltage transformer protection to improve the coordination between the BV-2 fast bus transfer scheme and the Reactor Coolant Pump (RCP) underfrequency protection scheme. This was accomplished by increasing the time delay of the underfrequency protection enough to allow the fast bus transfer to be successfully completed. This time delay increase (from 0.116 seconds to 0.367 seconds) resulted in an increase of the total response time for the underfrequency trip (from approximately 0.418 seconds to approximately 0.739 seconds.) This was still less than the allowable time (0.9 seconds) listed in Table 3.1-1 of the Licensing Requirements Manual.

Increasing the time delay of the RCP underfrequency relays improves the reliability of the fast bus transfer during switchyard bus faults. The probability of failure of the RCP underfrequency trip is not increased. There are no new failure modes associated with changing the time delay, nor does the probability of occurrence of a design basis accident increase. Although the time delay of the RCP underfrequency relays was increased, the overall response time for the underfrequency trip does not exceed the technical specification basis as defined in the Licensing Requirements Manual. This change does not represent an unreviewed safety question.

CHANGE TITLE

TER 11550, Replacement Pumps for 2DBS-P26 and 2DBS-P27

CHANGE DESCRIPTION

Technical Evaluation Report (TER) 11550 replaced the existing cooling tower sump pumps [2DBS-P26 and 2DBS-P27] which had degraded. The original pumps were rated for 50 gpm and 46.5 feet of head. The replacement pumps are the same model, but are rated at 50 gpm and 50 feet of head. The higher rating of the new pumps was due to an overall increase in efficiency due to current manufacturing methods. A notation of the pump rating on UFSAR Figure 9.3-19 was updated as a result of this change.

This TER involved non-safety related systems and did not affect the performance of any safety systems. No changes to electrical protection were required as a result of this change, and the existing motors were reused. The discharge path of the pumps was also not changed. The Circulating Water System is not required for safe shutdown of the plant, nor is it credited in any of the design basis accidents. This change does not represent an unreviewed safety question.

CHANGE TITLE

TER 11612, QA Category Upgrade of Process Rack Circuit Cards

CHANGE DESCRIPTION

TER 11612 performed an engineering evaluation of the Quality Assurance (QA) Category designation of the circuit cards within the process racks. The circuit cards identified to be QA Category 2 in the Master Equipment List (MEL) were upgraded to QA Category 1 (safety related) to ensure the electrical integrity of the 1E power supply for the process rack and associated components. The required certifications were furnished to attest to the acceptable testing and qualification of these cards.

There were no new component failure modes identified due to this change. The upgraded components and associated systems will function the same as originally intended. The change only upgraded the QA category of the components from QA Category 2 to QA Category 1 (safety related.) Therefore, the change has no effect on the increase in probability of a design basis accident, nor could one be initiated by the nature of this change. This change does not involve an unreviewed safety question.

CHANGE TITLE

TER 11704, Cut out D/G Ground Protection on Emergency Start

CHANGE DESCRIPTION

TER 11704, Rev. 0 implemented a wiring modification to the Emergency Diesel Generator (EDG) ground fault relay circuit. The installed wiring change bypassed the EDG ground overcurrent protection if the supply breaker to emergency busses (2E7 or 2F7) tripped. This modification was originally performed to provide a safety related device to accomplish the trip bypass function.

TER 11704, Rev. 1 removed the modification installed by TER 11704 Rev. 0. This evaluation documented the acceptability of classifying the devices used for trip bypass as non-safety related, thereby allowing for a return to the original design.

TER 11704 Rev. 0 relocated existing trip relays within the same circuit; therefore, there was no change in their probability of failure as previously evaluated. The EDGs are used to supply power to equipment used in mitigating design basis accidents. This modification was implemented to improve the reliability of the ground overcurrent trips during accident conditions. Moving the relays did not create a new type of accident. The acceptance limits which form the basis for the technical specifications were not affected by this TER. This change did not represent an unreviewed safety question.

TER 11704 Rev. 1 returned the circuit to the original design; therefore, removing the modification did not result in an unreviewed safety question.

CHANGE TITLE

TER 11875, Temperature Control Valve 2ASS-TCV104B Replacement

CHANGE DESCRIPTION

TER 11875 replaced temperature control valve [2ASS-TCV104B], which is a non-safety related control valve that is cycled to admit auxiliary steam to the Turbine Plant Demineralized Water Storage Tank Steam Heater. The 1½" valve needed to be replaced as its trim was badly steam-cut and the valve model line is obsolete. A UFSAR figure change was also necessary to correct a discrepancy regarding the size of the valve.

The change does not affect the form, fit, or function, of the valve, and the replacement valve style is more leak resistant. This valve is not credited in any of the design basis accidents. The revision to the UFSAR makes Figure 10.4-25 consistent with the plant configuration. This change does not represent an unreviewed safety question.

CHANGE TITLE

TER 11918, Administrative Control of Technical Specification Allowable Values Changes

CHANGE DESCRIPTION

TER 11918 was written to document the Technical Specification Allowable Values which had not been changed administratively as intended by TER 8802. This evaluation supports the implementation of the more conservative Allowable Value changes in applicable maintenance surveillance procedures as administrative controls until the necessary technical specifications are changed. In addition, revised calculations resulted in the update of UFSAR Section 7.3.1.2.5.2 to reflect the revised system accuracies for the Refueling Water Storage Tank (RWST) water level and Containment pressure.

The proposed Allowable Values, which are not modeled in plant safety analyses, are more conservative then those in the current technical specifications and will be used to administratively control the channel trip setpoint limit until the necessary plant technical specifications can be changed. (License Amendment Request 88 was submitted on January 18,1999.) The acceptance limits that form the basis of the technical specification are preserved by the application of these more restrictive administrative controls. No trip setpoints are being changed and no hardware is being changed. This change does not represent an unreviewed safety question.

CHANGE TITLE

TER 12018, Flame Spread Hazard and Electrostatic Propensity Evaluation for Control Room Replacement Carpet

CHANGE DESCRIPTION

This change evaluated the various aspects associated with the replacement of Control Room carpeting:

Issue #1 - The BV-2 UFSAR required testing in accordance with standards ASTM E84 and ASTM E648. The UFSAR statements requiring compliance with ASTM E84 were eliminated since this standard is not suitable for the carpeting materials used.

Issue #2 - The Control Room combustible loading increased because the replacement carpet pile yarn weight was greater than the original carpet. The BV-2 Fire Hazard Analysis Summary Sheets were changed to reflect the new fire loading.

Issue #3 - The electrostatic propensity of the three styles of replacement carpet varied from 0.9 to 2.1 kV. The original carpet had a rating of 1.4 kV. In order to minimize the build-up of static electricity, the TER installed carpet tiles with specific ratings in specific areas of the Control Room.

Flame spread testing of Control Room carpeting has been and will continue to be required as stated in the UFSAR. Total weight of combustibles, heat of combustion, and fire severity levels in the Control Rooms are controlled and tabulated in the fire hazard analysis calculations. The fire severity level in the combined Control Room (Fire Area CB-3/CR-1) remain less than the fire barrier rating. The carpeting tiles installed at the bench boards, nuclear instrumentation racks and radiation monitor cabinets have a better static rating and, therefore, an acceptable electrostatic propensity. No safety systems are affected by this change. The replacement carpet does not create a new accident or increase the probability of occurrence of a design basis accident. This change is not an unreviewed safety question.

CHANGE TITLE

TER 12075, Evaluation of BVPS-2 OPDT K4 Safety Limit

CHANGE DESCRIPTION

TER 12075 evaluated the use of Over Power Delta Temperature (OPDT) as a primary trip for the Unit 2 accident analysis. The OPDT trip is designed to protect against a high fuel rod power density and a possibility of subsequent fuel cladding failure. However, in the BV-2 accident analysis bases, no credit is taken for operation of the OPDT trip function; rather, its functional capability is intended merely as an enhancement to the overall reliability of the Reactor Protection System. The UFSAR was updated to clarify that the OPDT trip function is not credited as a primary trip in any of the Unit 2 safety analyses.

This TER only involves the consideration of the assumptions in the safety analyses; no plant modifications or procedure changes are involved. Therefore, this change will have no effect on the probability of occurrence of previously evaluated accidents or malfunctions, nor impact the margin of safety as defined in the technical specification bases. This UFSAR change does not degrade the performance of safety systems assumed in the accident analysis, nor alter any of the assumptions made in the analyses that could increase the consequences. This change does not create an unreviewed safety question.

CHANGE TITLE

TER 12093, Hydrogen Recombiner Reanalysis and Crossover Piping Issue

CHANGE DESCRIPTION

TER 12093 revised the hydrogen recombiner startup time and hydrogen analyzer alarm setpoints as a result of a reanalysis of the post-accident containment hydrogen concentration. The recombiner startup time following an accident was revised from a 8-24 hour range to 8-13 hours. The high alarm setpoints for the hydrogen analyzers, and the high-high hydrogen analyzer alarm were changed as required to accommodate new analysis results. Also, the system piping, having two cross-over pipes with no isolation valves, was evaluated and was determined to be acceptable as installed. Appropriate changes were made to the UFSAR to credit this system piping design.

The changes simply represent a clarification in the piping design basis, a revision to the maximum start time of the recombiners, and a revision to the hydrogen analyzer alarm setpoints. No failure modes of equipment important to safety were affected by the proposed changes. The existing design and operation of the hydrogen control system, including technical specification margins to safety, remain bounded by the updated hydrogen analysis calculation. No increased probability of failures or new failure modes result from the changes since no new equipment was added. No increase in the consequences of any existing accident was identified, and no new accidents or malfunctions were created. No unreviewed safety question results from these changes.

CHANGE TITLE

TER 12110, Revise Flow Diagram NSA for 2SGC-431 & 2SGC-447

CHANGE DESCRIPTION

The change involved a documentation update to revise the normal system arrangement for Steam Generator System valves [2SGC-431 & 447]. These valves are located downstream of the Steam Generator Blowdown System Test Tanks and are used to direct flow to the various discharge points. UFSAR Figure 11.2-5 and plant drawings were updated. The TER also incorporated text changes to operational procedures and the UFSAR to reflect system changes that had been previously implemented.

All of the changes were related to the non-safety related portion of the Steam Generator Blowdown System and the Liquid Waste Management System. The documentation change, to reflect actual system operating parameters, has no effect on existing failure modes and/or consequences, and does not introduce any new failure modes. Since there were no new failure modes introduced, and the existing failure modes have been evaluated, it was concluded that implementation of this TER did not constitute an unreviewed safety question.

CHANGE TITLE

TER 12118, Quench Spray System Non-Class 1E Heat Trace on Safety Related Piping and Equipment

CHANGE DESCRIPTION

This change revised UFSAR Section 8.3.1.1.3 to correspond with the existing plant heat trace installation on the Quench Spray System (QSS). This TER determined that the use of non-Class 1E heat trace for safety related piping was acceptable for that portion of the QSS that did not have to perform an active function during an accident. This is consistent with the IEEE 622-1979 standard. The UFSAR revision changed the wording specific to the Quench Spray System in this section to read, "Piping and equipment associated with the safety related portions of the Quench Spray System *that initiate automatic actions* are heat traced with circuits powered from Class 1E sources."

This change is only a clarification of the UFSAR wording; the existing heat trace with non-Class 1E power will remain as installed on portions of the QSS piping. This change maintains the original design specifications and does not degrade system or component reliability. No design basis accidents are adversely impacted by this change. This change is administrative in nature and does not impact the technical specification acceptance limits or margin of safety. This change to the UFSAR does not create an unreviewed safety question.

CHANGE TITLE

1/2PMP-33FP-FIRE DOORS-1M, Periodic Inspection Of Fire Doors

CHANGE DESCRIPTION

A periodic maintenance procedure (PMP) was written to inspect fire doors to verify compliance to NFPA 80 "Fire Doors and Fire Windows" and to assure that these plant components are capable of performing their intended functions as fire barriers. This change allows a deviation from the allowable clearances specified in NFPA 80 for door-to-frame gap and door-to-floor gap. This deviation was evaluated and determined to be acceptable. The BV-1 and BV-2 UFSARs were revised to indicate that fire door clearances exceed NFPA 80 specifications.

The fire test acceptance criteria of the ASTM test used to qualify BVPS fire doors were reviewed and determined to be unaffected by the door-to-frame gap size. An evaluation of the gap deviation from the NFPA 80 criteria used to install the doors determined that the new limits will not affect the fire endurance of the doors and, therefore, this change does not affect the failure modes of the fire doors. No design basis accidents are affected since the Standard Review Plan states that fires need not be postulated concurrent with non-fire related accidents. This change does not represent an unreviewed safety question.

CHANGE TITLE

2OST-11.14B, HHSI Full Flow Test

CHANGE DESCRIPTION

This change revised the Operating Manual to address the use of the Refueling Water Storage Tank (RWST) Outside Containment Isolation valve [2RHS-15] to transfer water to the RWST during High Head Safety Injection (HHSI) full flow testing. This testing results in an increase of Reactor Coolant System (RCS) inventory which is reduced by transferring the water to the RWST using the Residual Heat Removal System (RHS). Opening valve [2RHS-15] provides a flow path from the RHS to the RWST. The UFSAR was updated to address the use of this flow path for testing purposes.

This change does not result in an increase in the probability of failure of the affected safety systems. The failure of [2RHS-15] to close will not affect the ability of the RCS to contain the inventory of the system or affect the ability of the RCS to be cooled by the RHS system, nor will the performance of the RCS be affected. Operating the RHS with [2RHS-15] open will not affect the RWST performance of providing a source of borated water for RCS makeup. The conditions for performing the procedure still ensure compliance with the technical specifications such that this change has no impact on the acceptance limits or on the margin of safety. This change does not represent an unreviewed safety question.

CHANGE TITLE

2TOP-96-06, Sludge Lance Makeup From 2WTD-TK23

CHANGE DESCRIPTION

The change permitted a connection to valve [2WTD-1188], the demineralized header test connection, to supply a source of makeup water to the steam generator sludge lance system for temporary operating procedure, "2TOP-96-06." UFSAR Figure 10.4-38 was changed to modify the normal system arrangement position of the valve to "closed" and to remove the blank flange adjacent to the valve. [2WTD-1188] is a 3-inch ball valve which has a flange on the downstream side. Instead of a blank flange plate, there is a flange plate with a 1½" nipple fabricated to the plate. The nipple is threaded to mate with a 1½" fire hose, but is normally capped. UFSAR Figure 10.4-38 and Operating Manual Figure 32-1 were modified to indicate the nipple and pipe cap affixed to the flange plate.

The Unit 2 Water Treating System is not safety-related and the failure or malfunction of the system will not adversely affect the essential systems or components necessary for safe shutdown. The system is designed to provide a demineralized water supply to various plant systems. The connection of a hose for makeup to the sludge lance system does not affect any of the accidents analyzed in the UFSAR. This change is not an unreviewed safety question.

CHANGE TITLE

Operating Manual Change, Revise Control of 2CCP-DCV100-1 & 2CCP-DCV100-2 from Auto to Manual

CHANGE DESCRIPTION

This change revised the Operating Manual and UFSAR to indicate that valves [2CCP-DCV100-1] and [2CCP-DCV100-2] will be maintained in manual control rather than in automatic operation. These valves are 8" globe valves that control the differential pressure around the Primary Component Cooling Water Pumps in order to maintain minimum flow requirements.

A review of the associated Emergency Operating Procedures and Abnormal Operating Procedures revealed that no specific credit is taken for the automatic operation of these valves during a system recovery. As a result of this change to manual control, the probability of an accident or malfunction of equipment important to safety has not been increased, nor has the margin of safety as defined in the basis for any technical specification been reduced. Minimum flow requirements would be met by manually positioning the valves, and the differential pressure across the pumps would be acceptable without operator action. This change does not involve an unreviewed safety question.

CHANGE TITLE

Temporary Modifications 2-97-22 & 2-97-23, Disconnecting 2HVD-TI21A and 2HVD-TI21B

CHANGE DESCRIPTION

These temporary modifications disconnected temperature indicators [2HVD-TI21A & B] which provide a display of the discharge temperatures of the EDG Building ventilation exhaust. The disconnection of the indicators eliminated a potential failure mechanism by isolating the non-safety related indicators from the safety related portion of the circuit. These non-safety related indicators are located on the building service control panel in the Control Room and remained disconnected until qualified isolation devices could be installed within the loop.

There was no change to the performance of any system due to these temporary modifications since the indicators provide no control function. No design basis accidents are affected by these modifications because the indicators are not used to mitigate the effects of any accident. The disconnection of the indicators eliminated a potential failure mechanism; therefore, the changes did not create a new type of accident nor a new unanalyzed type of malfunction. This change does not represent an unreviewed safety question

CHANGE TITLE

Temporary Modifications 2-98-03 & 2-98-04, Disconnecting of Manual/Auto Control Station for Surge Tank Level Control Valve 2CCP-LCV100 B and the Addition of a Control Loop

CHANGE DESCRIPTION

These modifications added an isolator card in Secondary Process Racks [RK-2SEC-PROC-A] and [RK-2SEC-PROC-B] to isolate non-safety related portions of the circuit from the safety related portions. The safety related portions operate valves [2CCP-LCV100A & B] which control the level in the Primary Component Cooling Surge Tanks [2CCP-TK21A & 21B]. Also, the non-safety related cables to the Manual/Auto Stations were disconnected which made valves [2CCP-LCV100A & B] available in the automatic mode only. The former system alignment had these valves in the automatic mode with the manual mode available; now the manual feature has been removed.

The system performance is unchanged by these modifications and no design basis accidents are affected. The installation of the isolation card and the disconnection of cables eliminated a potential failure mechanism by isolating the non-safety related, non-seismic part of the circuit from the safety related portion. Therefore, the changes did not create a new type of accident nor a new unanalyzed type of malfunction. This change does not represent an unreviewed safety question.

CHANGE TITLE

Temporary Modification 2-98-05, Isolation of Cell #40 from Station Battery 2-1

CHANGE DESCRIPTION

Temporary Modification 2-98-05 electrically isolated cell #40 of Station Battery 2-1 due to low voltage. This reduced the number of connected cells for Station Battery 2-1 from 60 to 59. This modification was accomplished by repositioning some of the cells and reconfiguring the intercell connectors to electrically isolate cell #40, thereby making Station Battery 2-1 a 59-cell battery set. Station Battery 2-1 has sufficient capacity to enable the removal of one cell from service, as supported by engineering calculations.

The effect of this change is a reduction in the capacity and terminal voltage of Station Battery 2-1. The probability of failure is not increased by this change. Electrically isolating cell #40 from the battery set maintains a high degree of reliability for Station Battery 2-1. An evaluation of Station Battery 2-1 determined that adequate capacity exists to supply all the connected emergency DC loads with one cell isolated. Therefore, this change has no effect on the performance of safety systems, nor on the consequences of the design basis accidents identified in the UFSAR. Since the battery remains capable of performing its design function, no new types of accidents nor new failure modes of equipment are created by this change. No unreviewed safety question resulted from this modification.

CHANGE TITLE

Temporary Modification 2-98-07, Blank Off SLCRS Ductwork at 2HVS-FN240A

CHANGE DESCRIPTION

This change installed a temporary cover over the ductwork downstream of Supplementary Leak Collection and Release System (SLCRS) fan [2HVS-FN204A], and closed damper [2HVS-DMP207A] to allow the removal of backdraft damper [2HVS-DMP208A] for repair or replacement. This enabled the restart of the SLCRS fan while the plant was shutdown in Mode 5. SLCRS is not required to be operable in Mode 5; and this modification did not restore the system operability, but merely permitted running the SLCRS fan to reduce the buildup of gas in the Unit 2 Auxiliary Building. This temporary modification was removed prior to the plant entering Mode 4.

The installation of the temporary modification could not initiate, nor change the probability of the occurrence of any design basis accidents since SLCRS is not required to be operable in Mode 5 per Technical Specification 3/4.7.8.1 and the temporary modification was removed prior to the plant entering Mode 4. Also Technical Specification 3/4.9.13 required the suspension of all operations involving movement of fuel within the storage pool, or crane operation with loads over the storage pool, until the temporary modification was removed and the system was restored. Therefore, no new type of accident was created by this change, nor did it represent a new unanalyzed type of malfunction. This change does not represent an unreviewed safety question.

CHANGE TITLE

Temporary Modification 2-98-08, Alternate Supply of Seal Water to the Unit 2 Amertap Pumps

CHANGE DESCRIPTION

This temporary modification provided an alternate source of seal water to the Condenser Tube Cleaning System (Amertap) pumps. The modification installed a temporary hose to provide demineralized water from the Water Treating System. The Condensate System provides the normal seal water supply for the Amertap pumps. However, the Condensate System was not available to provide seal water when it became necessary to run the Amertap system for a short duration in order to clean up the condenser tubes and Amertap screens.

The pressure rating of the temporary hose was greater than the design pressure of the Circulating Water and Water Treatment System piping. Therefore, the change had no impact on the probability of failure of these systems, which are both non-safety related. This modification did not affect any equipment needed to respond to or mitigate an accident. There was no unreviewed safety question as a result of this modification.

CHANGE TITLE

Temporary Modification 2-98-09, Temporary Filtration System for Unit 2 Primary Component Cooling Water System

CHANGE DESCRIPTION

Temporary Modification 2-98-09 provided a temporary filtration system to minimize the amount of suspended particulate matter in the Component Cooling Water (CCP) System. This modification consisted of a skid mounted filter located at elevation 722' of the Waste Handling Building, which was connected via reinforced hose between the 10-inch supply and 10-inch return CCP headers. The headers are also located at the 722' elevation of the Waste Handling Building; therefore, flow was established via CCP system pressure. Two-inch blind flange drain valves [2CCP-979 and 2CCP-993] were used for the temporary hose connections.

This change had no effect on the probability of occurrence of the design basis accidents. The filter system was installed on the non-safety related portion of the CCP System and was assembled with components that have a pressure rating greater than the design pressure of the CCP System. With the temporary filtration system in operation, the CCP System was able to operate as normal and would not have created a new type of accident. No unreviewed safety question resulted from this change.

CHANGE TITLE

Temporary Modification 2-98-11, Capping of Kerotest Valve 2CHS-1

CHANGE DESCRIPTION

This temporary modification placed the Letdown Inlet Isolation Valve [2CHS-1] in its normal system alignment (NSA) open position and removed the handwheel from this Chemical and Volume Control System manual isolation valve. A stainless steel accessory cap was then installed on the valve to extend its pressure boundary to ensure leak tightness. This was necessary since the valve diaphragm (normal internal pressure boundary) had ruptured and the valve was leaking out the stem area. This cap was designed as a pre-engineered option by the valve manufacturer and provided external pressure sealing capabilities.

The valve continues to perform its safety related function of providing a pressure boundary for the Reactor Coolant System. The cap being added was designed to supplement this function. Therefore, there was no increase in the probability of an accident or malfunction of equipment important to safety, nor had the margin of safety as defined in the basis for any technical specification been reduced. There are no automatic actions associated with this manual, maintenance valve; therefore, defeating the manual operation of [2CHS-1] while it was in its NSA open position and adding a bonnet cap did not create any new or unanalyzed accident conditions. This change did not involve an unreviewed safety question.

CHANGE TITLE

UFSAR Revision, Auxiliary River Water and Standby Service Water System Information

CHANGE DESCRIPTION

This UFSAR revision provided clarification to the current UFSAR text concerning the original licensing basis for the (Unit 1) Auxiliary River Water System (ARWS), the (Unit 2) Standby Service Water System (SSWS), and the Alternate Intake Structure (both Units). These are only required to operate during a postulated gasoline barge impact with the Intake Structure which disables both trains of the safety related River Water System / Service Water System.

These UFSAR revisions do not alter the licensing bases for the ARWS or SSWS. These revisions were meant only to clarify the original licensing bases in such a manner that the UFSAR will be read and understood in a clear and consistent manner. There is no requirement to operate the ARWS or SSWS during a UFSAR-described design basis accident. These UFSAR revisions are not an unreviewed safety question since there are no changes to the current design bases or licensing bases for the ARWS or SSWS.

CHANGE TITLE

UFSAR Revision, Check of Logic Matrices / Testing of Reactor Trip Breakers

CHANGE DESCRIPTION

This change updated the UFSAR to reflect the actual test methodology used to test the Solid State Protection System. The UFSAR stated that the logic testing employed pulse techniques which avoid tripping the reactor trip breakers, thereby eliminating the need to bypass the trip breaker. However, during the performance of the maintenance surveillance procedures (MSPs), the bypass breaker is closed because reactor trip breaker testing is conducted by the MSP along with the logic testing. The UFSAR also stated that one bistable from each channel is tripped at the completion of logic testing to check closure of the input error inhibit switch. The MSPs use channel inputs that are already tripped, if available, or a continuity check to verify contact closure.

The MSPs employ an equivalent, less plant-challenging and more conservative technique than that described in the UFSAR. Since the method of testing the input error inhibit switch restoration used in the MSPs is equivalent to that used in the UFSAR, no design basis accidents are affected by this change. Closing the bypass breakers during logic testing is less challenging to the plant and creates an additional margin of safety. This testing methodology change does not impact design basis accidents, nor create a new type of accident or new failure mode. This change does not constitute an unreviewed safety question.

CHANGE TITLE

UFSAR Revision, Testing of the Power Range Channels

CHANGE DESCRIPTION

This change revised the UFSAR to reflect the methodology used for testing the Nuclear Instrumentation System power range channels. The UFSAR stated that the channels were tested by superimposing a test signal on the actual detector signal and that the output of the bistable was not placed in trip prior to testing. This description accurately described the operating surveillance testing methodology. However, the methodology of the maintenance surveillance procedures (MSPs) disconnects the channel detectors and places the bistable outputs to trip prior to testing. This change updates the UFSAR to reflect the more comprehensive test methodology used by the MSPs.

The MSP methodology is a more accurate method of calibration. Disconnection of the detector cable removes circuit noise and the detector signal allowing a calibration over the entire range of the detector. This testing methodology change does not impact design basis accidents, nor create a new type of accident or new failure mode. Since the MSP places the channel under test in a tripped condition, no design basis accidents are affected by this change. This change does not represent an unreviewed safety question.

CHANGE TITLE

UFSAR Revision, Sections 5.4.7.2.3 & 9.3.2.5, RCS Startup

CHANGE DESCRIPTION

The UFSAR was revised to accurately reflect the present "Standard Steam Bubble" method of Reactor Coolant System (RCS) startup. BV-2 procedures 20M-4.4A, "Reactor Coolant Pump Startup"; 20M-4.4E, "RCS Fill and Vent"; 20M-6.4P, "Drawing a Steam Bubble"; and 20M-50.4A, "Plant Heat-up From Mode 5 to Mode 4" delineate the requirements and sequence of events for RCS startup. This method of RCS startup has been in place since BV-2 began operation and reflects the Westinghouse WCAP 13588, "Standard Steam Bubble" methodology.

This UFSAR revision is an administrative change to reflect present RCS startup methodology which was approved prior to initial plant startup but was not adequately reflected in the UFSAR. There was no change to the actual method of operation, nor to the sequencing of startup events. There are no additional accident scenarios created by this UFSAR change, nor is there any impact to any of the existing accident analyses. Therefore, describing the current method of operation in the UFSAR does not represent an unreviewed safety question.

CHANGE TITLE

UFSAR Revision, Sections 6.4.1, 6.4.4.1, & 6.4.4.2 - Control Room Emergency Breathing Air Design Bases Clarification

CHANGE DESCRIPTION

This change eliminated discussion in the UFSAR which credited the Control Room Emergency Breathing Air System (CREBAS) manifold and masks as the means of providing air to Control Room personnel after a toxic gas release event. The UFSAR was also updated to state that the portable self-contained breathing apparatus (SCBA) units meet the licensing bases requirements of NRC Regulatory Guides 1.78 and 1.95.

These UFSAR revisions are clarifications that describe how BVPS adequately meets the provisions of the regulatory guides in the licensing basis. The provision of portable SCBA units is the method by which BVPS meets these requirements, and the UFSAR revision comprehensively documents this compliance. The description change involves equipment that is utilized to supplement the mitigation of a particular event (chlorine release) that is not considered a design basis accident as listed in the BV-1 and BV-2 UFSARs. No physical modifications result from this clarification of the licensing basis in the UFSAR and no new failure modes are introduced. No technical specifications are affected. This UFSAR change does not result in an unreviewed safety question.

CHANGE TITLE

UFSAR Revision, Section 8.3.1.1.1, Clarification Regarding 480 V Bus Tie Breaker

CHANGE DESCRIPTION

The UFSAR was revised to clarify the statement regarding the 480V substations having a "normally open 480V bus tie breaker." The following clarification was added "The substation's 480V bus tie breaker is closed by procedure while trying to determine the location of bus grounds and to allow maintenance on either set of bus feeder equipment. While the busses are tied together no single failure can cause the loss of both supply sources which ultimately could tie back to the physically independent circuit between the offsite transmission network and the onsite Class IE distribution system."

This change involves a clarification of the UFSAR; there is no physical or procedural change involved. The situation where two 480V busses are tied together has been reviewed and found acceptable because no single failure can cause the loss of both 138KV supplies to the station. The breakers are coordinated and do not all rely on a common source of energy for tripping. The loss of all offsite power has already been analyzed so no new type of accident can be initiated by this change. This change does not affect the basis for any technical specification and does not represent an unreviewed safety question.

CHANGE TITLE

UFSAR Revision, Overhead Heavy Load Handling Systems

CHANGE DESCRIPTION

This change allowed UFSAR Figures 9.1-11 through 9.1-18 to be removed from the UFSAR. These figures depicted load handling paths that were originally described to the NRC in a response to Generic Letter 81-07. The licensing basis for BV-2 with respect to load handling paths was based on the 1981 submittal and was described in the NRC's SER published in 1985. The SER relied upon the existence of administrative procedures for the control of deviations from the described load paths as the basis for acceptance by the NRC.

Administrative controls governing changes in load handling paths were not changed and are still consistent with the licensing basis. These controls remain consistent with the BVPS commitment to evaluate load paths per NUREG-0612 guidelines. This commitment is described in the NRC's SER which was published prior to granting the operating license. The findings in the SER were based on a Generic Letter response and not the load path information contained in the FSAR. The proposed change is not an unreviewed safety question.

CHANGE TITLE

UFSAR Revision, Table 9.2-2, Minimum Flow Requirement for the Charging Pump Oil Cooler

CHANGE DESCRIPTION

This change permitted reducing the Charging Pump Lubricating Oil Coolers [2CHS-E25A, B, C] minimum flow requirement from 25 gpm to 20 gpm. This allows operation with less Service Water System (SWS) flow, but maintains the design heat removal capability. This change will have no adverse effect on plant operations. An evaluation of system performance with 20 gpm SWS flow indicated that design basis requirements were still met.

This change did not alter the SWS or Safety Injection System (SIS) performance. The change will have no effect on the failure probability of the identified systems. The new minimum SWS flow requirements in the UFSAR are lower, but will still provide sufficient flow for the transfer characteristics needed to meet the design basis accident criteria. Changing the flow limits did not create a new accident or new type of malfunction. This change did not impact the technical specification acceptance limits nor margin of safety. This change does not constitute an unreviewed safety question.

CHANGE TITLE

UFSAR Revision, Figure 9.3-25, Chemical and Volume Control System

CHANGE DESCRIPTION

This revision to UFSAR Figure 9.3-25 deleted the drain valves [2CHS-719, 733, and 739] associated with temporary strainers [2CHS-STRT105, 106 and 107]. Per the BV-2 piping specification, the drain valves and temporary strainer elements had been removed prior to initial plant startup. Additionally, a note was added to the UFSAR figure which describes the current configuration, i.e., strainer elements and drain valves removed and strainer bodies rotated prior to initial plant startup.

The change updates the figure to reflect the as-built conditions which are in accordance with BV-2 Piping Specification 2BVS-920. There are no structures, systems, or components important to safety affected by this change. This change does not impact the design, function, or operation of the Chemical and Volume Control System and, therefore, does not affect the technical specification acceptance limits and margin to safety. There are no failure modes associated with this change since the change documents the removal of drain valves which occurred at plant startup. This change does not represent an unreviewed safety question.

CHANGE TITLE

UFSAR Revision, Section 9.5.1 & APP 9.5A, Fire Protection & Fire Protection Evaluation Report

CHANGE DESCRIPTION

This change revised the UFSAR to reflect the actual plant configuration for electronically supervised doors for areas that were protected by gaseous fire suppression. The UFSAR had a statement that areas protected by gaseous fire suppression systems are equipped with electrically supervised doors. The current plant configuration does not provide electrical supervision for all fire doors to areas protected by gaseous fire suppression systems.

The change updates the UFSAR to accurately reflect the original design. The change does not affect the performance of the CO2 gaseous suppression systems, the Halon gaseous suppression systems, nor the associated fire doors. The change does not degrade the reliability of any structures, systems, or components because the integrity of the subject fire areas has not been affected. No design basis accidents are affected by this change, no new failure modes have been introduced, nor does it create a new type of accident. This change does not represent an unreviewed safety question

CHANGE TITLE

UFSAR Revision, Update Figures 9.5-8 & 9.5-9 to Include Vent Line

CHANGE DESCRIPTION

UFSAR Figures 9.5-8 and 9.5-9 and the operating drawings were revised to document the existence of a vent line interconnecting the Diesel Generator's jacket water pumps [EGS-P21A and B] and intercooler water pumps [2EGS-P22A and B] with the jacket water header. The vent protects the pumps from any air pockets that can exist in the system. This line had been indicated on the vendor drawings; however, it had not been included on the plant operating drawings or UFSAR Figures.

The vent lines had been installed under the direction of the manufacturer to insure that the cooling system would be free of any air pockets and thus would operate at the designed performance level. This change improves the reliability of the Diesel Generator cooling system and does not affect any other plant components. There is no impact to the design basis accidents as a result of the addition of these lines. Also, the failure modes associated with this line addition would not be an initiating event nor increase the probability of occurrence for a design basis accident. The impact of this change serves to ensure that the coolant temperature is being maintained at specified values and thereby does not reduce the margin of safety in the technical specification bases. No new accident scenarios are created by this change and it is concluded that the addition of these vent lines does not represent an unreviewed safety question.

CHANGE TITLE

UFSAR Revision, Update Figure 9.5-11 for NSA of Isolation Valves for Lube Oil Level Gauges

CHANGE DESCRIPTION

UFSAR Figure 9.5-11 was updated to correct a discrepancy involving the normal system arrangement of valves [2EGO-100, 101, 102, and 103]. These valves are the upper/lower isolation valves for the Rocker Arm Lube Oil Reservoir Level Glass Indicators for Diesel Generators 1 & 2. This revision changed the NSA of these valves from "open" to "closed" and corrected the drawing note to indicate that these level gauges [EGO-LG201-1 and EGO-LG201-2] are non-safety related.

The components associated with this change have no active function in the lube oil system; they are simply provided as a means for checking the oil level in the Rocker Arm Reservoir. The monthly surveillance tests provide the steps required to open these valves for level determination and to re-isolate them when level verification has been completed. Changing the normal system arrangement for the valves has no effect on the failure modes, which equates to no effect on existing accident scenarios or consequences. This change does not result in an unreviewed safety question.

CHANGE TITLE

UFSAR Revision, Update Figure 11.2-5 for NSA of 2SGC-422

CHANGE DESCRIPTION

This UFSAR revision changed the normal system arrangement position of valve [2SGC-422] from "closed" to "open" on UFSAR Fig. 11.2-5. This change was also made to the Steam Generator Blowdown System Valve List in the BV-2 Operating Manual. [2SGC-422] is the isolation valve for the suction side of the Steam Generator Blowdown Test Tank Pump [2SGC-P26B].

Aligning the suction side of [2SGC-P26B] to the test tank improves the performance of the system in that the potential for running this pump with its suction valve shut has been eliminated. Running the pump with the suction valve shut could lead to pump damage and possible failure. The pump was not exposed to any additional system conditions than those for which it was designed to support. The assumptions and radiological consequences for a rupture or leak from this portion of the steam generator blowdown system and liquid waste system have previously been analyzed. There is no increase in the probability of a design basis accident, nor could one be initiated by the nature of this change. This change does not involve an unreviewed safety question.

CHANGE TITLE

UFSAR Revision, Sections 11.2 & 11.3, Liquid Waste Management Systems and Gaseous Waste Management Systems

CHANGE DESCRIPTION

The UFSAR was updated to reflect current plant operations regarding liquid and gaseous waste management. The discussion of processing liquid waste through the evaporators was removed since the liquid waste evaporators are not in service in accordance with the current normal system arrangement of the Liquid Waste Disposal System. The normal method for processing liquid waste is through the liquid waste demineralizer as is described in the Offsite Dose Calculation Manual (ODCM). Also removed was the discussion of not discharging gaseous waste during conditions of adverse meteorological conditions. Gaseous waste discharges are made in accordance with the ODCM which uses default meteorology for dose calculations of a waste gas decay tank release.

The removal of the evaporators from service had been previously evaluated, and the changes to the gaseous waste discharge methodology were previously reviewed by the NRC. This update to the UFSAR reflects those changes. The liquid and gaseous waste systems are non-safety related and their performance remains unchanged. Liquid and gaseous wastes will continue to be processed in accordance with the ODCM. Since no physical modification to the systems occurred, no new types of accidents or failure modes were created. These descriptive changes to the UFSAR do not initiate or change the probability of a design basis accident, and do not constitute an unreviewed safety question.

CHANGE TITLE

UFSAR Revision, Section 11.4, Solid Radwaste Management System

CHANGE DESCRIPTION

The UFSAR was updated to reflect current operation of the solid waste handling program. This change also removed an operationally restrictive requirement to transfer filter cartridges to Unit 1 for processing, since the Process Control Program does not restrict the processing of filters to only Unit 1. A reference to 10 CFR 20.106 was also removed since this section has been incorporated elsewhere in 10 CFR Part 20.

The Solid Waste Disposal System is non-safety related and its performance remains unchanged. Solid waste will continue to be processed in accordance with the Process Control Program. Since no physical modification to the systems occurred, no new types of accidents or failure modes were created. These descriptive changes to the UFSAR do not initiate or change the probability of a design basis accident, and do not constitute an unreviewed safety question.

CHANGE TITLE

UFSAR Revision, Table 13.1-2, Personnel Responsibilities and Qualifications

CHANGE DESCRIPTION

The UFSAR was revised to change the qualifications of the General Manager, Nuclear Operations Unit (GMNO) to be more consistent with the requirements imposed by the plant operating licenses. In particular, the GMNO qualifications were changed to include a senior reactor operator (SRO) license only at the time of appointment to the active position. The qualifications previously described in the UFSAR specified an active SRO license for the duration of assignment to the position.

The proposed change was found not to be an unreviewed safety question because no plant changes were made and no procedures related to plant maintenance or operation were being changed. Also, the qualification changes are consistent with standard ANSI-N18.1 in accordance with Technical Specification 6.3.

CHANGE TITLE

UFSAR Revision, Review of Scoping Dose Calculation Results for the DBA LOCA

CHANGE DESCRIPTION

The UFSAR was revised to reflect the results of a re-evaluation of the Control Room dose calculations. The re-evaluation involved an identified non-conservative fan flow assumption used in the Control Room radiation dose calculations; however, other changes factored into the calculations were conservative. This safety evaluation addressed the re-evaluation of Control Room doses conducted for the DBA Loss of Coolant Accident (LOCA).

The UFSAR revisions did not change the performance of the Control Room Emergency Air Pressurization and Filtration Systems as previously described in the UFSAR since no equipment modifications were involved. The UFSAR change did not increase the probability of occurrence of a design basis accident, nor did it impact the plant response as to create a new type of accident or malfunction not previously addressed. The calculated Control Room doses for the DBA LOCA were determined to be less than or equal to those currently listed in the UFSAR. This decrease in consequences is not a decrease in the margin of safety. This change did not result in an unreviewed safety question.