Braidwood Station

10 CFR 50.59 Summary Report

June 19, 2000 through June 18, 2002

NRC Docket Nos. 50-456 and 50-457

License Nos. NPF-72 and NPF-77

Safety Evaluation Summary Form

Tracking No. **6G-00-0062**
Activity No. DRP 8-159

DESCRIPTION:

The UFSAR change deleted UFSAR Table 3.9-10, "BOP Design Criteria for Active Valves" and revised UFSAR Table 3.9-9 to include BOP Active Valves. The UFSAR change revised the upset, emergency, and faulted condition stress limits for ASME Code Class 2 and 3 BOP active valves to match the limits specified in the ASME Code.

SAFETY EVALUATION SUMMARY:

1. The probability of occurrence or the consequences of an accident or a malfunction of equipment important to safety previously evaluated in the safety analysis report is not increased because:

   The UFSAR change had no affect on the probability of a seismic event or any UFSAR accident. The probability of a seismic event is based oh the geological conditions in the area near the site. UFSAR change does not affect geological conditions. Active BOP valves remain fully qualified to the requirements of ASME Section III, thus the probability of a pipe break (LOCA, MSLB, FWLB, or HELB) remains unchanged. The change did not adversely affect the initiators of any accident described in the UFSAR. Active BOP valves remain fully qualified to perform their accident mitigation functions as described in the UFSAR. The change had no affect on systems used to mitigate any accident or transient. The probability of an active valve failure is unchanged. BOP active valves were qualified by a combination of stress analysis including seismic loads where applicable, seismic analysis of extended structure were applicable, in-shop hydro-static tests, in-shop seat leakage tests, and periodic inservice tests. Thus the operability of BOP active valves is unchanged.

2. The possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report is not created because:

   The change did not affect the qualification of BOP active valves. No systems, structures or components were adversely affected by the change. The UFSAR change did not physically change any system, structure or component. No new failure modes have been created.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because:

   All ASME components remain within the requirements of the ASME Code, thus the margin of safety is not reduced.

Safety Evaluation Summary Form

Tracking No. 6G-00-0099
Activity No. DRP 9-031

DESCRIPTION:

This UFSAR DRP changes the requirement in Appendix E.30 for the Containment Hydrogen Monitors to be functional from 30 minutes to 90 minutes, to include the following justification statements:

"Allowing 90 minutes for the system to be functional is acceptable based on the following:

1) *The expected hydrogen concentration at 90 minutes is only 1.2%, versus 1.0% at 30 minutes.*
   - *This is still within the 0-10% and 0-30%range of the hydrogen monitors.*
   - *Per UFSAR figure 6.2-36 this is still less than the 1.8% hydrogen concentration expected at 20 hours post-LOCA, when the recombiners are assumed to be in service,*
2) *A recombiner cannot be placed in service until containment temperature is <225 °F.*
   - *This occurs between approximately 15 minutes and 2 hours and 45 minutes depending on the exact LOCA break location. Therefore, in several accident scenarios, even if containment hydrogen concentration were known at 30 minutes, a recombiner would not be permitted to be started at that time.*
3) *Extending the time for making the hydrogen monitors functional reduces the chance that hydrogen control activities could potentially distract operators during the extremely busy period following an accident, which has a positive impact on public health and safety by reducing the probability of operator error during potential accidents and hence reduce core damage frequency, and*
4) *A hydrogen recombiner is not required to be placed in service until about 20 hours post-LOCA to maintain containment hydrogen <4%.*

SAFETY EVALUATION SUMMARY:

1. The probability of occurrence or the consequences of an accident or a malfunction of equipment important to safety previously evaluated in the safety analysis report is not increased because:

   Making the hydrogen monitors functional is an action taken in response to an accident or transient; it is not an initiator of an accident or transient. Therefore,

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Tracking No. 6G-00-0099
Activity No. DRP 9-031

allowing an extra 60 minutes to place the hydrogen monitors on-line will not increase the probability of occurrence of any accident or transient.

The hydrogen monitors are used to determine containment hydrogen concentration. Other than starting the hydrogen mixing system (Reactor Containment Fan Coolers), which does not actually remove any hydrogen from containment, the only influence operators have over containment hydrogen concentration post-LOCA is to place the hydrogen recombiners or the post-LOCA purge system in service if necessary. Per the UFSAR, figures 6.2-7 through 6.2-12a, the recombiners cannot be placed in service before, as a minimum, 15 minutes to 2 hours and 45 minutes, depending on the specific accident, and the recombiner effect is not significant until 20 hours post-LOCA. Calc BRW-99-0483-M/BYR99-0127, "Analysis of Post LOCA Hydrogen Concentration in Containment - Bounding Case," Rev. 2, assumes that a single hydrogen recombiner is placed in service at about 20 hours post-LOCA.

Making the hydrogen monitors functional at 90 minutes instead of 30 minutes still allows 16 1/2 hours to initiate steps to place the hydrogen recombiners or post-LOCA purge in service; more than ample time to perform this activity (16 1/2 hrs = 20 hrs minus 90 minutes for functional hydrogen monitors minus 2 hrs to put the recombiners in service). Placing the hydrogen recombiner in service prior to 20 hours will maintain containment hydrogen < 4% as well, therefore, there is no increase in the consequences of any accident or transient.

2. The possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report is not created because:

   There is no change in the manner in which the hydrogen monitors are operated. They will still be maintained in the "standby" condition per TRM 3.3.j. They will still be made functional in accordance with BOP/BwOP PS-09. Therefore, changing the time required to make them functional from 30 to 90 minutes will not create the possibility an accident or malfunction of a different type than any previously evaluated.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because:

   The hydrogen monitors will continue to be maintained in an operable condition per the Technical Specifications. Therefore, no Technical Specification is impacted by this change.

Safety Evaluation Summary Form

Tracking No. **6G-00-0143**
Activity No. DRP 9-033

DESCRIPTION:

Revise UFSAR Section 9.2.2.4.4, to describe the design basis leakage for the Component Cooling (CC) system and to clarify system line-up after a Loss of Coolant Accident (LOCA).

SAFETY EVALUATION SUMMARY:

1. The probability of occurrence or the consequences of an accident or a malfunction of equipment important to safety previously evaluated in the safety analysis report is not increased because:

   Revision of UFSAR section 9.2.2.4.4 will not increase the probability of occurrence of any accident or transient.

   There is no physical change to the CC system. As discussed in UFSAR section 3.6.2, and evaluated per calculation, no significant leakage in the CC system is expected. No through-wall cracks are postulated for the safety-related portions of the CC system. The CC system is not an initiator of any previously evaluated accidents or transients. The CC system remains fully capable of performing its support function as assumed in all previously evaluated accidents or transients. The proposed UFSAR change only adds a clarification to the description of the CC system.

2. The possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report is not created because:

   There is no physical change to the CC system. As discussed in UFSAR section 3.6.2, and evaluated per calculation, no significant leakage in the CC system is expected to occur. Therefore this UFSAR change will not create the possibility of an accident or transient of a different type than any previously evaluated.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because:

   The proposed UFSAR change does not document any physical changes in the plant. The margin of safety, as discussed in the TS Bases, includes the potential need to manually realign the system depending on the magnitude of the failure.

Safety Evaluation Summary Form

Tracking No. 6G-00-0148
Activity No. DRP 8-156

DESCRIPTION:
DRP 8-156 makes several corrections to UFSAR Section 3, Section 6.3.2.5, and Appendix A1.92 (Regulatory Guide 1.92). References to the station heating system were removed from containment penetration discussions since the station heating system does not penetrate the containment building. The exceptions to Regulatory Guide 1.92 were removed in Section 3.7.3.7 and in Appendix A1.92. ASME pump testing frequency was changed from monthly and quarterly to periodically per ASME Inservice Testing Criteria. Additional corrections were made for snubber loading, CRDM travel, and Class 1 valve data.

SAFETY EVALUATION SUMMARY:

1. The probability of occurrence or the consequences of an accident or a malfunction of equipment important to safety previously evaluated in the safety analysis report is not increased because:

   The proposed UFSAR revisions do not change the design, function, or operation of any system, structure, or component, which may have the potential to increase the probability of occurrence or the consequences of an accident or malfunction of equipment. The proposed changes only affect the descriptions in the UFSAR by clarifying existing statements. The proposed changes reflect actual plant conditions, plant configuration, and design methods.

2. The possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report is not created because:

   The equipment associated with the proposed UFSAR changes is not physically being changed and there are no changes to the function or operation of plant equipment. Therefore, a malfunction or possibility of an accident different than previously evaluated is not created.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because:

   Technical Specifications are not impacted by the proposed activity.

UFSAR REVISION

UFSAR Draft Revision Package 7-208

DESCRIPTION

The purpose of this UFSAR revision revises UFSAR Table 9.2-4, "System Flow Conditions for Main Plant Operating Phases (One Unit)" to consistently reflect typical Component Cooling (CC) system component flow rates for the plant operating phases discussed in UFSAR Sections 9.2.2.3 and associated subsections. The existing table is reformatted to improve readability and provides additional notes to clarify specific component flow rates and operational features. No new operational limits or design requirements are incorporated under DRP 7-208..

DRP 7-208 (Revision 0) was originally initiated in response to NRC Architect/Engineer (NE) Inspection Item 460-00 and Problem Identification Form (PIF) A1998-01424. The NRC NE item was specifically related to maintaining minimum flow protection for the CC pumps in all plant operating phases. The existing Table 9.2-4 specifies that the minimum flow requirement per pump is 240 gpm. Braidwood and Byron Station operating procedures ensure that at least 500 .gpm of flow is maintained through the pump by controlling pump discharge pressure to less than 150 psig. These procedures direct operators to adjust flow to the Spent Fuel Pit Heat Exchanger, as necessary, to control system pressure. The current submittal of DRP 7-208 includes a note that discusses the method to ensure required minimum flow rates for the CC pumps.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR is not increased because the Component Cooling (CC) Pumps cannot initiate an accident described in the Safety Analysis Report (SAR) and there is not physical change to plant equipment or procedures. The revision to the UFSAR is editorial only and has no impact on operation, configuration, or maintenance of the CC Pumps and System.

2. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because there is no physical change to plant equipment. Cooling flow to other CC System loads is not affected, since the change is clarification only.

3. The margin of safety, as defined in the basis of the Technical Specification, is not reduced because the clarification of typical CC System flowrates does not affect any parameters upon which Technical Specification are based.

DESIGN CHANGE

9900285
9900286

DESCRIPTION

The purpose of these Design Changes was to replace the Technical Specification (TS) requirements associated with the automatic Boron Dilution Protection System (BDPS) (BDPS TS LCO 3.3.9 and Bases B3.3.9), with alarms, indicators, procedures, and controls. When alerted by one or more of these alarms during plant modes 3, 4, or 5, operations personnel will be instructed to take administrative action to procedurally align the Chemical and Volume Control (CV) System to the Refueling Water Storage Tank (RWST).

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the NRC staff has previously determined that the proposed amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the Technical Specification amendment involves no significant hazards consideration, and there has been no public comment on such finding (61 FR3503). Therefore, the Commission has concluded, based on the considerations discussed above, that: 1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, 2) such activities will be conducted in compliance with the Commission's regulations, and 3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

   The maximum initial to critical boron concentration ratio was calculated so that, as long as this ratio of the actual core design exceeds the limit, an operator would have enough time to prevent criticality according to the alternate Standard Review Plan (U.S. nuclear Regulatory Commission Standard Review Plan, NUREG-0800, Section 15 4.6, "Chemical and Volume Control System Malfunction that Results in a Decrease in Boron Concentration in the Reactor Coolant (PWR)," Revision 1, July 1981), acceptance criteria In this way, the BDPS would not be credited in mitigating an inadvertent boron dilution The SRP states that an operator has fifteen minutes to act on the alarm that announces the dilution event. In this case, a Volume Control Tank (VCT) high level alarm is assumed to announce the dilution event.

   The Westinghouse NSAC-183 Final Report, "Risk of PWR Inadvertent Criticality During Shutdown and Refueling," dated December 1992, the report concluded that gradual boron dilution events are not considered to be significant contributors to core damage. Similarly, the report found rapid boron dilution to be a low frequency event, estimated to range from 1E-4 to 1E-7 per reactor-year.

The proposed modification will no impact equipment important to safety expected to function post-modification. The addition of new 70% level alarm cards, and the CV112 alarm when not in VCT position, are non-safety related functions associated with alarming only at the main control board

The alternate method to detect and mitigate this event using manual operator actions will ensure that the dilution sources are isolated, and therefore, accomplishes the intent of the original BDPS design. Because the BDPS as installed could not be shown to always be successful and cannot be relied on, the proposed change represents an improved response to the dilution transient.

By preventing a return to critical during an inadvertent boron dilution event, the revised analysis has confirmed that the new detection and mitigation methodology meets the same Standard Review Plan (SRP) acceptance criteria requirements as applicable to the existing BDPS.

Thus, it can be concluded that the proposed change does not increase in the probability of occurrence of a postulated inadvertent boron dilution event relative to the unreliable condition of the BDPS.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the proposed activity removes the automatic features associated with mitigating a dilution transient, and replaces it with operator action thereby maintaining the intended function. The design change only effects the logic and equipment associated with mitigating an already established transient, and does not influence logic or equipment that could possibly create an accident or malfunction of a different type than that previously evaluated in the safety analysis.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because ComEd has revised the analysis of the CVCS malfunction mitigated by operator action in Modes 3, 4 and 5, using the revised analytical methodology discussed with the NRC as documented in the letter from L.R. Wharton (U.S. NRC) to Licensee (Commonwealth Edison, Texas Utilities Electric, Union Electric, and Wolf Creek Nuclear Operating Corporation), "Utility Subgroup Technical Approach to Modify or Delete the Boron Dilution Mitigation system," dated February 8, 1993.

   With the revised method, it is recognized that the CVCS and the RCS form a closed system, and mass imbalances, which may affect the RCS, may be detected in the CVCS. The revised analysis demonstrates that positive indication of the occurrence of an inadvertent boron dilution event in Modes 3, 4 and 5 is provided to the operator with the new VCT high level alarms, and that with the alarm setpoint at 70%, sufficient time is available for the operator to diagnose this event and perform all requisite activities necessary to terminate the event prior to the loss of all shutdown margin

   The proposed changes are consistent with the methodology presented to the NRC on December 15, 1992, by Commonwealth Edison, Texas Utilities Electric, Union Electric, Wolf Creek Nuclear Operating Corporation, and Westinghouse as documented in the aforementioned letter. The NRC determined that the proposed methodology was feasible. Subsequent to this, the NRC's review and approval of the operation of the Wolf Creek unit without automatic BDPS actuation was found to be acceptable based on Wolf Creek Nuclear Operating Corporation's evaluation (Letter from R. C. Hagan of Wolf Creek Nuclear Operating Corporation, to the U. S. NRC, submittal of Wolf Creek License Amendment

Request, dated November 22, 1995), as documented in the NRC Safety Evaluation (Letter from J. C. Stone of U. S. NRC, to N. S. Carns of Wolf Creek Nuclear Operating Corporation, transmitting Wold Creek TS Amendment Number 96, dated March 1, 1996.)

Based on the answers and discussion presented in this safety evaluation, it has been determined that the changes to Technical Specifications do not involve a significant increase in the probability or consequences of an accident, or other adverse condition over previous evaluations; or create a possibility of a new or different kind of accident or condition over the previous evaluations; or involve a significant reduction in the margin of safety.

Tracking Number: BRW-SE-2000-544

UFSAR REVISION
UFSAR Draft Revision Package 8-124

DESCRIPTION

The purpose of this UFSAR revision DRP 8-124 incorporates the revisions to UFSAR Section 9.5.5.2 recommended by Braidwood Station's the review of Design Basis Initiative Project Open Item 1910. Specifically,

- The statements that indicate or imply that 190°F is the design temperature of the Diesel Generator (DG) Jacket Water system are revised to state that 190°F corresponds to the Jacket Water Temperature Off Normal Alarm.
- The statement that indicates that the standpipe is large enough to provide for 7 days of continuous operation of the diesel generator without makeup to the jacket water system is revised to read that this is true in the absence of leakage from the system. Normal and alternate sources of makeup support the continued operation of the diesel generator.

In addition, the statement in. UFSAR Section 9.5.5.2 that a leak test of the jacket water system is performed every 18 months is deleted since this test is not specifically required by the Diesel Generator 18-month Maintenance Inspection Program.

The changes to UFSAR Section 9.5.5.2 incorporated under DRP 8-124 satisfy the actions required by Design Basis Initiative Project Open Item 1910. Additional clarification is provided to make the affected paragraphs consistent with the station maintenance program and operating procedures.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR is not increased because the proposed activity does not change any initiating conditions or events associated with any accident or transient, nor does it change the normal operation of the diesel generators. Therefore, implementation of DRP 8-124 does not change the probability of occurrence of the accidents/transients.

2. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the changes implemented under DRP 8-124 do not change any operational or performance characteristic of the diesel generators. There are no impacts on interfacing equipment important to safety introduced under these changes. Therefore, these changes cannot introduce or create a malfunction different than that previously evaluated.

3. The margin of safety, as defined in the basis of the Technical Specification, is not reduced because the Technical Specifications in section 3.8 ensure that a reliable source of normal and emergency power is available to equipment necessary to mitigate the consequences of abnormal operating occurrences, accidents, or transients. The implementation of UFSAR changes described in Steps 3 and 8 do not challenge the reliability or availability of the diesel generators as a source of AC power and therefore does not reduce the margin of safety as described in the bases of Technical Specifications and supporting SAR documents.

UFSAR REVISION
UFSAR Draft Revision Package 8-178

DESCRIPTION

The purpose of this UFSAR revision DRP 8-178 incorporates the revisions to UFSAR recommended by Braidwood Station's the review of Design Basis Initiative Project Open Items. Specifically,

- Corrects the statement in UFSAR Section 8.1.1.d that electrical interlocks prevent connecting redundant load groups with each other to indicate that the redundant bus configuration performs this function.
- Provides clarification and corrects the description of the types of windows on the local annunciator panel for the diesel generators (DG) in UFSAR Section 8.3.1.1.2.2.
- Deletes references to cable segregation codes AR and BR in UFSAR Table 8.3-8.

The change to UFSAR Section 8.1.1.d addresses Design Basis Initiative (DBI) Project open item 488Y. The change to UFSAR Section 8.3.1.1.2.2 addresses DBI Project open item 549R. The change to UFSAR Table 8.3-8 addresses DBI Project open item 2819R.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR is not increased because the proposed activity does not change any initiating conditions or events associated with any accident or transient, nor does it change the normal operation of the plant electrical power systems. Therefore, implementation of DRP 8-178 does not change the probability of occurrence of the accidents/transients.

2. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the changes implemented under DRP 7-178 do not change any operational or performance characteristic of the plant electrical power systems. There are no impacts on interfacing equipment important to safety introduced under these changes. Therefore, these changes cannot introduce or create a malfunction different than that previously evaluated..

3. The margin of safety, as defined in the basis of the Technical Specification, is not reduced because the Technical Specifications in section 3.8 ensure that a reliable source of normal and emergency power is available to equipment necessary to mitigate the consequences of abnormal operating occurrences, accidents, or transients. The implementation of UFSAR changes described in Steps 3 and 8 do not challenge the reliability or availability of the affected systems as a source of power and therefore do not reduce the margin of safety as described in the bases of Technical Specifications and supporting SAR documents.

UFSAR REVISION
UFSAR Draft Revision Package 8-142 and 8-144

DESCRIPTION

The purpose of this UFSAR revision is that DRP's 8-142 and 8-144 delete statements in UFSAR Sections 9.5.5.2 (DRP 8-142) and 9.5.4.2 (DRP 8-144) that imply that Diesel Generator (DG) engine mounted piping designed to Diesel Engine Manufacturer's Association (DEMA) standards meet or exceed ANSI B31 .1, Power Piping design requirements.

DRP's 8-142 and 8-144 delete statements that are not supported by any design or equipment supplier information and are not a stated requirement in regulatory documents. Submittal of DRP's 8-142 and 8-144 close out Design Basis Initiative (DBI) Project open items I9I2BRW (DRP 8-142) and 2208BRW (DRP 8-144).

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR is not increased because the proposed activity does not change any initiating conditions or events associated with any accident or transient, nor does it change the normal operation of the diesel generators. Therefore, implementation of DRP 8-142 and 8-144 does not change the probability of occurrence of the accidents/transients.

2. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because UFSAR changes implemented in DRPs 8-142 and 8-144 do not have an adverse impact on the reliability of the diesel generators, nor do they impact the reliability of any interfacing system. The changes do not introduce any new operational limitations for the affected engine subsystems, nor do they challenge the availability of the diesel generators. A complete malfunction of a diesel generator that results in the loss of a single train to mitigate the consequences of an accident is the most limiting failure considered for a diesel generator. All diesel generators remain reliable sources of emergency power and no new failure mechanisms are introduced by the UFSAR changes.

3. The margin of safety, as defined in the basis of the Technical Specification, is not reduced because the Technical Specifications 3.8.1, 3.8.2, and 3.8.3 ensure that a reliable source of emergency power is available to equipment necessary to mitigate the consequences of abnormal operating occurrences, accidents, or transients. The implementation of the UFSAR changes does not challenge the reliability or availability of the diesel generators as a source of AC power and therefore does not reduce the margin of safety as described in the bases of Technical Specifications and supporting UFSAR documents.

Safety Evaluation Summary Form

Tracking No. BRW-SE-2000-592
Activity No. DCP D20-0-00-333

DESCRIPTION:

This design change extends the 'A' and 'B' Essential Service Water (SX) return lines at the SX discharge structure from below the Braidwood Cooling Lake surface to above the surface. That is, the terminal elevation of the lines is changed from approximately El. 591', about four feet below normal lake level, to El. 597' 9". As part of this change, the ASME Code classification of the sections of the lines above the discharge structure are changed from Class 3 to non-safety. The design changed is being performed to resolve a postulated non-design basis Auxiliary Building flood scenario which is negatively impacting the Core Damage Frequency calculation.

SAFETY EVALUATION SUMMARY:

1. The probability of occurrence or the consequences of an accident or a malfunction of equipment important to safety previously evaluated in the safety analysis report is not increased because:

The SX System and the Ultimate Heat Sink (UHS) do not initiate or alter the initial conditions of any accident or transient. A failure of the new extension pieces would still allow the SX return flow to reach the Ultimate Heat Sink (i.e. the pipes and discharge structure are in the UHS portion of the lake). If the extension piece was to rupture or fail in any manner, the water would still flow into the UHS. That is, the extension pieces do not have a safety related function. Affects on the discharge structure and SX flow have been analyzed.

2. The possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report is not created because:

The affects of tornado generated missiles, crimping of the pipe (to reduce or stop flow), low temperature operation and the installation of the pipe extensions with the SX System in operation have all been addressed. No accidents or malfunctions of a different type than previously evaluated have been identified.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because:

The activities performed per DCP D20-0-00-333 do not have any impact on equipment or parameters upon which Plant Technical Specifications are based.

DESIGN CHANGE
D20-1/2-00-330

DESCRIPTION

These modifications provide Fire Protection (FP) water as an alternate cooling water source to the 1A and 2A Centrifugal Charging (CV) pumps oil coolers 1/2CV03SA, and the associated gearboxes oil coolers 1/2CV02SA. The cross tie between the FP and Essential Service Water (SX) pipes supplying cooling water to the oil coolers will be accomplished by installing:

- A 2" branch (0FP160A-2) from FP line 0FPD1A-4, isolation valve 0FP840, and two quick disconnects downstream of 0FP840. The two disconnects will be normally covered by "dust caps" that can stand pressure up to 250 psig.
- One tap on each essential service waterline 1/2SX58AA-2 supplying the 1/2A CV pump oil coolers and the associated gearboxes oil coolers. This will include isolation valves (1/2SX258A and 1/2SX259A), quick disconnects, and "dust caps". The isolation valves will be installed for isolation purposes to direct the flow through the desired flow path.
- One portable hose of a suitable size will be used for each pump when needed, per operating procedure, to cross tie the 0FP160A-2 to 1/2SX58AA-2. Each hose will be stored in a box or a cabinet of a suitable size placed either inside the 1/2A CV pump room or in the Aux Building (elev 364) general area in the proximity of the 1/2A CV pump room.

Incorporating this modification will have no effect on plant operation under normal conditions or under any analyzed design basis scenario. But it eliminates the potential loss of the 1/2A CV pump upon the loss of SX pumps; this scenario is beyond design bases. In case of loss of SX water to the 1/2A CV pumps, a hose will be manually connected to these new quick disconnects at both ends, and the applicable valves will be manipulated to allow FP water through the oil coolers. The FP water will exit the coolers into the SX return line. The connections to FP are located outside the 2A CV pump room, and close enough to the IA CV pump room. This requires that the pump room doors be opened while these hoses are connected. Since this scenario is beyond the design bases, stipulating any other failure, in conjunction with this scenario (loss of all SX), is not required. Taking into consideration that this case is not a design basis scenario, and that there will be a pressure drop through the hose, valves and fittings, it is expected that the oil coolers will perform their function during the aforementioned scenario based on engineering judgment. The effect of installing the aforementioned valves and taps on the piping system and supports has been evaluated and found to be acceptable as documented in calculations DCR990644 and DCR990645.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR is not increased because the proposed activity does not change any initiating conditions or events associated with any accident or transient. Also, the affected components do not initiate, or affect the

initial conditions of, any of the listed accidents/ transients. The FP to SX cross connect will not be installed nor used during normal operations, and would have no affect on any accident. The alternate cooling source would be used during a loss of all essential service water. This condition is beyond design bases.

2. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the changes implemented under the subject modification do not have an adverse impact on the reliability of the CV, SX or FP, nor do they adversely impact the reliability of any interfacing system. On the contrary, the modification will enable the continued operation of the 1/2A CV pump to provide the required injection flow to the RCP seals if all SX becomes unavailable. Having a cross-tie between the FP line 0FPD1A-4 and SX lines 1/25X58AA-2 does not create a challenge to the FP system

3. The margin of safety, as defined in the basis of the Technical Specification, is not reduced because the CV pump operability requires the pumps to be cooled by SX. The added components have no effect on this requirement when not in use.. The added tap does not affect the performance or the integrity of the SX system. So no Technical Specification margins of safety are affected. The alternate cooling supply would be used during a loss of all SX scenario. This scenario is beyond design basis for Braidwood Station.

Tracking Number: BRW-SESV-2000-626

NUCLEAR WORK REQUEST (NWR)

990108646-01

DESCRIPTION

The purpose of this activity is to address the routing of hoses and cables through door D-273, which will need to be propped open to allow routing of hoses and welding leads from the 364' general area into the 1A SI pump room. Door D-273 is considered an HVAC boundary door, thus will need to be evaluated per the plant barrier impairment program.

The normal VA design airflow path for the 1A SI pump room (refer to P&ID M-95-1, UFSAR Figure 9.4-5 sheet 7) is to draw supply air from the general area on elevation 364' through the 0VA265Y backdraft damper located above door D-273 into the 1A SI pump room. The air is drawn from the room which is eventually exhausted to the VA non-accessible exhaust plenum.

A bypass airflow path is created around damper 0VA265Y when door D-273 is propped open. Air will be drawn from elevation 364' general area through door D273 into the 1A SI pump room and exhausting the air into VA non-accessible exhaust plenum.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR is not increased. During the performance of this maintenance activity, the pressure in the Affected Areas (1A SI pump room) will be verified to remain within the Tech. Spec. allowable 1/4" negative pressure with respect to the outside atmosphere. Hence, the off-site dose resulting from any analyzed accidents will not be increased.

2. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created. Doors D-283 (1B SI pump room door) and D-278 (U-1 general area to 364' curved wall area) will not be propped open. The only door propped open will be D-273 (U-1 general area to 1A SI pump room). The aux. bldg. dp will be controlled using the 0VA600Y. The use of this doorway will not have any impact on the events which initiate a Loss of Coolant Accident (LOCA) or Radioactive Release accident including a Fuel Handling accident.

3. The margin of safety, as defined in the basis of the Technical Specification, is not reduced. During the period that D-273 is propped open, the pressure in the affected areas will be verified to remain within the requirements of Technical Specifications (1/4" H_20 negative pressure with respect to the outside atmosphere).

Tracking Number: BRW-SESV-2000-635

NUCLEAR WORK REQUEST (NWR)

990176419-01

DESCRIPTION

The purpose of this activity is to address the removing of the 1SXFS01-3 floor plug. The floor plug is being removed to transport equipment in support of this activity. The floor plug is considered an HVAC boundary for the 1A/2A SX Pump Room.

The normal mode of VA system design for this room involves two supply ducts providing supply air in the room and an exhaust duct back to the VA exhaust plenum.. The VA system design requirements have been reviewed and determined acceptable to remove the floor plug The basis for this validation is the Safety Evaluation , BRW-SE-1997-859, performed to evaluate HVAC effects to the VA system and the room when the system is operated under two fan configuration and extended abnormal operation..

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR is not increased because the addressed modes of operation will not have any impact on the initiating events of any accidents analyzed in the UFSAR. The VA System is unrelated to the sequence of events leading to the initiation of any accident.

2. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created since the VA system's accident mitigation and normal functions will be maintained. The VA System is unrelated to the sequence of events leading to the initiation of an accident. There are no radiological concerns since the airflow direction is maintained, i.e., the airflow is from clean areas to areas of lesser potential for contamination and then into areas of greater potential for contamination.

3. The margin of safety, as defined in the basis of the Technical Specification, is not reduced since the operation of the VA system is not affected as demonstrated by successful completion of Technical Specification Surveillance Requirements.

NUCLEAR WORK REQUEST (NWR)

990148980-01

DESCRIPTION

The purpose of this activity is to address the removal of a floor plug at location elevation 401 N-10 for the purpose of cleaning tank 0WX01DD. The floor plug is considered an auxiliary building HVAC boundary and its removal needs to be evaluated.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR is not increased since the new flowpath has been previously evaluated under BRW-SE-1997-0536 and determined that the flowpath is acceptable and will maintain the Auxiliary Building within acceptable limits..

2. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created due to ventilation concerns. There is no increase in the consequences of an equipment malfunction since no new assumptions are being made with regard to the reliance on equipment or equipment performance.

3. The margin of safety, as defined in the basis of the Technical Specification, is not reduced since the change does not affect the Technical Specification requirements involving any ventilation flow or differential pressure requirements.

TEMPORARY MODIFICATION

00-0-003

DESCRIPTION

The purpose of this Temporary Modification will partially restore four panels (two per unit) that are part of the condenser hotwell sampling system discussed in the previous safety evaluation, by providing inputs from eight conductivity sample points (four per unit) located in the hotwell region. The inputs will be routed to a recorder that will be used by Chemistry personnel to quickly identify a large or rapidly increasing circulating water tube leak in a specific waterbox. By identifying the specific waterbox which is leaking and isolating it in a timely manner, it may be possible to avoid entry into an Action Level which would require a unit shutdown.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the configuration that will result from this change is enveloped by the configuration previously evaluated under BRW-SE-1997-985, which evaluated the abandonment of all the panels for the above system. The SSCs affected by this change do not interact with other plant systems in a manner that could cause an accident or plant transient. The partial restoration of the subject system will not increase the probability of an accident or plant transient. The components in the scope of this change do not interface with any SSCs relied upon to keep the offsite dose within 10CFR100 limits, for accidents or plant transients that have potential radiological consequences. The components affected by this change are not required for mitigation of any design basis events and do not interface with any safety related systems, or SSCs important to safety.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the secondary system has other, existing in-line monitoring that promptly identifies chemical impurities into the secondary coolant that have the potential to impact the reactor coolant system boundary. The applicable requirements of General Design Criterion (GDC) 14, "Reactor Coolant Pressure Boundary" are satisfied even without the implementation of this change. Although the sampling lines that will be placed back into service for the eight inputs are a potential source of dissolved oxygen (DO) into the condensate system, the existing instrumentation on the secondary side is adequate to detect and monitor any potential air leaks into the condensate system. The appropriate actions would be taken in the event of any chemistry excursions on the secondary side. The sample lines and associated equipment that are being placed back into service will be refurbished as required to minimize DO intrusion into the condensate system. Considering the above, this change will not create new accidents or unanalyzed conditions different than those already considered in the UFSAR.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because the components affected by this change are not part of any Technical Specification Limiting Condition for Operation. This equipment is not discussed in the Technical

Specification Bases. The condenser hotwell sampling system does not affect any SSCs where margin of safety is a consideration.

Safety Evaluation Summary Form

Tracking No. BRW-SE-2000-649
Activity No. DRP 8-186

DESCRIPTION:

UFSAR Change Package #DRP 8-186 revised UFSAR sections discussing the flood protection design of the Essential Service Water (SX) Pump rooms to indicate that these rooms are watertight in relation to the design basis flood in the rooms. The affected UFSAR sections are 3.4.1.2, 9.2.1.2.4, 9.2.1.2.7, 9.3.3.1 and 9.3.3.2. Also, DRP 8-186 added that the safe shutdown capability of the plant is not degraded by the flood levels in the SX pump rooms due to break flows from higher elevations.

The changes made by DRP 8-186 were necessary to clarify the watertight level of the SX pump rooms and document the evaluation of the flood levels in the SX pump rooms due to break flows at higher elevations. The UFSAR refers to the SX pump rooms as being watertight. The doorways and penetrations leading into the SX pump rooms are watertight except for a ventilation ducts connecting the SX pump room to the Auxiliary Building Equipment Drain pump room and another ventilation duct connecting the SX pump room to the Auxiliary Building Floor Drain Sump room. The lowest elevation of these ducts is approximately 340 ft-10 inches; this elevation is 10 ft-10 inches above the floor elevation in the SX pump rooms.

SAFETY EVALUATION SUMMARY:

1. The probability of occurrence or the consequences of an accident or a malfunction of equipment important to safety previously evaluated in the safety analysis report is not increased because:

The proposed UFSAR changes do not have any physical impact on plant equipment. The Auxiliary Building Flood Level calculation determines the flood levels resulting from postulated design basis line cracks. The location of these cracks have been postulated based on piping stress levels in accordance with the requirements of the Standard Review Plan, NUREG-0800, section 3.6.1, "Plant Design for Protection Against Postulated Piping Failures in Fluid Systems Outside Containment". The proposed UFSAR changes do not have any impact on the stress levels in plant piping; thus, the probability of a piping failure is not increased. The conclusions of the UFSAR related to the SX pump rooms are not affected. A design basis piping failure in an SX pump room will not affect the equipment in the other SX pump room; each SX pump room is watertight in relation to the design basis flood level for the room.

Considering the flowpath into the SX pump rooms through the Equipment and Floor Drain sump pump rooms, the resulting flood levels do not invalidate the conclusions of the design basis evaluations. The maximized flood level in one SX pump rooms are below the flood levels listed in the UFSAR, section 9.3.3.2. Furthermore, the concurrent maximized flood levels in both SX pump rooms do not affect any safe shutdown equipment in the rooms. The safe shutdown capability, after Auxiliary Building Flooding, for Byron and Braidwood Station is maintained.

2. The possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report is not created because:

Safety Evaluation Summary Form

Tracking No. BRW-SE-2000-649
Activity No. DRP 8-186

The proposed UFSAR changes are needed to clarify the watertight reference to the SX pump rooms and the Auxiliary Building floor drain pump room. Although the SX pump rooms are not fully watertight, the only opening into the rooms that is not watertight is located at an elevation several feet higher than the evaluated flood level in the rooms (10.8 ft vs 19 inches for Byron and 12 inches for Braidwood). Therefore, the SX pump rooms can be considered to be watertight with respect to each other, in relation to design basis flood levels due to breaks in the room. Considering the flowpath into the SX pump rooms through the Equipment and Floor Drain sump pump rooms, the resulting flood levels in the SX pump rooms do not invalidate the conclusions of the existing analyses. The safe shutdown capability of Byron and Braidwood after Auxiliary Building Flooding is maintained.

The conclusions of the UFSAR evaluation of Auxiliary Building Flooding are not affected; furthermore, the level of protection for plant safety related equipment from postulated design basis floods is not reduced. Therefore, the proposed UFSAR changes do not create the possibility of a different type of malfunction of equipment important to safety than any previously evaluated.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because:

The evaluated maximum flood levels in the SX pump rooms are significantly lower than the elevation of the HVAC duct opening that connects the SX pump rooms to the Auxiliary Building Sump rooms. In addition, considering the flowpath into the SX pump rooms through the Equipment and Floor Drain sump pump rooms, the resulting maximized flood levels in one SX pump room from the worst case break are bounded by the flood levels evaluated in section 9.3.3.2 of the UFSAR. More importantly, the maximized, concurrent flood levels in both SX pump rooms do not affect the operation of any safe shutdown equipment in the rooms. The conclusions of the evaluations that confirm the safe shutdown capability of Byron and Braidwood after Auxiliary Building flooding are maintained.

Safety Evaluation Summary Form

Tracking No. **BRW-SE-2000-655**
Activity No. **ER9902999**

DESCRIPTION:

ER9902999 installs 2 freeze seals in order to install Design Change D20-0-00-316, which corrects the inlet and outlet orientation of Component Cooling (CC) system thermal relief valve 0CC9432. The freeze seals are being installed on lines 0CC16A-3/4" & 0CC16B-1".

SAFETY EVALUATION SUMMARY:

1. The probability of occurrence or the consequences of an accident or a malfunction of equipment important to safety previously evaluated in the safety analysis report is not increased because:

   The freeze seal installation cannot create the initiating conditions for the affected accidents or change the probability of occurrence of the affected accidents. CC system accident mitigation functions are not impacted by the proposed change. Flooding due to a freeze seal is bounded by the existing flooding evaluation.

2. The possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report is not created because:

   Flooding is the only accident that the freeze seal could affect, which is bounded by the existing flooding analysis. Relief valve 0CC9432 currently provides no design function since it is installed incorrectly. No new failure mechanisms or modes are created by the freeze seal installations.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because:

   The overpressure protection originally intended by relief valve 0CC9432 is provided administratively by procedures BwOP CC-8, -10, &-14. The freeze seals have no affect on these procedures. The ability of the CC system to remove heat from the equipment it supports is not impacted in all operating modes by the freeze seal installations.

Safety Evaluation Summary Form

Tracking No. BRW-SE-2000-657
Activity No. DRP 8-185

DESCRIPTION:

UFSAR Change Package #DRP 8-185 revised UFSAR section 15.4.8.3, "Radiological Consequences of a Postulated Rod Ejection Accident", assumption "h" under "Assumptions for Regulatory Guide 1.77 Analysis" to change the time listed for equalization of primary and secondary side pressure from 950 seconds to 3250 seconds.

The design basis analysis for the Rod Ejection Accident assumed that the primary and secondary pressures are equalized 3250 seconds after the start of the event. This value is correctly listed in Table 15.4-4, "Assumptions Used for the Rod Cluster Control Assembly Ejection Accident". The 950 seconds reference in section 15.4.8.3 was incorrect.

SAFETY EVALUATION SUMMARY:

1. The probability of occurrence or the consequences of an accident or a malfunction of equipment important to safety previously evaluated in the safety analysis report is not increased because:

UFSAR Change Package #DRP 8-185 adds the correct value used in the accident analysis for the time at which the primary and secondary side pressures are equalized. This change does not have any impact on the physical condition of the Control Rod Drive Mechanisms or their design/testing features.

The design basis analysis for a Control Rod Ejection accident assumed 3250 seconds as the time at which the primary and secondary side system pressures are equalized. The proposed change corrects UFSAR section 15.4.8.3 to reflect this correct value. The correct time of 3250 seconds is correctly listed as an assumption for the Rod Ejection accident in UFSAR Table 15.4-4. The time of 3250 seconds is also the assumption used by the Nuclear Regulatory Commission Staff in their evaluation of the Rod Ejection Accident for Byron and Braidwood. This is documented in the Byron SER and the Braidwood SER sections listed in section 5 of this safety evaluation.

2. The possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report is not created because:

The proposed change will reflect the correct time assumed in the accident analysis for equalization of primary and secondary system pressure after a postulated rod ejection accident. This change does not have any impact on plant equipment, their design features, or the way plant equipment is operated. The proposed UFSAR change does not create the possibility of a different type of malfunction of equipment important to safety than any previously evaluated.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because:

Technical Specification Basis B3.1.6 states that the control bank insertion limits control the reactivity that could be added in the event of a rod ejection accident. The proposed UFSAR change does not affect any feature of the control rod drive assemblies or their control system as to impact this requirement.

Safety Evaluation Summary Form

Tracking No. BRW-SESV-2000-658
Activity No. Work Request 990108651

DESCRIPTION:

WR#990108651 requires repair of 1VF89A, 1B SI pump vent line. To support this work, doors D-269/D-280 will need to be propped open to allow routing of hoses and welding leads from the 364' general area into the 1B SI pump room. Doors D-269/D-280 are considered an HVAC boundary door, thus will need to be evaluated per the plant barrier impairment program.

The normal VA design airflow path for the 1B SI pump room (refer to P&ID M-95-/UFSAR Figure 9.4-5 sheet 7) is to draw supply air from the U-1 curved wall area on elevation 364' through the 0VA274Y presssure control damper damper located above door D-280 into the 1B SI pump room. The air is drawn from the room which is eventually exhausted to the VA non-accessible exhaust plenum.

A bypass airflow path is created around damper 0VA274Y when doors D-269/D-280 are propped open. Air will be drawn from elevation 364' general area through door D-269/D-280 into the 1B SI pump room and exhausting the air into VA non-accessible exhaust plenum.

SAFETY EVALUATION SUMMARY:

1. The probability of occurrence or the consequences of an accident or a malfunction of equipment important to safety previously evaluated in the safety analysis report is not increased because:

The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety as previously evaluated in the UFSAR, is not increased because propping open door D-269/D-280 does not have any impact on the events which initiate a Loss Of Coolant Accident (LOCA). This evaluation for propping open door D-269/D-280 ensures any design base accident remains bounded by the existing off-site dose boundary analysis calculation.

2. The possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report is not created because:

The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the affected structure provides a ventilation boundary for Auxiliary Building HVAC (VA) systems. Part of the design

Safety Evaluation Summary Form

Tracking No. BRW-SESV-2000-658
Activity No. Work Request 990108651

requirements for the VA system is to limit environmental conditions in various zones in conformance with requirements. The system controls radioactivity in the areas served by staging the supply air from the clean areas to the areas of greater potential contamination. Plant operation is not changed. No new failure modes are introduced.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because:

The margin of safety, as defined in the basis of the Technical Specifications, is not reduced because the change is administratively controlled upon which Technical Specifications are based; therefore, there is no reduction in the margin of safety.

Safety Evaluation Summary Form

Tracking No. BRW-SESV-2000-659
Activity No. Work Request 990055759

DESCRIPTION:

WR#990055759 requires testing of the 2CS020A check valve located in the 2A CS pump room. As part of this testing, door D-246 will need to be propped open to allow routing of hoses from the general area-346' elev. into the 2A CS pump room. Door D-246 is considered an HVAC boundary door, thus will need to be evaluated per the plant barrier impairment program.

The normal VA design airflow path for the 2A CS pump room (refer to P&ID M-95/UFSAR Figure 9.4-5, sheet 10) is to draw supply air from the general area-346' elev. through 0VA238Y backdraft damper located above the door D-246 into the 2A CS pump room. The air is drawn from the room which is eventually exhausted to the VA non-accessible exhaust plenum.

A bypass airflow path is created when D-246 door is propped open. Air will be drawn from elevation 346' general area through door D-246 into the 2A CS pump room and exhausting the air eventually into the VA non-accessible exhaust plenum.

SAFETY EVALUATION SUMMARY:

1. The probability of occurrence or the consequences of an accident or a malfunction of equipment important to safety previously evaluated in the safety analysis report is not increased because:

The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety as previously evaluated in the UFSAR, is not increased because propping open door D-246 does not have any impact on the events which initiate a Loss Of Coolant Accident (LOCA). This evaluation for propping open door D-246 ensures any design base accident remains bounded by the existing off-site dose boundary analysis calculation.

2. The possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report is not created because:

The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the affected structure provides a ventilation boundary for Auxiliary Building HVAC (VA) systems. Part of the design requirements for the VA system is to limit environmental conditions in various zones

Safety Evaluation Summary Form

Tracking No. BRW-SESV-2000-659
Activity No. Work Request 990055759

in conformance with requirements. The system controls radioactivity in the areas served by staging the supply air from the clean areas to the areas of greater potential contamination. Plant operation is not changed. No new failure modes are introduced.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because:

The margin of safety, as defined in the basis of the Technical Specifications, is not reduced because the change is administratively controlled upon which Technical Specifications are based; therefore, there is no reduction in the margin of safety.

Safety Evaluation Summary Form

Tracking No. BRW-SE-2000-671
Activity No. DRP 8-187

DESCRIPTION:

UFSAR Change Package #DRP 8-187 added the following note to UFSAR Table 3.2-2, "Code Requirements for Components and Systems":
"In certain limited cases, configurations exist with manual isolation valves installed inline with relieving components. These manual valves are administratively controlled in the locked open position to ensure the relief capacity of the relieving components is maintained."

DRP 8-187documented that manual isolation valves, locked open, inline with pressure relief components are part of the design basis for Byron and Braidwood Stations.

SAFETY EVALUATION SUMMARY:

1. The probability of occurrence or the consequences of an accident or a malfunction of equipment important to safety previously evaluated in the safety analysis report is not increased because:

The current plant configuration with locked open block valves does not change or impact the initiating conditions or events which result in any analyzed accident. As discussed in Step 7, stringent administrative controls are in place to ensure that the subject block valves remain open when the associated components are required to be operable. Due to the administrative control, the possibility of concurrent inadvertent closure of block valves, and an overpressurization event during power operation is extremely low. The relief valves and their associated locked open manual block valves do not, in general, act as the initiators of accidents or transients.

With the overpressure protection function of the associated relief devices remaining available, the function of the affected plant systems is not impaired. Therefore, there is no increase in the probability of any accident or transient.

Strict administrative controls exist to ensure that the position of a locked open valve is maintained. A manual block valve locked in the open position maintains the capacity of the inline relieving component. These relieving components will then be available to mitigate the consequences of any plant accident or transient as designed. Therefore, the consequences of any accident or transient will not be increased.

2. The possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report is not created because:

The pressure relieving function of relief valves with inline manual valves that are locked in the open position is maintained at all time that it is required by the following measures: 1) The manual block valves are maintained in the locked open position by strict procedural controls. 2) Independent verification of the position of the valves is made any time their position is changes and restored to their required locked position, and 3) caution cards are tagged to the valves to alert the operator the valves must be left in locked open position. Therefore, retaining the installed piping configurations with manual block valves, locked in the open position, located in series with overpressure protection devices does not create the possibility of a malfunction of equipment of a type different from those evaluated in the UFSAR.

Safety Evaluation Summary Form

Tracking No. BRW-SE-2000-671
Activity No. DRP 8-187

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because:

Plant systems overpressure protection requirements of the ASME 1974 Code up to and including the Summer 1975 addenda are satisfied with administrative controls using locked open stop valves. At the time of the design for the Byron and Braidwood systems, administrative controls were interpreted by ASME Interpretation III-80-67, originally issued April 16, 1980, as meeting the intent of the ASME Code and were included in some overpressure protection designs. There are other code interpretations from the late '70s which also support the position that administrative controls are acceptable. Also, Byron SER 3.9.3.4 (Also applicable to Braidwood) found that the ASME overpressure relief devices and their installations are commensurate with their safety functions. In an SER for Wolf Creek Station, the NRC clearly accepted locked open valves with administrative controls. Both Byron and Wolf Creek SER confirm the regulator's understanding of the ASME requirements during the licensing reviews.

In the original Byron SER, section 3.9.3.4, the NRC stated that "The applicant has met the requirements of 10CFR50.55a and GDC 1,2, and 4 with respect to the criteria used for design and installation of ASME Code Class 1, 2, and 3 overpressure relief devices by ensuring that safety and relief valves and their installations are designed to standards which are commensurate with their safety functions ...". By maintaining the manual block valves in the open position when the protected systems are required to function, the safety functions of the safety devices and their protected systems are not diminished.

As stated in the report prepared by of Reedy Engineering, Inc. (Report #CEC-98-002, dated 8-19-1998), "The ASME BPV Committee philosophy is that once an item is installed and accepted by the proper authorities the Code requirements have been met. The only organization that can rule otherwise is ASME. Others may question compliance, but ASME is the only organization that can rule an item as not being in compliance. If questions are raised as to Code compliance, any evaluation must be based on Code rules and philosophy, engineering judgement, and safety concerns. In other words, noncompliance is not an issue of documentation, procedures or new interpretations of sentences found in the Code. After final acceptance of a Code item, noncompliance is only a concern if there is a demonstrated safety issue." Manual blocked valves, installed inline with pressure relieving components, that are maintained in the locked open position administratively do not raise any safety concerns.

Tracking Number: BRW-SE-2000-684

DRAWING CHANGE

990734

DESCRIPTION

The purpose of this Document Change Request (DCR) was to revise drawings M-69-2 Rev AR, to reflect actual field piping configuration. Field walkdown of the Waste Gas System (GW) piping identified discrepancies between the drawings and actual field as-built conditions.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because this is an administrative change to have the drawings reflect actual plant conditions. No changes were made to the GW System in the plant.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created since this is an administrative change to have the drawings reflect actual plant conditions. No new equipment was added to the plant.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because this activity does not affect any parameters upon which the Technical Specifications are based.

Safety Evaluation Summary Form

Tracking No. BRW-SESV-2000-688
Activity No. UFSAR Change Package (DRP) 8-161

DESCRIPTION:

Revise page 8.3-7 (Section 8.3.1.1.2) of the UFSAR to remove the specific company departments, positions and procedures. Revise to indicate qualified field personnel set protective relays rather than specific department personnel (SOAD); use the term "approved procedures" rather than siting the specific SOAD ECTP No. 15; revise the words to state actions are documented on applicable data forms rather than SOAD electrical data forms.

SAFETY EVALUATION SUMMARY:

1. The probability of occurrence or the consequences of an accident or a malfunction of equipment important to safety previously evaluated in the safety analysis report is not increased because:

   The proposed activity is only removing specific company departments, positions and procedures and is replacing the specific information with generic information. The activities discussed in this section of the UFSAR have not changed. Since the activities themselves have not changed, the probability of occurrence or the consequences of an accident or a malfunction of equipment important to safety have not changed.

2. The possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report is not created because:

   The proposed activity is replacing specific company information with more generic information. The activities described with respect to protective relay setting have not changed.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because:

   The proposed activity is not described in the Bases for any Technical Specification. Therefore the margin of safety has not been reduced.

UFSAR REVISION

UFSAR Draft Revision Package 9-001

DESCRIPTION

This change will revise the Braidwood commitment to Position C of Regulatory Guide 1.93. This position specifies that "preventive maintenance (PM) activities which require incapacitation of any required electric power sources" be "scheduled for performance during cold shutdown and/or refueling periods". Previously DRP# 5-065 addressed taking exception to this requirement to allow online PM for the System Auxiliary Transformers. The DRP# 5-065 data package includes correspondence with the NRC documenting the fact that prior NRC approval was not required and the RG 1.93 exception would be pursued under the 50.59 process. The proposed change will revise the Braidwood Reg. Guide 1.93 commitment to allow online PM of the Emergency Diesel Generators (EDG). The exception to RG 1.93 will be documented in UFSAR Appendix A, has justification similar to the previous change for the System Auxiliary Transformers and is consistent with Maintenance Rule philosophy and numerous NRC approved license amendments (Braidwood submittal currently pending) granting extended allowed outage times to perform online EDG maintenance.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR is not increased because the Stations have diverse power sources available (e.g., EDGs and opposite unit EDGs and SATs) to cope with a loss of the preferred AC source (i.e., offsite power). In addition, the opposite unit EDGs can be temporarily used to compensate for an onsite emergency power source that is not available without significantly increasing the likelihood of an extended SBO event. The overall availability of the AC power sources to the ESF buses will not be reduced significantly as a result of increased on-line preventive maintenance activities. It is therefore, acceptable, under certain controlled conditions, to perform on-line maintenance intended to maintain the reliability of the onsite emergency power systems. The diesel generators remain capable of performing their intended safety function as required to mitigate the consequences of the affected accidents. Therefore, the consequences of the accidents are not changed by the implementation of this proposed activity.

2. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the change does not have an adverse impact on the reliability of the diesel generators, nor do they impact the reliability of any interfacing system. The change is being made to allow timely PM maintenance which will help to enhance overall EDG reliability. LCO entry during maintenance ensures the plant stays in a previously analyzed condition for the duration of the maintenance window. The changes do not introduce any new operational limitations for the affected engine subsystems, nor do they challenge the reliability/availability of the remaining diesel generators. A complete malfunction of a diesel generator that results in the loss of a single train to mitigate the

consequences of an accident is the most limiting failure considered for a diesel generator. All diesel generators remain reliable sources of emergency power and no new failure mechanisms are introduced by the changes of this activity.

3. The margin of safety, as defined in the basis of the Technical Specification, is not reduced because Technical Specifications 3.8.1 and 3.8.2 ensure that a reliable source of emergency power is available to equipment necessary to mitigate the consequences of abnormal operating occurrences, accidents, or transients. LCO entry during maintenance ensures the plant stays in a previously analyzed condition for the duration of the maintenance window. This previous analysis is bounding and ensures the margin of safety is not reduced. In accident analysis space, a complete malfunction of a diesel generator that results in the loss of a single train to mitigate the consequences of an accident is the most limiting failure considered for a diesel generator. The implementation of this activity is bounded by existing analysis and does not change the diesel generators design function or operation as a reliable source of AC power. The combination of online risk assessment and the requirements contained within 10CFR 50.65 assure that the plant will not be exposed to a condition that could cause a total loss of AC power and that EDG system availability assumptions are maintained. For these reasons, the implementation of the change does not reduce the margin of safety as described in the bases of Technical Specifications.

MODIFICATION TEST

E20-1-96-306-2

DESCRIPTION

The purpose of this Modification Test was to verify that the 1FW001A nozzle style check valve prevents reverse flow, passes sufficient flow to support full power operation, and does not adversely affect Main Feedwater Pump operation.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the modification testing will be conducted in conjunction with normal plant start-up activities utilizing approved operating procedures. In addition, the replacement nozzle style check valve is more reliable, since it is not susceptible to flutter wear degradation that the existing swing check valve experiences. Hence, the malfunction of safety related equipment is reduced.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the replacement nozzle style check valve is more reliable and modification testing will be conducted utilizing approved operating procedures. The existing check valve is simply being replaced with a more reliable style. Hence, no new/unanalyzed accident scenarios are created.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because the proposed modification test does not alter or challenge the operation of the safety related portions of the Main Feedwater System. A more reliable check valve improves the margin of safety of the downstream safety related portions of the feedwater system. This activity does not affect any parameters upon which the Technical Specifications are based.

50.59 REVIEW COVERSHEET FORM

LS-AA-104-1001
01/11/01

BRW-SE-2000-709

tion: Braidwood Unit 2

Activity/Document Number: DCP 9900345, 346, 347, 348 and 593, TRM Rev 00-014 and 01-006 **Revision Number:** 0 (all)

Title: Install new Turbine Electronic Overspeed Trip System and revise Turbine Anti-Motoring and Low ASO trip logic to 2 of 3

Description of Activity:

The design changes will revise the existing Main Turbine electronic overspeed protection and anti-motoring trip logic to eliminate single failure vulnerability in the protection scheme. The design changes will:

- Install a new electronic overspeed system that will install additional sensors and provide a conventional 2 of 3 logic scheme. The system will have internal monitoring and diagnostic capabilities that will verify system performance and system trouble will be annunciated in the Control Room. The system will be provided with redundant power supplies. TRM table T3.3.g-1 will be revised for new EPNs added to the overspeed trip network (network 1).

- Install two additional pressure switches to the anti-motoring differential pressure switch. The new pressure switches will be combined with the existing pressure switch to provide 2 of 3 trip signal into the Main Generator protection scheme.

- Install two additional pressure switches for the two pressure switches used to generate low Auto Stop Oil (ASO) trip signals for the Main Turbine protection scheme and Turbine Latch Signal to the Turbine Digital Electro-Hydraulic Control (DEHC). The logic for the trip signal will be changed to 2 of 3 and the latch signal logic will only be changed to 1 of 2.

- Install two additional pressure switches for the ASO pressure switch used for the Turbine Latch signal to Turbine Reheat Controller to provide 2 of 3 logic.

Reason for Activity:

These changes are enhancements to the original design of the trip function logic that were identified by the EH/DEHC peer group as part of their system improvement plan. The 2 of 3 trip logic is a typical logic scheme used in numerous systems in the plant to prevent a single component failure from disabling the trip function or initiating an inadvertent trip. The logic is commonly used. in applications where a higher degree of reliability is required for specific functions. The existing electronic overspeed trip system is a single channel system utilizing one speed sensor and power supply. Single failures within the system can prevent the trip function or cause an inadvertent trip. An inadvertent trip has occurred to a Byron Unit as the result of a failure in the overspeed system power supply. The logic for the anti-motoring trip and low ASO pressure trips utilizes input from single pressure switches. Single failures to any of the individual pressure switches can result in inadvertent trips or loss of an individual trip function. The Turbine ASO latch signal is also provided by a single pressure switch. A failure of this pressure switch can remove the latch signal and result in an inadvertent Turbine trip.

The revision to the 10CFR50.59 evaluation is for changes in the DCP and TRM numbers associated with the changes. The scope of the changes evaluated has not changed, but DCP 9900593 and TRM revision 01-015 have been added to implement the changes.

DCP 9900348 originally provided the Unit 2 design to revise the anti-motoring D/P switch (2PDS-TO071) as well as the low Auto Stop Oil pressure switches (2P5-TO031, 032 and 070) to 2 of 3 logic. The scope of DCP 9900348 was revised to remove the work associated with the anti-motoring D/P switch as the result of resource availability during A2R08. DCP 9900593 was initiated to install the changes to the anti-motoring D/P switch changes during A2R09.

TRM revision 00-014 was initiated to process the changes to the TRM required by installation of the new overspeed trip system in both Units. However, since the new systems were not being installed at the same time, the TRM revision 00-014 was used to process the changes for Unit 2 and TRM revision 01-015 was initiated to process the changes to Unit 1.

BRW-SE-2000-709

Station: Braidwood Unit 2

Activity/Document Number: DCP 9900345, 346, 347, 348 and 593, TRM Rev 00-014 and 01-006 **Revision Number:** 0 (all)

Title: Install new Turbine Electronic Overspeed Trip System and revise Turbine Anti-Motoring and Low ASO trip logic to 2 of 3

Effect of Activity:

The design changes will not change the protection scheme for the Main Turbine and the existing trip functions are being maintained. The effect of the design changes is to improve the reliability of the above trip functions by eliminating single failures which could either prevent a trip when required or result in inadvertent trips.

Summary of Conclusion for the Activities 50.59 Review:

The original 10CFR50.59 evaluation determined that the implementation of the changes did not require NRC approval and the proposed changes may be implemented per applicable procedures. Since the scope of the changes originally evaluated has not changed, the results of the original evaluation remains valid.

Attachments:
Attach completed Applicability Review if 50.59 Screening is not required.
Attach completed 50.59 Screening if 50.59 Evaluation is not required.
Attach completed 50.59 Evaluation if required to be performed.
Attach completed 50.59 Screening and 50.59 Evaluation if multiple discrete elements of an activity have been linked together and certain elements required a 50.59 Evaluation while other elements did not.

Forms Attached: (Check all that apply.)

	Applicability Review				
	50.59 Screening	**50.59 Screening No.**		**Rev.**	
X	**50.59 Evaluation**	**50.59 Evaluation No.**	**BRW-SE-2000-709**	**Rev.**	**1**
	50.59 Validation	**50.59 Validation No.**		**Rev.**	

Tracking Number: BRW-SESV-2000-719

NUCLEAR WORK REQUEST (NWR)

990013972

DESCRIPTION

The purpose of this activity is to address Work request 990013972 which requires opening access doors to nonaccessible areas in the auxiliary building for routing of hoses to hydrolaze applicable floor drains. Opening the subject doors will create a bypass around applicable backdraft dampers and have an affect on VA system requirements unless appropriate contingency actions are followed. The subject doors are considered HVAC boundary doors and will be evaluated per the plant barrier impairment program. The basis for this validation is Safety Evaluation BRW-SE-1997-309. BRW-SE-1997-309 evaluated the effects of Temporary Alteration #97-1 -005. Temporary Alteration #97-1-005 allowed temporary use of various penetrations and propping open of doors to route hoses and cables from outside to the unit 1 curved wall area and fuel handling building.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR is not increased since propping open of the doors does not have any impact on the events which initiate a Loss Of Coolant Accident (LOCA). Propping open of doors with the administrative controls in place to maintain differential pressure requirements ensures any design base accident remains bounded by the existing off-site dose boundary analysis calculation.

2. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the affected structure provides a ventilation boundary for Auxiliary Building HVAC (VA) systems. Part of the design requirements for the VA system is to limit environmental conditions in various zones in conformance with requirements. Also, the system controls radioactivity in the areas served by staging the supply air from the clean areas to the areas of greater potential contamination. Propping open of the doors could affect the differential pressure requirements within certain ECCS rooms, thus affecting Technical Specification requirements. Therefore, administrative controls will be established prior to and while the subject doors are open. The administrative controls consists of adjusting pressure control damper 0VA600Y until the auxiliary building accessible area achieves at least negative 0.3 inches water gauge pressure with respect to outside atmosphere. This will ensure all normal and accident mitigation functions of VA system are met.

3. The margin of safety, as defined in the basis of the Technical Specification, is not reduced because the change does not affect any parameters upon which Technical Specifications are based; therefore, there is no reduction in the margin of safety. The requirements to maintain Emergency Core Cooling System pump rooms at a differential pressure of less than negative 0.25 inches water gauge with respective to outside atmosphere (Technical Specification 3.7.12) will be maintained by administrative controls under the Braidwood Station Plant Barrier Impairment program.

Tracking Number: BRW-SESV-2000-720

HVAC BOUNDARIES IN SUPPORT OF VARIOUS MAINTENANCE ACTIVITIES

DESCRIPTION

The purpose of this activity is to address propping open of various doors in support of routing hoses to hydrolaze floor drains. The basis for this validation was performed under BRW-SE-1997-0859 which was performed to evaluate the VA system under reduced flow conditions caused by operating with a single supply and exhaust fan or operating with charcoal booster fans only.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR is not increased since the new flowpath has been previously evaluated under BRW-SE-1997-0859 and determined that the flowpath is acceptable and will maintain the Auxiliary Building within acceptable limits. The VA System is unrelated to the sequence of events leading to the initiation of any accident.

2. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created since the VA system's accident mitigation and normal functions will be maintained. The VA system is unrelated to the sequence of events leading to the initiation of an accident. There are no radiological concerns since airflow direction is being maintained, i.e., the airflow is from clean areas to areas of lesser potential for contamination and then into areas of greater potential for contamination.

3. The margin of safety, as defined in the basis of the Technical Specification, is not reduced since the change does not affect the Technical Specification requirements involving any ventilation flow or differential pressure requirements.

ENGINEERING REQUEST

ER 9903057

DESCRIPTION

The purpose of this activity was to evaluate the installation of a temporary freeze seal on line 0FP07B-12" between valve 0FP312 and the tee to valve 0FP311A in order to replace valve 0FP223C (if valves 0FP312 & 0FP791 leak-by). The freeze seal will actually be installed on line 0FP07B-12" between HS 192 and HS 197, on the 21' long flanged section of line 0FP07B-12". If these valves leak by, the freeze will also be used to repair/replace these valves at the same time. Operations intends to flush the lines and valve seats to remove any silt buildup prior to determining if the freeze is required. Compensatory actions per BwAP 1100-8 will be in place for Out-of-Service fire protection supply to for Hose Stations 192, 194, & 195 and the Diesel-Driven Fire Pump Cubicle Automatic Sprinklers.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR is not increased because the installation of the freeze seal does not change any initiating condition or impact any accidents and transients evaluated in the UFSAR. The ability of the Fire Protection System to mitigate the consequences of a fire are not affected as long as compensatory actions are in place as required by Station procedures.

2. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the freeze seal has the same effect on plant operation as closing valves 0FP312 and 0FP791. The freeze seal is a temporary condition and compensatory fire protection actions will be in place.

3. The margin of safety, as defined in the basis of the Technical Specification, is not reduced because the function of the Fire Protection and Detection (FP) system is not changed and this activity does not affect any parameter upon which the Technical Specifications are based.

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Tracking No. **BRW-SE-2000-735**
Activity No. **DCP 9800045**

DESCRIPTION:

The purpose of this Design Change was to replace the existing 23 Joseph Oat Spent Fuel Pool Storage Racks with 24 Holtec International Spent Fuel Pool Storage Racks. Due to design differences, 114 additional storage cells will be gained. The Holtec storage racks shall not provide for failed fuel canisters. Due to the degradation of the neutron poison (Boraflex) in the existing Joseph Oat storage racks, a soluble Boron Concentration of 2000 PPM is required to control criticality of the spent fuel during normal Spent Fuel Pool operations. The neutron poison (Boral) used in the Holtec International storage racks will not require soluble boron to control criticality. The result of this reduction in soluble boron will have no adverse effect on the Spent Fuel Pool. Soluble boron will still be required to control criticality in the unlikely event of a misplaced Fuel Assembly in the Spent Fuel Pool; however, the required concentration will be 300 PPM. There is no adverse effect on the operation of the Spent Fuel Pool as a result of maintaining 300 PPM soluble boron.

SAFETY EVALUATION SUMMARY:

1. The probability of occurrence or the consequences of an accident or a malfunction of equipment important to safety previously evaluated in the safety analysis report is not increased because:

   The probability of accidents were considered for:

   a). Spent Fuel Assembly dropped onto the Spent Fuel Pool floor
   b). Spent Fuel Assembly dropped between racks
   c). Spent Fuel Assembly dropped between a rack and the Spent Fuel Pool wall
   d). Spent Fuel Assembly loaded contrary to placement restrictions
   e). Spent Fuel Assembly dropped onto a rack
   f). Spent fuel cask drop
   g). Change in Spent Fuel Pool water temperature
   h). Loss of Spent Fuel Pool cooling
   i). Loss of Spent Fuel Pool water level
   j). Water quality of Spent Fuel Pool

   Spent Fuel Assembly Dropped onto the Spent Fuel Pool Floor

   The probability and consequences of dropping a spent Fuel Assembly onto the Spent Fuel Pool liner is not increased as a result of reracking. Spent fuel handling tools will not change nor will the method/procedure of handling spent Fuel Assemblies. Additionally, the small increase in the number of spent fuel storage cells gained as a result of reracking will not affect the probability of the accident since the number of spent Fuel Assemblies in

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Activity No. **DCP 9800045**

the Spent Fuel Storage Pool is not an input to the initial conditions of the accident evaluation. The maximum drop distance for a Fuel Assembly will not change as a result of reracking; therefore, the consequences remain unchanged.

Spent Fuel Assembly Dropped between Racks

The probability and consequences of dropping a spent fuel assembly between racks is not increased as a result of reracking due to the similarity of the Holtec International racks and the existing Joseph Oat racks. Also, as indicated above, there is no change to the spent fuel handling tools. This accident was previously evaluated under the safety analysis that supports the Technical Specification LCO 3.7.15 and was shown to have no effect on reactivity. This is considered a bounding analysis and is applicable to the new design since the Holtec International rack layout precludes a reactivity increase due to this fuel handling accident.

Spent Fuel Assembly Dropped between a Rack and Spent Fuel Pool Wall

The probability and consequences of dropping a spent fuel assembly between a rack and the spent fuel pool wall is not increased as a result of reracking due to the similarity of the Holtec International racks and the existing Joseph Oat racks. Also, as indicated above, there is no change to the spent fuel handling tools. The worst case scenario consists of a fresh fuel assembly, of the highest allowed enrichment, accidentally placed in a cutout area between a rack and the new fuel elevator or tool bracket. The consequences of this event remain within the design basis criticality limit of <0.95 keff assuming a minimum Boron Concentration of 220 PPM in the spent fuel pool water (the minimum soluble Boron Concentration, in conjunction with this design change is 300 PPM for conservatism).

Spent Fuel Assembly Loaded Contrary to Placement Restrictions

The probability and consequences of placing a spent fuel assembly contrary to placement restrictions is not increased as a result of reracking since the existing spent fuel storage racks are already of a two region layout, similar to the Holtec International racks. Additionally, the possibility of a misplaced Fuel Assembly is minimized by the independent verification of the Nuclear Component Transfer List that prescribes the exact location of each fuel assembly. The worst case scenario of placing a fuel assembly of the highest enrichment (i.e., 5.0 weight percent U-235) into a Region II rack cell was shown to remain within the design basis criticality limit of 0.95 keff assuming a minimum soluble Boron Concentration of 220 PPM in the spent fuel pool water.

Spent Fuel Assembly Dropped onto a Rack

The probability and consequences of dropping a spent fuel assembly onto the Holtec International racks is not increased as a result of reracking. Spent fuel handling tools will

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not change nor will the method/procedure of handling spent fuel assemblies. Additionally, the small increase in the number of spent fuel storage cells gained as a result of reracking will not affect the probability of the accident since the number of spent Fuel Assemblies in the spent fuel storage pool is not an input to the initial conditions of the accident evaluation. The consequences are shown to meet all existing Design Basis requirements as described in the Byron and Braidwood UFSAR. Analysis of the spent fuel drop accidents onto the top of a spent fuel storage rack (shallow drop) and a deep drop into the bottom of a cell resulting in impact at the bottom of the rack cell, were performed to demonstrate that the spent fuel rack retains its structural integrity and capability to safely store spent fuel in adjacent cells. The damage due to a perfectly vertical drop, on the top of a rack, bounds an inclined fuel assembly drop because the impact energy is focused on a single cell wall, which results in maximum cell blockage. The radiological consequences of the drop onto the spent fuel pool liner, shallow drop onto the top of the rack and deep drop into the bottom of a rack cell are bounded by the existing UFSAR basis of 314 ruptured rods. The UFSAR design basis dose is shown to be much less than the 10 CFR 100 reference values of 300 rem to the thyroid and 25 rem to the whole body.

Spent Fuel Cask Dropped onto a Rack

The probability and consequences of a cask drop is not increased as a result of reracking. There are no changes to the systems, structures, or components associated with movement of the spent fuel cask. Although the spent fuel handling building crane trolley stops will be procedurally removed for installation of the Holtec International racks, at no time will there be movement of the cask with these trolley stops temporarily removed. The cask is shown by the Byron and Braidwood UFSAR to be isolated from the spent fuel pool by the combination of guard walls, which are designed to withstand the impact of a cask drop, and both administrative and physical controls. These controls are designed to preclude the fuel handling building crane from travel over the spent fuel pool. There are also trolley stops on the crane bridge, which physically prevents the main hook of the crane from traveling into the spent fuel storage area when handling a spent fuel cask. Spent fuel pool rack installation activities and cask handling will not be performed simultaneously, thus minimizing the possibility of improper movement of the cask. This practice is consistent with the Byron and Braidwood UFSAR relative to new fuel operations. There will be no changes to any of the equipment, procedures or operations relative to spent fuel cask handling that are associated with this design change. Installation of the lift rig storage device will be performed under the requirements of NUREG 0612.

Change in Spent Fuel Pool Water Temperature

The probability and consequences of a change to the spent fuel pool water temperature is not increased as a result of reracking. A bulk pool temperature analysis has been performed and there are not features of this design change that would prompt a spent fuel pool water temperature increase above what is analyzed.

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A new analysis was performed for spent fuel pool water temperature of 4°C (39°F), which is well below the lowest normal operating temperature of 50°F. Because the temperature coefficient of reactivity in the spent fuel pool is negative, temperatures greater than 4°C will result in a decrease in reactivity.

Loss of Spent Fuel Pool Cooling

The probability and consequences of the loss of spent fuel pool cooling is not increased as a result of reracking. The spent fuel pool cooling system has no emergency function during an accident. In the event of the failure of spent fuel pool pump or loss of cooling to a spent fuel pool heat exchanger, the second cooling train provides 100% backup capability, thus assuring continued cooling of the spent fuel pit. The results of the unlikely event of a failure of the return line to the spent fuel pool downstream of the two spent fuel pool heat exchangers would be a rise in pool water temperature followed by an increase in evaporative losses. These losses could be made up indefinitely from the Safety Category 1 Fire Protection System. The spent fuel pool cooling system has no emergency function during an accident.

Loss of Spent Fuel Pool Water Level

The probability and consequences of the loss of spent fuel pool water level is not increased as a result of reracking. System piping is arranged so that failure of any pipeline cannot drain the spent fuel pool below the water level required for adequate radiation shielding. Reracking the spent fuel pool does impact the current system piping arrangement. With 26 feet of water between the top of the active region of the spent fuel assemblies stored in the high-density racks and the spent fuel pool low level alarm, sufficient shielding remains over the fuel after any postulated spent fuel pool dewatering incident to allow recovery operations to continue.

Water Quality of Spent Fuel Pool

The probability and consequences of a change (decrease) in the water quality of the spent fuel pool is not increased as a result of reracking. The Holtec International spent fuel pool storage racks are manufactured completely of inorganic materials that have proven use in spent fuel pool environments. The degradation of the organic material Boraflex in the existing racks has been determined to have an adverse affect on the quality of the spent fuel pool water not only with respect to water clarity but also in the unacceptable addition of soluble silica which results from the Boraflex degradation. A change in consequences would be the result of cladding damage of a spent fuel assembly. The Holtec International spent fuel storage racks have been determined, as indicated above, to have no increased affect on the consequences of damage to a spent fuel assembly.

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Seismic Events

The probability of a seismic event is unchanged as a result of reracking. Seismic events are acts of nature and their probability is not affected by the type of racks in the pool. The new racks have been designed and analyzed as Seismic Category I Structures. Also, the cumulative damage factor under one SSE and 20 OBE events was calculated to be well below the acceptance limits of 1.0 for fatigue failure of the spent fuel pool liner under all loading conditions.

The bounding condition of an isolated rack (either style) has been evaluated for a seismic event. Results of the evaluation show that the rack displacement is less than the minimum normal rack gap. Therefore, it is concluded that the interim rack configurations are kinetically stable. Installation activities will meet NUREG 0612 requirements and staging locations of new racks have been evaluated as acceptable.

2. The possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report is not created because:

The replacement of the existing Braidwood spent fuel pool was evaluated for the possibility of creating a new or different accident. The following cases were reviewed:

a. An accidental drop of a rack into the spent fuel pool, and
b. Additional heat load resulting from the additional storage capacity.

A construction accident resulting in a drop of a rack, aluminum pick, lift rig, or lift rig storage device is an extremely unlikely event. Operability of the cranes will be checked prior to use. Lift equipment and rigging will also be inspected prior to use. Operators of lift equipment and cranes will be trained prior to use. Safe load paths will be followed and Braidwood Station commitments to the provisions of NUREG-0612 will be implemented by use of written procedures that have been utilized for numerous other similar rack installation projects. The Technical Requirements Manual requires that fuel handling building crane loads be limited to 2000 pounds when traveling over fuel assemblies. A component drop would present limited structural damage to the spent fuel pool slab on grade, due to the slab being founded on rock and soil. Local concrete crushing and possible liner puncture could occur. Failure of the liner would not result in a significant loss of water and no safety-related equipment would be affected by the leakage. Makeup water is available from three separate sources:

1. Two 500,000 gallon borated refueling water storage tanks
2. Two 500.000 gallon non-category 1 primary water tank unborated backup water sources, and
3. The unborated Safety Category 1 Fire Protection System, available for spent fuel pool water makeup. A component drop, therefore, does not create the possibility of creating a new or different kind of accident.

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The additional heat load resulting from the additional storage capacity of 114 cells (i.e., approximately 4%) has been evaluated for the possibility of creating a new of different kind of accident. The existing spent fuel pool cooling system has been shown to be capable of removing the decay heat generated by the additional spent fuel assemblies utilizing the standard Braidwood Station Operating Procedures.

The fuel pool rack and fuel configurations have been analyzed considering criticality, thermal hydraulic and structural effects. The increase in storage capacity is achieved by the installation of additional racks of similar, but improved design, which are passive components. No new operating schemes or active equipment types will be required to store additional fuel assemblies in the fuel pools. The possibility of a different type of accident occurring is not created since the new racks meet or exceed the requirements applicable to the existing racks.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because:

Although the margin of safety defined in the bases for the Technical Specifications is not reduced, as indicated below, it was identified that Technical Specifications is not reduced, as indicated below, it was identified that Technical Specification changes are required. A Technical Specification change request has been submitted (i.e., letter from R. Krich to NRC, dated 3/24/99. This modification will not be installed until receipt of the requested Technical Specification changes.

Discussion for Technical Specification 3.7.15 "Spent Fuel Pool Boron Concentration

The function of the spent fuel pool is to store fuel assemblies in a subcritical and coolable configuration throughout all environmental and abnormal loadings, such as earthquakes, dropped fuel assemblies, or loss of spent fuel pool cooling. Because the Joseph Oat storage racks need to be operable during and until rack change-out is complete, the Technical Specification needs to address both the requirements for use of the Joseph Oat storage racks as well as the Holtec International storage racks.

The Holtec International spent fuel storage racks are designed to meet all applicable requirements for safe storage of spent fuel and are functionally compatible with the spent fuel pool.

The Holtec Licensing Report has analyzed the consequences of this reracking project by area. In each area (i.e., criticality, seismic, structural, thermal hydraulics, and radiological exposure), design basis margins of safety will be maintained. Installation controls specified in Braidwood Station commitments to NUREG-0612 preserve the margins of safety with regard to heavy load restrictions. Compliance with the Braidwood Station design basis limits and procedure adherence will preclude reducing margins of safety.

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The margin of safety, for either the Joseph Oat or Holtec International racks, or any combination of the two type of racks, is not reduced as demonstrated by analysis of the seismic, structural, thermal hydraulic, criticality, and radiological aspects of this design change. The Braidwood Station design basis spent fuel pool maximum bulk temperature acceptance limit of 140°F has been demonstrated to be preserved by analysis. In addition, it has been shown that under the maximum decay heat load scenario of a full core discharge with a 100 hour hold time, following a normal discharge occurring 17 days earlier, the local water temperature was shown to be subcooled. Cladding failure due to extreme thermal stress was shown to be not credible. Criticality calculations show that keff will be maintained within the margin specified above for both the Joseph Oat and the Holtec International racks. The new Holtec International spent fuel pool storage racks have been designed in accordance with the Braidwood Station Design Bases requirements and the NRC OT Position for Review and Acceptance of Spent Fuel Storage and Handling Applications, as amended on January 18, 1979.

The change in the temperature of the spent fuel pool water was evaluated for the potential increase in reactivity. The new Holtec rack analysis was performed assuming a spent pool water temperature of 4°C (39°F) which is well below the lowest normal operating temperature of 50°F. Because the reactivity temperature coefficient in the spent fuel pool is negative, temperatures greater than 4°C will result in a decrease in reactivity. As a result, loss of spent fuel pool temperature control has no adverse affect on fuel stored in Holtec International storage racks.

Since all aspects of the design change have been demonstrated to be within the existing Design Bases for Braidwood Station and the NRC requirements applicable to spent fuel storage, the changes do not involve a reduction in the margin of safety.

Discussion for Technical Specification 3.7.16 "Spent Fuel Pool Storage"

The function of the spent fuel pool is to store fuel assemblies in a subcritical and coolable configuration throughout all environmental and abnormal loadings, such as earthquakes, dropped fuel assemblies, or loss of spent fuel pool cooling. Because the Joseph Oat storage racks need to be operable during and until rack change-out is complete, the Technical Specification needs to address both the requirements for use of the Joseph Oat storage racks as well as the Holtec International storage racks.

The Holtec International spent fuel storage racks are designed to meet all applicable requirements for safe storage of spent fuel and are functionally compatible with the spent fuel pool.

The Holtec Licensing Report has analyzed the consequences of this reracking project by area. In each area (i.e., criticality, seismic, structural, thermal hydraulics, and radiological exposure), design basis margins of safety will be maintained. Installation controls

specified in Braidwood Station's commitments to NUREG-0612 preserve the margins of safety with regard to heavy load restrictions. Compliance with the Braidwood Station Design Basis Limits and procedure adherence will preclude reducing margins of safety.

The margin of safety, for either the Joseph Oat or Holtec International racks, or any combination of the two type of racks, is not reduced as demonstrated by analysis of the seismic, structural, thermal hydraulic, criticality, and radiological aspects of this design change. The Braidwood Station Design basis spent fuel pool maximum bulk temperature acceptance limit of 140°F has been demonstrated to be preserved by analysis. Criticality calculations show that keff will be maintained within the margin specified above for both the Joseph Oat and the Holtec International racks. The new Holtec International spent fuel pool storage racks have been designed in accordance with the Braidwood Station Design Bases requirements and the NRC OT Position for Review and Acceptance of Spent Fuel Storage and Handling Applications, as amended on January 18, 1979.

The change in the temperature of the spent fuel pool water was evaluated for the potential increase in reactivity. The new Holtec rack analysis was performed assuming a spent fuel pool water temperature of 50°F. Because the reactivity temperature coefficient in the spent fuel pool is negative, temperatures greater than 4°C will result in a decrease in reactivity. As a result, loss of spent fuel pool temperature control has no adverse affect on fuel stored in Holtec International storage racks.

Since all aspects of the design change have been demonstrated to be within the existing Design Bases for Braidwood Station and the NRC requirements applicable to spent fuel storage, the changes do not involve a reduction in the margin of safety.

Discussion for Technical Specification 4.3.1 "Criticality

Section 4.0 of Tech Specs identifies the design features of certain components. There is no Bases section associated with this Tech Spec section. As a result, corresponding UFSAR section(s) were reviewed.

Similar to the discussion presented above for Tech Spec Sections 3.7.15 and 3.7.16, the Joseph Oat storage racks need to be operable during and until rack change-out is complete, the Technical Specification needs to address both the requirements for use of the Joseph Oat storage racks as well as the Holtec International storage racks. The UFSAR shall be revised consistent with proposed Tech Spec changes upon approval by the NRC. DRP 8-036 shall control UFSAR changes necessitated as a result of reracking the spent fuel pool.

Since all aspects of the design change have been demonstrated to be within the existing Design Bases for Braidwood Station and the NRC requirements applicable to spent fuel storage, the changes do not involve a reduction in the margin of safety.

Safety Evaluation Summary Form

Tracking No. **BRW-SE-2000-735**
Activity No. **DCP 9800045**

Discussion for Technical Specification 4.3.3 "Capacity"

Section 4.0 or Technical Specification identifies the Design Features of certain components. There is no Bases Section associated with this Technical Specification Section. As a result, corresponding UFSAR section(s) were reviewed.

For the Holtec International storage racks, a total of 396 storage cells are provided in 4 racks in Region 1 and 2588 storage cells are provided in 20 racks in Region 2 for a total of 2984 storage cells. Increasing the number of available spent fuel storage cells has been determined to have no impact on the margin of safety for spent fuel pool operation. The UFSAR shall be revised consistent with Tech Spec changes upon approval by the NRC. DRP 9-036 shall control UFSAR changes necessitated as a result of reracking the spent fuel pool.

Since all aspects of the design change have been demonstrated to be within the existing Design Bases for Braidwood Station and the NRC requirements applicable to spent fuel storage, the changes do not involve a reduction in the margin of safety.

DESIGN CHANGE
9900284

DESCRIPTION

Under previous activity E20-1/2-96-262 and evaluated under BRW-SE-1997-0308, installed a new control system on the Refueling Machine. The current proposed activity (DCP 9900284) will add components recommended by the previous design change equipment supplier (Raytheon), ComEd Engineering, and Fuel Handling operators in order to enhance equipment operation. The difference in the activities is that the previous activity installed the complete control system, whereas the proposed activity will install recommended enhancements to the previously installed control system. Had the enhancements been recommended and available at the time of control system installation, they would have been implemented. None of the proposed enhancements will alter the function or operation of the Refueling Machine so as to invalidate any portion of the previously performed safety evaluation. A review of the structural evaluation for the previous activity (Calc. BRW-98-0013-S) determined that the conclusions remain valid and these changes will not affect the existing seismic qualification. Therefore, the current proposed changes are bounded by the conclusions of the previous evaluations. A revision to the UFSAR is required due to the addition of a redundant hoist up limit switch, which will require that wording in the UFSAR be changed from "limit switch" to "limit switches" to indicate the redundancy.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the Refueling Machine is classified non-safety, lE, and non-seismic. These changes will upgrade the control system of the Refueling Machine. However, the function, structure and fuel assembly gripping and lifting mechanisms will not be altered. The control system and associated components installed by these changes will enhance fuel assembly handling with the Refueling Machine inside containment.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the installation of the new Refueling Machine control system will not adversely impact any systems or functions. The intent of these changes is to improve fuel assembly handling with the Refueling Machine inside Containment. No new accident scenarios are created as a result of these changes. These changes will not alter any initial conditions or assumptions utilized in the UFSAR analysis. Therefore, the UFSAR analysis remains unchanged and bounding.

3. The margin of safety, as defined in the basis of the Technical Specification, is not reduced because these changes do not affect any parameters upon which Technical Specifications are based.

SETPOINT CHANGE
SSCR 00-119
SSCR 98-048

DESCRIPTION

The purpose of this activity is to change the dynamic time constants for the High Auctioneered Tavg signal in the Rod Speed and Direction (RSD) control system for EPNs 1(2)TY-0412P and 1(2)TY-0412R. Time constants for instrument 1(2)TY-0412P will change from 80/10 seconds (lead/lag) to 40/10 seconds (lead/lag). The time constant for instrument 1(2)TY-0412R will change from 5 seconds (lag) to 10 seconds (lag). The effect of reducing the lead/lag time constant ratio and increasing the lag time constant (filter) for the High Auctioneered Tavg signal will be less dynamic responsiveness to a signal rate of change. The reason for reducing the lead/lag time constant ratio and increasing the lag time constant (filter), is to dampen the existing High Auctioneered Tavg signal oscillations to minimize inadvertent rod motion.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the proposed activity is not a precursor to any accident or transient identified in the UFSAR. As such, any changes made to the functionality of the system will not increase the probability of occurrence of any accident or transient. The functioning of the automatic rod control system is an assumption used in the transient analysis of the events identified. This system is assumed to function because it yields more limiting transient results than if the system were not operable. A safety evaluation and supporting analyses have shown that the proposed changes to the rod control system setpoints will have no adverse impact on the safety analyses. The results and conclusions presented in the UFSAR remain valid and bounding, and all applicable design and safety limits continue to be met.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the proposed activity is not a precursor or initiating event for any accident or transient evaluated in the UFSAR. As such, any changes made to the functionality of the rod control system will not increase the possibility of an accident or transient of a different type than previously evaluated. The initiating factors for the events are not affected by the proposed change. The potential consequences of the proposed changes to the rod control system setpoints are bounded by the current analyses as reported in the UFSAR. Since the probability of an accident is unaffected and the potential consequences are bounded by the current analyses, the possibility of an accident or transient of a different type than previously evaluated is not created.

3. The margin of safety, as defined in the basis of the Technical Specification, is not reduced because these changes do not affect any parameters upon which Technical Specifications or TRM's are based.

TEMPORARY MODIFICATION

TMOD #00-2-007

DESCRIPTION

The purpose of this Temporary Modification (TMOD) is to install two (2) temporary air compressors (Atlas-Copco PTS916 Series set for 1300 CFM @ 115 psig.) outside the Unit 2 Turbine Building for the purpose of providing a backup source of oil-free compressed air to the permanently installed Station Air Compressors (SACs). The compressors shall be capable of providing a combined total of 2600 CFM of compressed air at 115 psig. The PTS916 series compressors do not require a separate aftercooler since they are already included as part of the compressor unit. A 3" hose will run from the discharge of each compressor to a "Y" fitting. A single 3" hose will run from the "Y" fitting, into the Turbine Building through the Unit 2 Auxiliary Boiler Room, and connect to the 3" ball check valve flanged spool piece that will be connected to flanged valve 2SA001C. Valve 2SA001C will remain closed until the temporary compressors are required to run, at which time the valve will be opened as directed in BwOP SA-1. This activity is in support of maintenance activities on the Unit 0 and Unit 2 Station Air Compressors.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because this TMOD provides a reliable back-up source of compressed air during maintenance activities on the Unit 0 and Unit 2 Station Air Compressors and will only be used under emergency conditions. The design of the TMOD does not introduce any new failure mechanisms or modes for the installed Service Air System. The installation in itself cannot cause a loss of instrument air or alter the response of Station equipment as a result of a loss of instrument air.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because design considerations such as compressor location, hose routing, temporary power sources, and catastrophic failure conditions were incorporated in the installation of the temporary air compressors. These design considerations prevent any impact on Station equipment or interfacing systems to ensure that no new failure mechanism or mode is created which could introduce an accident or malfunction than currently evaluated in the SAR.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because this TMOD does not change any parameters upon which Technical Specifications are based.

Tracking Number: BRW-SE-2000-759

DOCUMENT CHANGE REQUEST

990571

DESCRIPTION

The purpose of this Document Change Request (DCR) was to revise drawings M-96 sheet 3 (UFSAR Fig. 9.4-1, sheet 3) and M-1326 sheet 2 to reflect the as built condition in the plant. Filter 0VC15F and associated duct shown currently on Drawings M-96 sheet 3, and M-1326 sheet 2 were not installed due to interference. The filter was designed for aromatic purposes since the subject duct exhausts from the lavatory and kitchen, located within the VC ventilation system boundary at elevation 451'. Based on the as built configuration, the air is routed to the upper cable spreading rooms and eventually exfiltrates into the Auxiliary Building and it does not mix with the air returning to the Main Control Room. The lack of the filter does not affect the function of the VC ventilation system. The as built condition is acceptable and the subject filter has no adverse affect on the flow requirements of the upper cable spreading rooms or the function of VC system to provide proper environmental conditions in the Control Room Envelope.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the subject uninstalled filter does not impact the function of the VC system. The VC system is not related to the sequence of events leading to the initiation of any of the analyzed accidents. Therefore, the proposed DCR does not increase the probability of occurrence of any accident or transient described in the UFSAR.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created since the subject filter does not impact the intended function of the VC system. No adverse SSC interactions are introduced as a result of the absence of the subject filter. Therefore, the possibility of an accident or a transient of a different type from those evaluated in the UFSAR is not created.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because the uninstalled filter is not governed by any technical Specification and was designed for aromatic purposes since the duct exhausts from the lavatory and kitchen.

Tracking Number: BRW-SE-2000-760

DOCUMENT CHANGE REQUEST

990572 and 990573

DESCRIPTION

The purpose of these Document Change Requests (DCR) was to revise the following:

- DCR 990572 is processed to revise drawings M-96 sheet 3 (UFSAR Fig. 9.4-1, sheet 3) and M-96 sheet 4 (UFSAR Fig. 9.4-1, sheet 4) to reflect the as built configuration. Per ECN 36655 an end cap has been installed on the inlet of damper OVC3OSY. The end cap was put in place to prevent any CO_2 or smoke from leaking into control room via the VC return air duct system. However, the P&ID's M-96 sheets 3 & 4 did not reflect the change and still showed the original flow of 350 cfm entering into the Control Room return airflow system. The 350 CFM leakage shown entering into the control room via the VC return air duct system is insignificant in respect to the total flow of 43,500 cfm. Additionally the flow values shown on the P&ID drawings are nominal design values and are not the required minimum values, which are shown in calculation VC-412. The required return air flow as specified in the calculation is 37,079 cfm for Control Room Ventilation (VC) system. Therefore, there are no adverse effect on the function of the VC system as a result of DCR 990572.
- DCR 990573 is processed to revise drawing M-96 sheet 4 (UFSAR Fig. 9.4-1, sheet 4) to reflect another as built configuration. This drawing shows a flow of 40 cfm entering the unit 2 control room from the corridor. However, this flow path has been blocked by concrete blocks with no air leakage. The as built configuration is reflected in drawing A-268, revision AZ. The 40 cfm leakage shown entering into Unit 2 Control Room is not required to meet any minimum flow requirements for the Control Room Ventilation (VC) system calculation VC-412. This flow is negligible and is balanced against exfiltration from control room (less air coming in less air going out). Therefore, there are no adverse effect on the function of the VC system as a result of DCR 990573.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the subject airflows are not required to meet any minimum flow requirements for the VC system documented in calculation VC-412. The VC system is not related to the sequence of events leading to the initiation of any accident. Therefore, the proposed DCR do not increase the probability of occurrence of any accident or transient described in the UFSAR.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created since the absence of the subject air flows does not impact the intended function of the VC system. No adverse SSC interactions are introduced as a result of the subject DCRs. Therefore, the possibility of an accident or a transient of a different type from those evaluated in the UFSAR is not created.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because the absence of the subject airflows has no impact on the basis of any Technical Specification.

Tracking Number: BRW-SE-2000-762

CORE OPERATING LIMITS REPORT

Unit 1, Cycle 9

DESCRIPTION

The purpose of this Core Operating Limits revision was to verify the Unit 1 Cycle 9 core was within the current nominal design parameters, Technical Specifications, and related bases such that core operating characteristics will be equivalent or less limiting than those previously reviewed and accepted; or for those postulated accidents analyzed and reported in the UFSAR which could potentially be affected by fuel reload, re-analyses or re-evaluations have been performed to demonstrate that the results of the postulated events are within allowable limits. This change will provide a trade off in reactor operating margin. By reducing the AFD band, a relaxation on the W(z) penalty can be achieved. This will reduce the need for unnecessary unit derates, and reduce the manpower requirements for unnecessary fluxmaps. The current Fq surveillance is approaching the limit specified in the COLR. Although the steady state Fq is not it any danger of failing, the $F_qW(z)$ portion of the surveillance may fail. The $F_qW(z)$ portion is used to ensure that the F_q value will not be exceeded prior to performing the next fluxmap. The forcasted value may end up overly conservative, requiring Technical Specification Action statement 3.2.1.B to be entered when it may not be necessary. By reducing the AFD band, the W(z) penalty may be reduced, thus avoiding unnecessary derates and/or fluxmaps.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the core reload design, including consideration of the effects of the proposed changes, will continue to meet key safety parameter limits. All design and performance criteria will continue to be met and no new failure modes or limiting single failure mechanisms have been created nor will the core operate in excess of pertinent design basis operating limits for the key safety parameters. The demonstrated adherence to these standards and criteria precludes new risks to components and systems that could introduce a new type of accident.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the core reload design, including consideration of the effects of the proposed changes, will continue to meet key safety parameter limits. All design and performance criteria will continue to be met and no new failure modes or limiting single failure mechanisms have been created nor will the core operate in excess of pertinent design basis operating limits for the key safety parameters. The demonstrated adherence to these standards and criteria precludes new risks to components and systems that could introduce a new type of accident.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because each of the Technical Specifications and Technical Requirements Manual Limiting Conditions for Operation were reviewed to determine the impact of the core reload design on the acceptance limits/margin of safety. Operation of Unit 2 Cycle 8, with the introduction of new fuel has been analyzed in accordance with NRC approved methodologies. The reload core has been designed to operated within safety analysis acceptance limits and will therefore maintain safety margins.

DOCUMENT CHANGE REQUEST

990651

DESCRIPTION

The purpose of this Document Change Request was to revise piping and Instrument Diagram M-44 sheet 4 to indicate pressure regulating valves 1/2CW117 are no longer used. The bypass valves 0CW200, 1CW1213 and 2CW123 will be used to control Circulating Water Pump cooling water header pressure.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because this is an administrative change to have the drawings reflect actual plant conditions. No changes were made to the CW System in the plant.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created since this is an administrative change to have the drawings reflect actual plant conditions. No actual changes are being made to the system/equipment.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because this activity does not affect any parameters upon which the Technical Specifications are based.

UFSAR REVISION
UFSAR Draft Revision Package 8-183

DESCRIPTION

The purpose of this UFSAR revision is that DRP 8-183 revises UFSAR sections 9.2.1.2.2 and 9.2.5.2 to reflect the SX discharge lines extensions 0SX03EA and 0SX03EB installed per Design Change D20-0-00-333. This design change extends the 'A' and 'B' Essential Service Water (SX) return lines at the SX discharge structure from below the Braidwood Cooling Lake surface to above the surface. That is, the terminal elevation of the lines is changed from approximately El. 591', about four feet below normal lake level, to El. 597' 9". As part of this change, the ASME Code classification of the sections of the lines above the discharge structure are changed from Class 3 to non-safety. The design changed is being performed to resolve a postulated non-design basis Auxiliary Building flood scenario which is negatively impacting the Core Damage Frequency calculation.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR is not increased because the proposed activity does not change any initiating conditions or events associated with any accident or transient, since the SX System and the Ultimate Heat Sink (UHS) do not initiate or alter the initial conditions of any accident or transient. A failure of the new extension pieces would still allow the SX return flow to reach the Ultimate Heat Sink (i.e. the pipes and discharge structure are in the UHS portion of the lake). If the extension piece was to rupture or fail in any manner, the water would still flow into the UHS. That is, the extension pieces do not have a safety related function. Affects on the discharge structure and SX flow have been analyzed. Therefore, implementation of DRP 8-183 does not change the probability of occurrence of the accidents/transients.

2. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because UFSAR changes implemented in DRP 8-183 do not have an adverse impact on the SX return. The affects of tornado generated missiles, crimping of the pipe (to reduce or stop flow), low temperature operation and the installation of the pipe extensions with the SX System in operation have all been addressed.

3. The margin of safety, as defined in the basis of the Technical Specification, is not reduced because the implementation of DRP 8-183 the availability of the Ultimate Heat Sink and therefore does not have any impact on equipment or parameters upon which Plant Technical Specifications are based.

UFSAR REVISION
UFSAR Draft Revision Package 9-013

DESCRIPTION

This evaluation was performed to evaluate an update to the UFSAR. This activity updated the Licensing Basis to reflect the change in ownership of Byron Station from Commonwealth Edison Company, Commonwealth Edison, ComEd or any similar name to Exelon Generation Company.

SAFETY EVALUATION SUMMARY

1. The probability of occurrence or the consequences of an accident or a malfunction of equipment important to safety previously evaluated in the safety analysis report was not increased because this change is administrative in nature. No physical change to the facility were performed. No significant change to normal operations occurred.

2. The possibility for an accident or malfunction of a different type other than any evaluated previously in the safety analysis report was not created because there were no physical change to the plant. Therefore, all previous analyses remain valid. No new accidents were possible.

3. The margin of safety, as defined in the basis for any Technical Specification, was not reduced because there was no physical change to the plant. Therefore, the basis of the Technical Specifications remained unchanged and the margin of safety was unaffected.

Tracking Number: BRW-SE-2000-777

DOCUMENTCHANGE REQUEST

990750

DESCRIPTION

Change station drawing M-58 sh 1 to show location of valves 1(2)HY5024.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because this is an administrative change to have the drawings reflect actual plant conditions. The HY system is a Non Safety Related system and is designed to Cat. II, quality group D criteria. It is not required to mitigate any UFSAR related accidents. These valves are not discussed in any accident or transient in the UFSAR. The function of the hydrogen and main generator purge systems remain unchanged. No changes were made to the HY System in the plant.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created since this is an administrative change to have the drawings reflect actual plant conditions. The proposed activity adds a valve to station drawing M-58 sh 1 that exists in the field and on another station drawing M-152 sh 4. The operation of this valve is controlled by station procedures and remains the same. The function of this valve is to vent CO_2 to the atmosphere when purging the main generator with hydrogen. Therefore, there is no possibility of creating an accident or transient of a different type than previously evaluated because the function of the hydrogen system and main generator purging operation remain unchanged.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because this activity does not affect any parameters upon which the Technical Specifications are based.

Tracking Number: BRW-SE-2000-781

ENGINEERING REQUEST
9903219

DESCRIPTION

The purpose of this Engineering Request was to evaluate a freeze seal required to be applied on line 1CV52B-3" to support valve repairs on, or replacement of, relief valve 1CV8123. Gagging relief valve 1CV8123 closed and installing the freeze defeats the normal overpressure protection function for the Unit 1 Seal Water Return system. However, a special valve line-up will be in place prior to these activities to insure an overpressure protection path is provided for the Unit 1 Seal Water Return piping system. The special valve line-up will be as directed in ER9903219. Relief valve 1CV8123 is leaking from the threaded relief valve set screw in the valve body, downstream of the valve seat (discharge side of the valve). The valve cannot be isolated by normal means without shutting down the unit. Gagging the relief valve closed will isolate the leak from the inlet side and the freeze seal will isolate it from the downstream piping, which will then allow the threaded plug to be replaced (or repaired) to stop the leak. The alternate valve line up is required to provide an overpressure protection path for the Unit I Seal Water Return piping system outside containment.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased. The piping affected by the added freeze plugs has been evaluated and found acceptable by engineering judgment. A failure of the freeze seal on the CV piping would not initiate nor alter the initial conditions to any of the accidents. Leakage from a freeze seal failure during this time would be minimal and bounded by the existing flooding analysis in calculation 3C8-0685-002, Flood Zone 54-8A. The limiting failure for the U1 Letdown Heat Exchanger Valve Isle Room A is a break in line 1CV01E-3", with a flow rate of 0.6 ft3/sec (approx. 270 gpm).

2. The possibility of an accident or a malfunction of a different type than previously evaluated in the UFSAR is not created. The affected piping has been found to be acceptable with the added weight due to the freeze jacket hardware. The freeze seal implementation and the gagging closed of valve 1CV8123 does not create the possibility of an overpressure event in the RCP seal return line since manual isolation valves 1CV8398A, 1CV8398B, and 1CV8482 will be locked in the open position. This configuration will eliminate the potential for an overpressure event caused by an inadvertent closure of one of these valves and will also ensure a relief path to the VCT for the piping/components protected by relief valve 1CV8123. The plant configuration that routes the seal return water to the top of the VCT does not degrade the operation of the CV pumps. The function of the charging pumps' miniflow lines is to assure a minimum flowpath for proper pump operation in the event that the pumps discharge flowpath is isolated. The planned line-up will maintain the function of the pumps miniflow lines. The water inventory for the CVCS is maintained during normal plant operation.

3. The margin of safety, as defined in the basis of the Technical Specification, is not reduced. During the maintenance activities addressed in this evaluation, the CV pumps will remain operable as required per the applicable Technical Specifications. Therefore, the basis of the Technical Specifications remain unchanged and the margin of safety is unaffected.

Tracking Number: BRW-SESV-2000-785

DESIGN CHANGE

D20-1-98-301-002

DESCRIPTION

The purpose of this activity is to describe the modification package that addresses multiple tasks associated with 1A Emergency Diesel Generator (EDG) starting air subsystem powered by compressor 1DG01SA-B to replace the current refrigeration type air dryer 1DG01SA-D with two membrane type air dryers (1DG01SA-DA & 1DG01SA-DB); the two dryers will be installed in parallel. This type of air dryers employs the principle of selective permeation through a membrane to separate water vapor from compressed air. Some other supporting equipment (e.g. filters, solenoid valves, etc.) were added. The setpoints of two pressure switches and a relief valve were changed to enhance the operation of the starting air system and the EDG itself. Rerouting and re-classification of piping were employed in accordance with the approved codes and standards.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, dr a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the modification did not change any initiating conditions or events associated with any analyzed accident/transient, nor changed/affected the functions of the EDG to mitigate any accident/transient.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the modification did not have an adverse impact on the reliability of the EDG or any of the interfacing systems. Also, the modification did not introduce any new operational limitations for the EDG or its subsystems.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because Technical Specifications 3.8.1 and 3.8.2 ensure that a reliable source of emergency power is available. This modification did not challenge the reliability or the availability of the EDG.

NUCLEAR WORK REQUEST (NWR)

990163125

DESCRIPTION

The purpose of this activity is to address the routing of hoses and cables through door D-311, which will need to be propped open to allow routing of hoses and welding leads from the 364' general area into the U1 Letdown Heat Exchanger Room. Door D-311 is considered an HVAC boundary door, thus will need to be evaluated per the plant barrier impairment program.

The normal mode of VA system design for this room involves a supply duct and gravity damper allowing supply air into the room and an exhaust duct providing an exhaust path back to the VA accessible exhaust plenum where it is eventually discharged into the U-1 or U-2 stack. When door D-311 is propped open, a bypass flow path will be created from the general area elev. 383' into the U-1 letdown heat exchanger room. The VA system design requirements have been reviewed and determined acceptable to prop open door D-311. The basis for this validation is the Safety Evaluation, BRW-SE-1997-859, performed to evaluate the VA system under reduced flow conditions, calculation BRW-96-461-M, and past operating history.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR is not increased. During the performance of this maintenance activity, the pressure in the Affected Areas will be verified to remain within the Tech. Spec. allowable 1/4" negative pressure with respect to the outside atmosphere. Hence, the off-site dose resulting from any analyzed accidents will not be increased.

2. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created.. The only door propped open will be D-311 (U1 Letdown Heat Exchanger Room). The use of this doorway will not have any impact on the events which initiate a Loss of Coolant Accident (LOCA) or Radioactive Release accident including a Fuel Handling accident.

3. The margin of safety, as defined in the basis of the Technical Specification, is not reduced. During the period that D-311 is propped open, the pressure in the affected areas will be verified to remain within the requirements of Technical Specifications (1/4" H_20 negative pressure with respect to the outside atmosphere).

Tracking Number: BRW-SESV-2000-809

ENGINEERING REQUEST

9903232

DESCRIPTION

The purpose of these Engineering Requests was to install freeze seals on the Essential Service Water (SX) System supply line to the Unit 2A Chemical and Volume Control (CV) Pump gear cooler and lube oil cooler to support installation of a portion of Design Change D20-2-00-330.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the freeze seal has the same affect on the plant equipment as closing the SX isolation valves to the gear and lube oil coolers. The additional weight and flooding were evaluated and are not a concern, and there is no effect on overall SX System flow. The SX System is also not a radiological barrier. The work will be performed when the Unit 2A CV Pump is Out-of-Service.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the freeze seal has the same affect on the plant equipment as closing the SX isolation valves to the gear and lube oil coolers. The additional weight and flooding were evaluated and are not a concern, and there is no effect on overall SX System flow. The work will be performed when the Unit 2A CV Pump is Out-of-Service.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because the freeze seal has the same affect on the plant equipment as closing the SX isolation valves to the gear and lube oil coolers. There is no impact on the SX System that would reduce its margin of safety from the installation of these freeze seal. The Unit 2 ECCS "B" train systems shall be operable to meet Technical Specification requirements should the freeze seal fail and cause the Unit 2 ECCS "A" train coolers to be isolated from SX flow.

Tracking Number: BRW-SESV-2000-810

ENGINEERING REQUEST

9903200

DESCRIPTION

The purpose of this Engineering Request was to install a freeze seal on the discharge side of relief valve 2CC9422B on line 2CC04EB-2" to perform maintenance/replace the valve.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the installation of the freeze seal on this Component Cooling Water (CC) piping does not change any initiating condition or impact any accidents and transients evaluated in the UFSAR since the Unit 2 "B" train of Residual Heat Removal (RH) will be out-of-service (OOS) and appropriate LCOs will be entered. The added weight of the freeze seal has been evaluated along with flooding concerns and found acceptable. The CC system is not normally a radiological system but could possibly become contaminated from a RH Heat Exchanger tube rupture. Any leakage from a failed freeze would be contained in the Auxiliary Building and no increase in offsite dose would occur.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the temporary freeze seal installation does not impact any other plant equipment that could initiate or create an accident different from those evaluated in the UFSAR. The freeze seal does not affect required plant equipment since the overpressure protection function of the relieve valve is not required with the 2B RH Heat Exchanger isolated and OOS.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because all Technical Specification requirements were met.

TECHNICAL SPECIFICATION BASES REVISION

00-008
(B 3.6.3 Table B 3.6.3-1)

DESCRIPTION

The purpose of this Technical Specification Bases Revision was to revise the Bases Sections by adding containment isolation valves to Bases Table B 3.6.3-1: 2W0091A to containment penetration P-5 and 2W0091B to containment penetration P-8. These valves are being added to reflect a modified plant configuration (e.g., installation of design change D20-2-99-336 during A2R08). Also, revise the associated ACTION specified in Table B 3.6.3-1 to ensure the appropriate ACTIONS are entered given the new configuration (e.g., two inside containment isolation valves in parallel and one outside containment isolation valve). Adding the valves and following the ACTIONS will ensure that the containment integrity function is maintained.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the reliability of existing equipment is not degraded. The Chilled Water (WO) System is not required for accident mitigation. The potential of containment flooding at post-LOCA due to a stuck open relief valves is not significant since the amount of fluid added will be small. Further, the addition of the relief valve does not alter the function, but will increase the reliability of the containment isolation valves/piping during accident condition. Revising the Bases will not affect plant operation if the relief valves function as intended. However, revising the Bases will ensure that the appropriate Condition is entered in the event of an INOPERABLE containment isolation valve in the affected flowpaths. Revising the Bases to reflect the installation of containment isolation valves and modifying the ACTIONS accordingly will not affect the initiators of any event. Therefore, the probability of occurrence is not increased.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the proposed changes will have no impact on equipment failures or malfunctions. The changes to the Technical Specifications Bases do not change any operational or performance characteristic of the chilled water (WO) system. There are no impacts on interfacing equipment important to safety introduced under these changes. Therefore, these changes cannot introduce or create a malfunction different than that previously evaluated.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because Technical Specification section 3.6.3 ensures that containment integrity will perform its design safety function to mitigate the consequences of accidents.

Tracking Number: BRW-SE-2000-827

ENGINEERING REQUEST
9903242

DESCRIPTION

The purpose of these Engineering Requests was to install a freeze seal on line 0FPD1A-4" in order to install a portion of design change D20-2-00-330. The freeze will be located on line 0FPD1A-4", approximately 4' west of support 2FP04001G, 364' elev. of the Auxiliary Building near Q-18 & S-18. The freeze seal acts as an isolation point on line 0FPD1A-4", which takes out 2 hose stations (138 & 141) in the Auxiliary Building, 364' elevation. Compensatory measures will be in place to account for HS 138 & HS 141 being within the OOS boundary. The Fire Marshall performs a review of all Fire Protection Out-Of-Services and determines the required compensatory actions. The freeze seal will have no effect on any other equipment outside of the OOS boundaries. No interactions with other equipment are created by this freeze seal that would impact plant operations in any operating mode.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the freeze seals will be established and controlled in accordance with approved procedure BwMP 3300-018 or equivalent. The use of freeze seals is a common and proven industry practice. The affected piping remains qualified with the additional weight (approx. 35#) of the freeze seal assembly as discussed in ER9903242. In the unlikely event of a failed freeze seal on line 0FPD1A-4" contingency actions as described in ER9903242 (install pipe plug, close new valve, or close header isolation valve 0FP243) will be performed to stop the leakage and prevent any significant impact on FP flow. Leakage from a freeze seal failure during this time would be minimal and bounded by the existing flooding analysis in calculation 3C8-0685-002, Flood Zone G3-4. The limiting failure for Flood Zone G3-4 is a break in line 1RH04AB-3", with a flow rate of 0.23 ft3lsec (103 gpm). ER9903242 will be incorporated into the work package. A failure of the freeze seal would not initiate nor alter the initial conditions to any accidents or design basis fires. The freeze seal has no direct effect on plant equipment since compensatory measures will be in place as required for the fire protection equipment affected within the QOS boundaries (Hose Stations 138 & 141). Therefore, the proposed change cannot create the initiating conditions for the design basis fire & flood or change the probability of occurrence of the design basis fire or flood.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the freeze seal does not impact equipment that could initiate or create an accident or design basis fire different from those evaluated in the UFSAR or FPR as long as required compensatory measures are in place.. The additional weight and flooding were evaluated and are not a concern, and there is no effect on overall FP System.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because the he freeze seal has no effect on operating plant equipment since required compensatory measures will be in place for the FP equipment within the OOS boundary. The piping affected by the added freeze seal is qualified for the additional weight of the freeze assembly, flooding is not a concern, and there will be an insignificant effect on the FP system even with a failed freeze seal. There is no effect on the overall FP system if the freeze performs as designed. The margin of safety of all systems is not reduced.

DESIGN CHANGE

D20-2-00-331

DESCRIPTION

The purpose of this design change is that the existing chemical injection pumps 2CF01PA and 2CF01PB will be replaced with smaller size pumps to inject ammonium chloride solution for Molar Ratio Control for Unit 2. The existing pumps have an excessively large capacity for the required flow rate to inject Ammonium Chloride solution to the secondary side of Steam Generators. The injection of Molar Ratio control chemicals is described in UFSAR, section 10.3.5.1 and is controlled administratively through Chemistry Department procedures. The UFSAR recommends following industry practices as contained in the EPRI PWR Secondary Water Chemistry Guidelines. The Ammonium Chloride solution injection for Molar Ratio Control will be governed by the Chemistry Department procedure BwCP PD-4. This DCP addresses the replacement of pumps. The labeling changes required by the associated administrative changes in the Chemistry program are also being included.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because this design change is not associated with any equipment important to safety. This design change replaces the existing pumps. There is no functional or operational change to the plant. Therefore, it will not increase the probability of malfunction of equipment important to safety.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the proposed changes will have no impact on equipment failures or malfunctions. Therefore, these changes cannot introduce or create a malfunction different than that previously evaluated.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because this activity does not affect any parameter upon which the Technical Specifications are based.

PROCEDURE CHANGE

BwOP RH-4

DESCRIPTION

The purpose of this procedure BwOP RH-4 revision is to incorporate the subject Exempt Change (E20-1/2-96-265) which installed a small hole in the upstream side of the valve disk. The small hole will provide a vent path and not allow pressure to increase and thus binding the valve in the event of switchover to hot leg recirculation after being closed during cold leg recirculation.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the modification will improve the reliability of the valve to function during the accident by not allowing pressure to build up in the bonnet and cause binding. The small hole in the upstream side of the valve disk will not affect the ability of this valve to perform its safety function. The RH system is considered a closed system outside containment and the hole drilled in the valve disk does not affect the pressure retaining boundary of the RH system.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSALR is not created. Gate valves are designed to seal on the downstream side of the disk only. Therefore, with the hole drilled on the upstream (RH pump) side of the disk the valve operation is not affected. The ability of the valve to function to mitigate the consequences of a LOCA is not adversely affected.

3. The margin of safety, as defined in the basis of the Technical Specification, is not reduced because the ability of the valve to perform its safety function is not affected and the function of the valves is not changed.

Tracking Number: BRW-SESV-2000-855

SPECIAL PROCESS PROCEDURE

SPP 00-016
SPP 00-017

DESCRIPTION

The purpose of these Special Process Procedures was to stroke the 2SI8809B and 2RH8716A valves in the Residual Heat Removal System under differential pressure and conditions. Valve Operational Test and Evaluation System (VOTES) equipment was used to monitor valve and system operating parameters while the tested valves were being stroked. A system flowpath was set up which drew water from the RCS hot legs and discharged to the RCS cold legs or the hot legs. Temporary pressure test gauges were installed to measures system operating pressures and the auto circuitry for the miniflow isolation valve was temporarily disabled by the lifting of electrical leads.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the RHR System is being operated in accordance with normal operating procedures and practice. The special procedure is being performed when the tested train of RHR is not required to be operable for any required function. The proposed activity will not increase the probability of a malfunction of equipment important to safety. The test procedures are operating the RHR system in accordance with design requirements and determining that the tested components properly function.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the special procedure opens and closes the tested valve under differential pressure and flow at design conditions when the system is not required to be operational.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because the special process procedure operates the RHR System as it would normally be operated under accident conditions. The system is not required to be operable during the time when it is being used for testing.

Tracking Number: BRW-SESV-2000-856

NUCLEAR WORK REQUEST (NWR)

990179656

DESCRIPTION

The purpose of this activity is to address the routing of hoses and cables through door D-277, which will need to be propped open to allow routing of hoses and welding leads from the 364' general area into the 2A CV pump room. Door D-277 is considered an HVAC boundary door, thus will need to be evaluated per the plant barrier impairment program.

The normal VA design airflow path for the 2A CV pump room (refer to P&ID M-95-1, UFSAR Figure 9.4-5 sheet 7) is to draw supply air from the general area on elevation 364' through the backdraft damper located above door D-277 into the 2A CV pump room. The air is drawn from the room which is eventually exhausted to the VA non-accessible exhaust plenum.

A bypass airflow path is created around damper when door D-277 is propped open. Air will be drawn from elevation 364' general area through door D-277 into the 2A CV pump room and exhausting the air into VA non-accessible exhaust plenum.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR is not increased. During the performance of this maintenance activity, the pressure in the Affected Areas (2A CV pump room) will be verified to remain within the Tech. Spec. allowable 1/4" negative pressure with respect to the outside atmosphere. Hence, the off-site dose resulting from any analyzed accidents will not be increased.

2. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created. The only door propped open will be D-277 (U-1 general area to 2A CV pump room). The aux. bldg. dp will be controlled using the 0VA600Y. The use of this doorway will not have any impact on the events which initiate a Loss of Coolant Accident (LOCA) or Radioactive Release accident including a Fuel Handling accident.

3. The margin of safety, as defined in the basis of the Technical Specification, is not reduced. During the period that D-277 is propped open, the pressure in the affected areas will be verified to remain within the requirements of Technical Specifications (1/4" H_20 negative pressure with respect to the outside atmosphere).

Tracking Number: BRW-SE-2000-863

DRAWING CHANGE

990760
990761
990762

DESCRIPTION

The TSC Computer Room Air Conditioning Packages are vendor supplied "packages", internally configured to meet the design requirements specified for the required system performance. Generic design requirements for this system are provided in UFSAR Table E.75-1. The subject DCRs revise drawings and electronic data associated with the TSC Computer Room Air Conditioning Packages to remove information (some of which is erroneous) that is vendor-specific and unrelated to the original design requirements of the components. Some portions of the vendor-specific electrical information that is accurate is being incorporated into the appropriate vendor manual and remaining information is being made more general and correct.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because this is an administrative change to have the drawings reflect actual plant conditions. No changes were made to the VV System in the plant.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created since this is an administrative change to have the drawings reflect actual plant conditions. No actual changes are being made to the system/equipment.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because this activity does not affect any parameters upon which the Technical Specifications are based.

ENGINEERING REQUEST

9903268

DESCRIPTION

The purpose of this Engineering Request was to install a freeze seal to provide downstream isolation for relief valve 2CC9429 from an unisolable portion of CC return header line 2CC60A-16" (downstream of valves 2CC9502B & 2CC9503) without affecting the function of the remaining portions of the CC system. Line 2CC60A-16" will be isolated upstream of valves 2CC9502B & 2CC9503, which will provide upstream isolation for the relief valve. Isolating this section of line 2CC60A-16" will render Unit 2 Spent Fuel Pit Heat Exchanger 2FC01A inoperable, since it is contained within the OOS boundaries. Isolating this section of line 2CC60A-16" and its affect on the plant are covered under the Station Out-Of-Service program and are not covered by this 50.59. The freeze seal itself therefore has virtually no effect on plant systems since the portion of line 2CC60A-16" which relief valve 2CC9429 protects, will be isolated and OOS.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the installation of the freeze seal on this Component Cooling Water (CC) piping does not change any initiating condition or impact any accidents and transients evaluated in the UFSAR. A failure of the freeze seal on the CC piping would not initiate nor alter the initial conditions to any of the accidents. Leakage from a freeze seal failure during this time would be minimal and bounded by the existing flooding analysis in calculation 3C8-0685-002, Flood Zone G3-3B. The limiting failure for Flood Zone G3-3B is a break in line 2SI05BB-8", with a flow rate of 2.61 ft3/sec (1171 gpm). The freeze seal has no direct effect on plant equipment since the only function of relief valve 2CC9429 is to provide overpressure protection for the CC side of Unit 2 Spent Fuel Pit heat exchanger 2FC01A, which will already be OOS. Therefore the probability of any accident or transient will not be increased. Any leakage from a failed freeze would be contained in the Auxiliary Building and no increase in offsite dose would occur.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the temporary freeze seal installation does not impact any other plant equipment that could initiate or create an accident different from those evaluated in the UFSAR. The freeze seal does not affect required plant equipment since the overpressure protection function of the relieve valve is not required with the Unit 2 Spent Fuel Pit heat exchanger 2FC01A isolated and OOS.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because all Technical Specification requirements were met.

Tracking Number: BRW-SE-2000-871

PROCEDURE REVISION

BWOP AP-63T5

DESCRIPTION

BWOP AP-63T5 was created to provide the instruction required to provide an alternate source of power to the constant voltage transformers (CVT) for Instrument Bus 211 and 213. Providing 480volt power to these transformers will allow the instrument busses to remain energized during the planned outage of Bus 241.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the temporary power supplied to the CVTs will ensure that the affected instrument bus remains energized allowing the loads supplied by the affected bus to perform their design function.

2. The proposed activity will not affect equipment failures or malfunctions. It will not introduce any new failure modes because the CVTs will be powered from a non-safety related source for a limited time duration. The temporary power supply will ensure that the availability of the SSCS powered from the affected instrument bus are available to perform their required functions.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because the action requirements for the associated LCOs will be implemented.

Tracking Number: BRW-SESV-2000-877

PROCEDURE REVISION

1BwOSR 3.4.3.1

DESCRIPTION

Modify RCS administrative cooldown rate limits to be consistent with UFSAR statements..

SAFETY EVALUATION SUMMARY

The are no differences between this activity (1BwOSR 3.4.3.1 Revision 2) and the activity being evaluated. The changes are being made to ensure the Unit 1 procedure is the same as the Unit 2 procedure.

UFSAR REVISION
UFSAR Draft Revision Package 8-084

DESCRIPTION

The purpose of this revision is that DRP 8-084 revised UFSAR Section 6.4, Habitability Systems, to delete the statement that a minimum of 8 hours of food supplies are stored within the control room envelope for use by the control staff during an emergency.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR is not increased because removing emergency food storage from the control room boundary did not affect the initiators of any accidents. The change had no affect on the operation of the reactor coolant system or the RCS pressure boundary. The potential for release of toxic chemicals in the vicinity of the plant was unchanged because the change did not affect the chemicals stored or shipped near or on the plant site. The post LOCA dose to control room operators was unaffected by removing the storage of emergency food supplies from the control room and providing food from on-site or off-site sources. Braidwood Emergency Response procedure BwZP 2000-7, assigns action to the TSC to arrange for food for the onsite emergency workers and to coordinate any deliveries with the Radiation Protection Director. Delivery of food to the control room will not increase the control room dose rate because the calculated dose to control room personnel already includes 10 cfm of unfiltered infiltration to account for opening and closing of control room boundary doors associated with such activities as required by the plant emergency plans and procedures. Assuming 10 cfm of door infiltration is consistent with the guidance provided in the Standard Review Plan (Section 6.4.1 III.3.d.(2)(ii)). The potential dose to non-control room personnel due to delivery of food is not included in the calculated dose to control room personnel or the off-site dose to the general public. Therefore, this change did not result in an increase in the consequences of a LOCA. Accident dose to non-control room personnel is administratively controlled within the limits of 10CFR20. No significant potential for the release of toxic chemicals in the vicinity of the Braidwood plant was identified. Since there is no potential for this type of accident, the proposed change did not affect the consequences. The proposed change did not affect any plant equipment. Therefore, no existing failure modes were affected and no new failure modes were created.

2. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the amount of food stored or not stored within the control room envelope does not affect any plant systems, structures or components.

3. The margin of safety, as defined in the basis of the Technical Specification, is not reduced because the proposed activity did not change the expected dose to control room personnel. Therefore, the margin of safety was not reduced.

Tracking Number: BRW-SE-2000-892

DOCUMENT CHANGE REQUEST

990740

DESCRIPTION

The purpose of these Document Change Requests (DCR) was to revise drawings M-74 sheet 2, PG-2555AH-22 and M-49 sheet 5A to as built conditions. Drawing M-49 sheet 5A, does not show the installed piping, valves and hose connections, downstream of valve 0WM872. In addition, drawings M-74 sheet 2, and PG-2555AH-22 do not show a reducer, a short stub of pipe and a pipe cap downstream of valve 0PW056. The changes described in this DCR allow for a more efficient use of the PW and WM systems. The additional components have no adverse effect on system operation or performance. This DCR is processed to reflect the as built condition of the Primary Water (PW) and Make-up Demineralizers (WM) systems on the applicable drawings. The request for this change was initiated by ER9701372 and ER9702196.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased. The installed piping downstream of the hose drop valve 0WM872 includes three additional valves and hose connections. They allow for additional hoses to be attached. The subject piping is located in a non-seismic area (MUDS Room) and it is classified as non-safety related. The additional valves and hose connections have no adverse impact on the structural integrity of the piping system since the piping is installed in accordance with the original Construction Specification L-2739. Also the addition of a reducer, short stub of pipe and a pipe cap has no adverse impact on the existing piping qualification or the operation of the PW system. Based on the above, the proposed activity meets the design material and construction standards applicable to the subject system or equipment. In addition, there is no impact on the performance of the WM or PW systems since these changes do not cause systems to operate outside of their design or operating limits. The proposed activity does not cause a change to any system interface in a manner that would increase the likelihood of an accident. The changes in this DCR do not initiate or alter any accident or transient. Therefore, there is no increase in the probability of occurrence of any accident or transient.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created since the installed changes do not adversely affect the function, design basis, reliability, and response characteristics of any SSCs associated with the PW and WM systems. Therefore, the possibility of an accident or transient of a different type from those evaluated in the SAR is not created.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because the changes have no impact on the basis of any Technical Specification.

OUT-OF-SERVICE

990023302

DESCRIPTION

The purpose of Out of Service 990023302 is for WR's 980123935 and 990189581. WR 980123935 will replace the solenoid valve for 1SX178 as a preventative maintenance activity and WR 980189581 will repair a leak at a hose fitting just downstream (expansion tank side) of valve 0WM786. Isolation between the expansion tank and the work is provided by a de-energized solenoid valve 1AF01PB-K-L3. WM makeup water isolation valve 0WM786 will be out of service closed. This valve appears on drawing M-49-1A which appears in UFSAR Figure 9.2-4. The valve and associated line provide automatic make-up to the diesel's jacketwater expansion tank upon actuation of a low level switch mounted on the tank. The valve is normally OPEN. Additionally, the power supply to the jacketwater expansion tank makeup solenoid valve 1AF01PB-K which is located between isolation valve 0WM786 and the tank will be OFF. The 120 VAC power supply breaker serving the solenoid valves on the normally closed air operated Essential Service Water isolation valves 1SX173 and 1SX178 will be out of service OFF causing the valves to fail open. The valves are normally closed and open when the 1B AF pump starts to allow SX cooling water flow to the 1B AF diesel, the 1B AF pump and associated auxiliaries. The configuration of the operators and solenoid valves is such that the solenoid valves are ENERGIZE TO CLOSE valves 1SX173 and 1SX178. When the solenoid valves are de-energized, valves 1SX173 and 1SX178 OPEN. The SX cooling water valves appear on drawing M-42-3 which appears in UFSAR Figure 9.2-2. This breaker also supplies the jacketwater expansion tank makeup solenoid valve 1AF01PB-K-L3. This solenoid valve energizes on low water level in the tank to allow WM makeup to restore level.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the uFSAR, is not increased because WM is isolated and sx valves are air operated valves that are air to OPEN/FAIL OPEN, which will not increase the probability that a Steam Generator safety valve will open, a steam or feed line will break, the turbine will trip, a S/G tube will rupture, there will be a loss of air conditioning, or the reactor will fail to scram (ATWS). The probability of these accidents occurring is tied to the affected components, i.e. turbine, mainsteam piping, feedwater piping, etc. The WM system is not designed to be functional during or after a design basis event and therefore no credit is taken for the ability of WM to provide makeup water to the AF diesels during an accident. The water level in the expansion tank will be verified shiftily so that the diesel's jacket water system will always be available to support engine operation. The consequences of a malfunction of an AF diesel is not increased by isolating WM to the diesels jacket water expansion tank. The Safety Evaluation reviews the impact on each individual component that will be affected by the constant flow of SX cooling water that will result from failing opening the valves and shows that their operational readiness or steady state operating performance is not compromised. The failure modes effect

analysis for the AF system contained in UFSAR Table 10.4-4 remains valid. The AF system is analyzed for the most limiting case of a total loss of one AF pump.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the function and failure modes of the AF, SX and Auxiliary Building HVAC (VA) (cubicle coolers) systems and the equipment they serve are unchanged. The WM makeup solenoid valve is normally closed (de-energized). When WM is isolated, the solenoid disconnect switch will be placed in the OFF position to prevent the solenoid valve from OPENING (energizing) on low tank level. The failure analyses for these systems contained in UFSAR Tables 9.2-2, 9.4-10 and 10.4-4 are not affected.

3. The margin of safety, as defined in the basis of the Technical Specification, is not reduced because none of the bases for the Technical Specification relating to AF, SX VA or WM are impacted.

UFSAR REVISION

DRP 9-003

DESCRIPTION

The TSC Computer Room Air Conditioning Packages are vendor supplied "packages", internally configured to meet the design requirements specified for the required system performance. Generic design requirements for this system are provided in UFSAR Table E.75-1. The subject DRP is to revise UFSAR Table E.75-1 associated with the TSC Computer Room Air Conditioning Packages. This change ensures that the technical requirements that apply to form, fit, and function are retained while allowing for replacement of obsolete/degraded equipment with equivalent equipment, appropriately evaluated in accordance with approved station procedures. This change has no effect on the original technical/design requirements of the air conditioning packages. The TSC Computer Room Air Conditioning Packages have no safety function and the proposed administrative change has no effect on the safety or operation of the plant.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because this is an administrative change to have the drawings reflect actual plant conditions. No changes were made to the VV System in the plant.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created since this is an administrative change to have the drawings reflect actual plant conditions. No actual changes are being made to the system/equipment.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because this activity does not affect any parameters upon which the Technical Specifications are based.

DESIGN CHANGE

D20-1-99-357
D20-2-99-357

DESCRIPTION

Design Change D20-1/2-99-357 reconfigures the SJAE radiation monitoring skids, 1/2PR27J, to improve skid reliability with the following changes: addition of a vacuum pump inlet filter, reroute piping such that the sample pump and flow control pressure switches are downstream of the existing cooling coil and heater, replace the existing sample pump with a pump that has stainless steel internals, delete the chiller temperature switch and motor operated valve, deletion of the iodine filter, replace float drain valve with a check valve, deletion of condensate collection tank, and replace the inlet orifice with a manual throttle valve. Additionally, the skid drain line is hard piped to the floor drain line, and loop seals are added to the adjacent equipment drain and nearest floor drain opening to reduce the level of ammonia smell in the area of the skid.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because this design change does not affect the steam generator tubes or flow through the steam generators. The change has no affect on the initiators of a SGTR. Therefore, the probability of occurrence of any accident or transient did not increase. Therefore, it will not increase the probability of malfunction of equipment important to safety.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the proposed design change modifies the off-gas process radiation monitor. The monitor provides continuous indication of noble gas radioactivity levels in the off-gas exhaust. The changes do not interact with any safety related systems or plant controls. Thus there is no possibility that the change will create an accident or transient of a different type.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because this activity does not affect any parameter upon which the Technical Specifications are based.

DESIGN CHANGE

9900400

DESCRIPTION

The purpose of this Design Change Package (DCP) is that on a reactor trip, reinstate the low average temperature (LO T_{avg}) interlock for Feedwater (FW) isolation for Main FW Isolation valves 2FW009A-D, FW Tempering Control Valves 2FW034A-D, FW Tempering Isolation Valves 2FW035A-D, Main FW Isolation Bypass valves 2FW043A-D, Main FW Reg valves 2FW510, 520,530,540, and Main FW Reg Bypass valves 2FW510A, 520A, 530A and 540A. The existing logic on FW Preheater Bypass Isolation valves 2FW039A-D remains unchanged. The subject valves will close on a Reactor Trip signal This function is required to isolate the Main FW nozzle from the Auxiliary Feedwater nozzle in the faulted Steam Generator (SG) during a feedline break accident scenario.

The LO T_{avg} interlock was removed in conjunction with the removal of the Feedwater bypass line check valves, 2FW078A-D, disk removal as-part of modification M20-2-88-029. These check valves were removed since they caused improper flow splits between the main FW nozzle and the AF nozzle on the Steam Generators. The limitation of FW flow to the main FW nozzle is necessary to prevent tube vibration resulting in premature wear of steam generator tubes. Add interlock to open the FW Recirculation Valves, 2FW012A-C, on reactor trip. The 2FW012 valves presently cycle open on low feedwater flow.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the proposed changes do not adversely affect the design basis, reliability, and response characteristics of any SSCs associated with the FW system and interfacing systems. In addition, the FW isolation logic changes and FW recirculation valve opening upon reactor trip does not cause any SSCs associated with UFSAR accidents and transients to be operated outside their design limits or become susceptible to degradation. Opening of the FW recirculation valves at full FW flow has no adverse impact on the FW recirculation discharge piping structural integrity since the stroke times are not impacted and the hydraulic transient should be less severe. This is due to pressures at full flow being lower than the reduced flow condition that results in FW recirculation valve opening. Also there are no pump run out concerns for the FW, HD and CB pumps and no suction pressure concerns for the FW pumps. There are no changes to the initial conditions of any UFSAR accident and transients. Therefore, there is no increase in the probability of any UFSAR accidents.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the FW system was originally designed to operate with FW isolation interlocked with RCS low average temperature (LO T_{avg}) and with a check

valve installed on the main FW bypass flow line. The check valve was removed via Modification M20-2-88-029 to address the FW flow split anomaly created by the disc of the check valve. Removal of the check valve resulted in the elimination of the LO T_{avg} interlock to protect the Steam Generator preheater from a potential bubble collapse type water hammer in the event of Auxiliary Feedwater (AF) backflow into the FW bypass flow line and minimize the amount of main feedwater that needs to be purged before colder AF is introduced to the steam generator on feedwater system pipe break event. Additionally, the change in control logic does not create any new types of malfunctions.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because the proposed change does not affect FW Isolation on SG High High and SI. The change in logic for FW isolation on reactor trip coincident with LO T_{avg} and FW recirculation valve opening on reactor trip do not affect the basis for the margin of safety.

50.59 REVIEW COVERSHEET FORM

LS-AA-104-1001
01/11/01

ation: _____Braidwood_____ Page 1 of _1__

Activity/Document Number: __BRW-SESV-2000-922_____ **Revision Number:** _____0_____

Title: _____**BwVSR 3.3.1.6, "Incore-Excore Axial Flux Quarterly Calibration", Rev. 2**_____

Description of Activity:

BwVSR 3.3.1.6, Rev 1 required Reactor Engineering to send AFD gain values to the I&C Engineer to make the determination of whether or not new Delta T/Tave test report package sheets were required. Rev. 2 of this procedure clarified the method for transmitting the information, and the process to document the transmittal. No changes to the actions performed by either Reactor Engineering or the I&C Engineer were made.

A typo on step 8.2 was corrected

Reason for Activity:

Rev 2 of BwVSR 3.3.1.6 was performed to clarify how to transmit data to the I&C Engineer for consistency, and provided for a document trail for why changes are or are not required to the Delta T/Tave test report packages.

Effect of Activity:

This provides a clear and consistent method for Reactor Engineering to provide the required data to the I&C Engineer, and provides a method to track it.

Summary of Conclusion for the Activities 50.59 Review:

he findings of BRW-PTES-2000-900, for rev. 1 of BwVSR 3.3.1.6 are valid for BwVSR 3.3.1.6, rev. 2.

Attachments:
Attach completed Applicability Review if 50.59 Screening is not required.
Attach completed 50.59 Screening if 50.59 Evaluation is not required.
Attach completed 50.59 Evaluation if required to be performed.
Attach completed 50.59 Screening and 50.59 Evaluation if multiple discrete elements of an activity have been linked together and certain elements required a 50.59 Evaluation while other elements did not.

Forms Attached: (Check all that apply.)

	Applicability Review				
	50.59 Screening	**50.59 Screening No.**		**Rev.**	
	50.59 Evaluation	**50.59 Evaluation No.**		**Rev.**	
X	**50.59 Validation**	**50.59 Validation No.**	**BRW-SESV-2000-922**	**Rev.**	**0**

PROCEDURE REVISION

RP-AA-250

DESCRIPTION

The purpose of these Procedures Revisions was to incorporate shallow dose equivalents and deep dose equivalents from contamination on skin and/or clothing. This procedure revision does not alter any description of the radiation protection program as described in the UFSAR section 12.5, and implements fully the requirements of 10CFR20.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because this change is editorial in nature. There are no plant systems, structures, or components affected by the radiological dose program.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because of the implementation this change

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because this activity does not affect any parameters upon which the Technical Specifications are based.

PROCEDURE REVISION

2BwOSR 5.5.8.SI-3A, (Rev.1)
2BwOSR 5.5.8.SI-3B, (Rev. 1)

DESCRIPTION

The purpose of this Procedure Revision is to change the valve stroke times in procedures 2BwOSR 5.5.8.SI-3A, Rev. 1 and 2BwOSR 5.5.8.SI-3B, Rev. 1 for valves 2SI8802A/B are being dictated by the following description of the gear ratio change to each valve's operator:

The proposed design change increases Motor Operated Valves (MOV) 1(2)SI8802A and B overall actuator gear ratio from 28.2:1 to 59.4:1 to increase the operator motor gearing capability. The capability is being increased to prevent pressure locking concerns. The scenario which can pressure lock these valves postulates that Reactor Coolant System check valve leakage during operation in modes 1-3 pressurizes the bonnet area of the valves. A sudden depressurization of the downstream piping as would occur with a Loss of Coolant Accident (LOCA) creates a pressure locking situation which would not allow the valve to open during the hot leg recirculation phase of a LOCA. The pressure locking phenomenon occurs when high pressure water is trapped in the valve bonnet and this internal pressure increases the disc seat to valve seat contact forces. These contact forces create increased frictional forces that increase the required force to unseat the valve. These increased forces can be high enough such that the motor operator can not open the valve.

The ComEd pressure locking prediction methodology was used to determine the required force to unseat the valves under the postulated scenario using conservative assumptions. As documented in pressure locking calculation BRW 96-015 / BYR 96-238 an overall actuator gear ratio 59.4:1 provides the required minimum margin (capability) to open the valve under the postulated scenario while no exceeding the maximum valve stroke time listed in the UFSAR.

This design change will increase the stroke time of the valve from 6.4 seconds to 13.5 seconds. The UFSAR maximum stroke time is 15 seconds.

The valve stroke times in the proposed activity, are bounded by the Safety Evaluation (tracking number: BRW-SE-1999-1196) for the design change.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the probability of a malfunction of equipment is not increased by a change to the procedure's valve stroke time for 2SI8802A/B. Failure of the torque switch to the limit the closing thrust to a specified value can occur with any torque switch controlled motor operated valve and is not affected by the thrust capability of the actuator. Therefore, the probability of a failure of the torque switch has not changed. With the increased motor gearing capability and ability to open the valve under a pressure locking condition the overall probability of a valve malfunction is decreased.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the proposed change (procedure update of stroke time due to operator gear ratio change) will not create the possibility of a different accident or transient. The function of the valve and operator is not being changed. The ability of the valve to perform these functions is not being changed. The function of the valve is also not changed. The 7 second delay in initiation of hot leg recirculation based on the slower valve stroke time will not affect this function. The new stroke times remains less than the UFSAR maximum stroke time (15 seconds) for these valves. Therefore, the proposed procedure change will not create the possibility of a different type of equipment malfunction than previously evaluated.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because this activity will not reduce the margin of safety as defined in the basis for any Technical Specification. The valve stroke time remains within the licensing basis of the plant.

Tracking Number: BRW-SESV-2000-930

NUCLEAR WORK REQUEST (NWR)

990165647

DESCRIPTION

The purpose of this activity is to address the routing of cables through doors D-305 and D-306. WR#990165647 requires opening door D-305 and D-306 to allow routing of cables from the general area into the U-1 and U-2 containment chiller rooms to allow for temporary power cables for the Unit 2 polar crane. These doors area considered HVAC boundary doors and will be evaluated per the plant barrier impairment program. The normal mode of VA system design for these room involves a supply duct providing supply air into the rooms and an exhaust duct from each of the rooms providing an exhaust path back to the VA exhaust plenum where it is eventually discharged into the U-1 or U-2 stack. When door D-305/306 are propped open, a bypass flow path will be created from the general area elev. 401' into the U-1 and U-2 containment chiller rooms. The VA system design requirements have been reviewed and determined acceptable to prop open doors D-305 and D-306. The basis for this validation is the Safety Evaluation, BRW-SE-1997-859, performed to evaluate the VA system under reduced flow conditions, calculation BRW-96-461-M, and past operating history.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR is not increased. During the performance of this maintenance activity, the pressure in the affected Areas will be verified to remain within the Tech. Spec. allowable 1/4" negative pressure with respect to the outside atmosphere. Hence, the off-site dose resulting from any analyzed accidents will not be increased.

2. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created. The only doors propped open will be D-305 and D-306. The aux. bldg. dp will be controlled using the 0VA600Y. The use of these doorways will not have any impact on the events which initiate a Loss of Coolant Accident (LOCA) or Radioactive Release accident including a Fuel Handling accident.

3. The margin of safety, as defined in the basis of the Technical Specification, is not reduced. During the period that doors D-305 and D-306 are propped open, the pressure in the affected areas will be verified to remain within the requirements of Technical Specifications (1/4" H_20 negative pressure with respect to the outside atmosphere).

TEMPORARY MODIFICATION

TMOD #00-2-008

DESCRIPTION

The purpose of this Temporary Modification (TMOD) was to furnish a contingency source of Instrument Air (IA) to the Reactor Coolant System loop 1/loop 4 and loop 2/loop 3 air headers in the Unit 2 containment during refueling outage A2R08. The TMOD is intended to supply IA, if required, to complete fuel movements (refueling machine air supply) or to operate air operated valves. The supply of air will be from the construction department's or Westinghouse's manifold/connection (or Service Air if available) via dryers to Instrument Air tap valve 2IA652 and Instrument Air tap valve 2IA663 within the Unit 2 containment.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the initiating event or condition for a Fuel Handling Accident Inside Containment is the release of a fuel assembly while being handled by refueling equipment. On loss of instrument air to the refueling machine the gripper mechanism fails as-is. Air is required to release the fuel assembly. in addition, other interlocks are provided to prevent the inadvertent release of a fuel assembly suspended from the gripper. Therefore, the failure of the TMOD to provide air to the gripper mechanism with a fuel assembly suspended from the refueling machine will not create the initiating event or condition for the affected accident. The ability to isolate the containment in the event of a Fuel Handling Accident is not affected by the installation, or the failure, of the TMOD.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the proposed TMOD is a passive extension of the IA and SA Systems. A break or breach in the pressure boundary of the TMOD does not represent a new failure mode for the affected systems. In addition, design considerations for the TMOD address preventing any impact on interfacing equipment.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because this activity does not affect any parameters upon which the Technical Specifications are based.

TECHNICAL REQUIREMENTS MANUAL REVISION

00-017

DESCRIPTION

The purpose of this Technical Requirements Manual Revision was to Section 3.9.a, "Decay Time" to revise the time that the reactor shall be subcritical from> 100 hrs to > 87 hrs before commencing movement of irradiated fuel from the reactor vessel to the Spent Fuel Pool (SFP). Technical Specification Bases Section 3.9.4, "Containment Penetrations," was also revised to reference the new required decay time of> 87 hours. The reduction in decay time only applied to the de-fueling operations during refueling outage A2R08.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the proposed change does not increase the failure rate of the refueling equipment or human error. The consequences of the accident are not increased since (1) the calculated dose increase due to the offload time change is more than offset by increased filter efficiencies, and by conservatism in the power level and peaking factor assumed in the analysis and (2) the total does calculated remains below the NRC approved limit of75 Rem to the thyroid and 25 Rem to the whole body. The radiation monitoring equipment that is required to operate in support of the assumptions in the accident analysis has been found to be qualified for the dose rate due to a Fuel Handling Accident with an In Core Decay.Time (ICDT) of 87 hours. The Fuel Handling Building emergency exhaust filter train components, fans, isolation dampers, and instrumentation are not affected by the ICDT change.

   The probability of the loss of spent fuel pool cooling is not increased as a result of reducing the ICDT. In the event of the failure of a spent fuel pool pump or loss of cooling to a spent fuel pool heat exchanger, the second cooling train provides 100% backup capability, thus assuring continued cooling of the spent fuel pit. The ICDT has no bearing on the failure probabilities of the Spent Fuel Pool Cooling System (SFPCS).

   The consequences of a loss of spent fuel pool cooling are not increased as a result of reducing the ICDT to 87 hrs. The additional decay heat input into the SFP due to the earlier core offload time has been evaluated. The increase in heat load of 1 MBTU/hr from a 87 hours ICDT is more than offset by the reduction in background heat load of about 5.4 MIBTU/hr from the current spent fuel pool fuel inventory. Therefore, the maximum fuel pool temperature and the time to boil from an ICDT of 87 hrs for refueling outage A2R08 is bounded by the current design basis analysis for the spent fuel pool. The licensing amendment for the SFP re-rack project has been approved by the NRC via letter addressed to OD. Kingsley (ComEd) from G. F. Dick (NRR) dated March 1, 2000.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the proposed change does not involve a physical alteration of the plant. No new equipment is being introduced, and no installed equipment is being operated in a new or different manner. The proposed change does not affect the capability of the fuel handling equipment. Thus, it is concluded that the proposed change does not create a new or different kind of accident.

   The proposed change only affects the ICDT that the spent fuel assemblies can be moved from the reactor core into the spent fuel pool. The fuel transfer will be controlled by approved Station procedures and there will be no changes to the fuel handling equipment. The fuel pool temperature resulting from the full core fuel transfer has been evaluated to be below the design limits for the SFPCS equipment. Therefore, there is no increase in the possibility of a different type of malfunction of equipment important to safety than any previously evaluated.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because Tech spec 3.3.8 "Fuel Handling Building (FHB) area radiation monitor is to initiate, upon a radiation signal, the FHB ventilation system to ensure that radiation material in the FHB atmosphere are filtered and adsorbed prior to being exhausted to the environment. The area monitors have been evaluated to be able to perform their design function under the radiation field resulting from the FHA of an assembly with an ICDT of 87 hours. Consequently, the proposed change does not involve a reduction in the margin of safety.

   The change in the temperature of the spent fuel pool water was evaluated for the potential increase in reactivity. The design basis criticality analysis was performed assuming a spent fuel pool water temperature of 4°C (39°F), which is well below the spent fuel pool temperature during refueling time. Because the reactivity temperature coefficient in the spent fuel pool is negative, temperatures greater than 4°C will result in a decrease in reactivity. The effect of a dropped fuel assembly on the criticality of the spent fuel pool was also evaluated in the design basis criticality analysis. Reducing the ICDT to 87 hours does not alter the damage caused by the impact of a dropped assembly. Criticality of the spent fuel pool will remain < 0.95. the proposed change does not involve a reduction in the margin of safety.

Tracking Number: BRW-SESV-2000-941

PROCEDURE REVISION

ER-BR-540-004
ER-BR-540-002

DESCRIPTION

The subject procedures perform the following testing on the AF system. The referenced EID's appear in UFSAR Figure 10.4-2, "Auxiliary Feedwater System" except that the Figure contains Unit 1 system designators.

- Verify the AF pumps 2AF01PA/B meet the performance requirements assumed in the Safety Analysis.
- Verify the throttle setting of the flow control valves 2AF005A-H meet the flow requirements assumed in the Safety Analysis.
- Perform the Inservice Testing Program (IST) full stroke open exercise test of the following valves: AF pump discharge check valves 2AF003A/B and 2AF029A/B, and branch line check valves 2AF014A-H.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because in modes 5, 6 or defueled, when the modification test will be performed, there is no consequences to any of the accidents requiring the AF System except the "Loss of Non-Emergency AC Power to the Plant Auxiliaries", "Steam Generator Tube Rupture" and "Loss of Coolant Accidents Resulting From a Spectrum of Postulated Piping Breaks Within the Reactor Coolant Pressure Boundary." For these 3 accidents, the AF System would not be used for mitigation. The Loss of Coolant Accident and Steam Generator Tube Rupture would be addressed using the ECCS Systems. The loss of Non-emergency AC Power would be dealt with using features of the Auxiliary Power System. Therefore, having the AF System in an abnormal configuration for testing purposes would not increase the consequences of these accidents should they occur. Again, the Chapter 15 analysis for these events considers "at power" conditions and not cold shutdown conditions.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the modification test will flow water to the Steam Generators from the AF System during shutdown or refueling conditions. The secondary side of the steam generators will be protected as follows: 1) steam generator pressure and temperature limitations will be followed as described in TRM 3 .7.a, 2) chemistry will be notified prior to adding water to the Steam Generators to ensure any secondary side water chemistry issues or concerns are addressed, and 3) the test will be stopped if any Steam Generator wide range level reaches 95% to prevent putting water into the Main Steam lines.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because the test will only be performed in modes 5, 6 or defueled. The AF System is not required to be operable in these modes.

Tracking Number: BRW-SESV-2000-942

PROCEDURE REVISION

2BwOSR 3.3.2.7-630A

DESCRIPTION

These procedure revisions to reflect changes incurred by the installation of the Unit 2 Feedwater Isolation Modification (DCP No. 9900400). The proposed activity makes changes to allow for proper functional checks and corrects or adds references (such as improved Tech. Spec. changes).

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR is not increased since the proposed activity is intended to provide a method to perform and a means to document operation of the changes that are to be implemented by the previous activity (installation of the U-2 Feedwater Isolation MOD). The methodology as to how each proposed procedure change is performed is not changed. Additional steps and clarifying information have been added to ensure that the new components and system logic operate as intended. Procedure steps that were unaffected by the MOD were not changed.

2. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created due to the Feedwater Isolation logic change under DCP#990400. There is no increase in the consequences of an equipment malfunction since no new assumptions are being made with regard to the reliance on equipment or equipment performance.

3. The margin of safety, as defined in the basis of the Technical Specification, is not reduced because the function of the safety related structures, systems, equipment were evaluated against the parameters upon which Technical Specifications are based and it was determined there is no reduction in the margin of safety.

UFSAR REVISION
UFSAR Draft Revision Package 7-235

DESCRIPTION

This revision updates the description of the radiation protection program as described in the UFSAR, Chapter 12. Chapter 12 states that the bioassay program is implemented in accordance with Regulatory Guide 8.9 and Appendix A describes the commitment to the regulatory guide. Regulatory Guides are not required to be strictly adhered to unless committed to by the licensee. Regulatory Guide 8.9 states that baseline bioassays should be performed prior to initial work activities that involve exposure to radiation or radioactive materials. Baseline bioassays are no longer required by radiation protection procedures. Baseline bioassays are performed on individuals if there exists a reasonable potential (as described in radiation protection procedures) of internal contamination. The intent of Regulatory Guide 8.0 is that bioassays should be conducted often enough to identify and quantify potential exposures and resultant intakes that likely to exceed 0.1 times the ALI. Portal monitors in the gatehouse are utilized upon exit from the protected areas that will alarm if individuals exceed 0.1 times the ALI. Baseline measurements, therefore, are no longer necessary to meet the intent of the regulatory guide.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the proposed changes reflect current RP program practices, instruments, organizational structure, location of RP facilities, and methods of regulatory compliance. The changes do not affect plant equipment or operation. There are no accidents or malfunctions of equipment important to safety as previously evaluated impacted by these changes.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the proposed changes reflect current RP program practices, instruments, organizational structure, location of RP facilities, and methods of regulatory compliance. The changes do not affect plant equipment or operation. There is no new accident or malfunctions created by these changes.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because this activity does not affect any parameters upon which the Technical Specifications are based.

Tracking Number: BRW-SE-2000-961

DOCUMENT CHANGE REQUEST

990774

DESCRIPTION

Revise P&ID M-42-1A to assign EPN's (0CFX20 & 0CFX21) to the isolation valves iust upstream of check valves 0SX246A/B. Also delete no EPN check valves just upstream of check valves 0SX246A/B. These no EPN check valve are unnecessary /redundant. not included on drawing PG-2575A-325A. and do not exist in the field.

Revise drawing M-906-8 Section '2-2'. Plan 'E". & Floor Plan (~ EL 570-2" to show 0CF13MA quill assembly installed in SX line 0SX01DE and not 0SX01DA per field configuration. drawing Detail 'A'. and P&ID M-42-1A. Also revise drawing Plan 'E'. 'D'. and Floor Plan @ EL 570-2" to show 0CF13MA & 0CF13MB quill assemblies installed downstream of 0SX115E & 0SX115F valves. This is consistent with field configuration. drawing Section 'B-B'. and P&ID M-42-1A.

The effect the proposed activity is such that the subject drawing revisions help eliminate any confusion that may be associated with vague, inconsistent drawing documentation. The documentation changes do not alter the CF and SX system design/operation.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because this non-safety related system is not required or relied on to mitigate any accidents nor does it provide radiological barriers. Additionally, it does not directly support any systems that limit offsite dose. While the CF System ties into the safety related SX System. the CF system is not required for the SX System to perform its safety related function. The only change made to the subject drawings that is different than what is already delineated in the UFSAR documents. The deletion of these non-safety related no EPN check valves from the associated drawing will not cause a malfunction of the SX inlet(s) & does not compromise SX pressure boundary integrity. The SX pumps will maintain their safety related design function.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the CF System cannot initiate an accident and is not required to mitigate any accident. Removal of the no EPN check valves from the associated drawings will not jeopardize the pressure boundary integrity of the SX inlet piping. Pressure boundary integrity of the SX inlet piping at the subject CF chemical injection interface is maintained via existing safety related 0SX246A/B check valves.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because this activity does not affect any parameters upon which the Technical Specifications are based.

Safety Evaluation Summary Form

Tracking No. BRW-SE-2000-963
Activity No. Technical Requirements Manual Revision 10

DESCRIPTION:

The proposed activity deletes the requirement for Pressurizer Safety Valves during shutdown from the Technical Requirements Manual.

SAFETY EVALUATION SUMMARY:

1. The probability of occurrence or the consequences of an accident or a malfunction of equipment important to safety previously evaluated in the safety analysis report is not increased because:

   The Pressurizer Safety Valves are not assumed to function to mitigate a Design Basis Accident or transient in Modes 4 and 5, and in Mode 6 with the reactor vessel head on. For the overpressure transients in Modes 4, 5, and 6 with the reactor vessel head on; the Low Temperature Overpressure Protection (LTOP) System is credited with mitigation. The requirements for the LTOP System are addressed in Technical Specification (TS) Limiting Condition of Operation (LCO) 3.4.12. The LTOP System requirements ensure that the limits of 10 CFR 50, Appendix G are met and the integrity of the Reactor Coolant Pressure Boundary (RCPB) not compromised.

2. The possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report is not created because:

   No new equipment is being introduced, and no installed equipment is being operated in a new or different manner. There are no new system interactions introduced by this change. No automatic actions previously credited with mitigation of any design transient are affected. The ability to accomplish any credited manual action for event mitigation is not affected.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because:

   The requirement for Pressurizer Safety Valve operability in shutdown modes is considered duplicative of TS LCO 3.4.12 which provides Reactor Coolant System (RCS) overpressure protection in Modes 4 and 5, and Mode 6 with the reactor vessel head on. Existing TS requirements provide adequate protection against RCS overpressurization.

DESIGN CHANGE

9900376

DESCRIPTION

The purpose of this Design Change was to....the high pressure turbine 1st stage existing pressure transmitter, 10PT-0506, is not scaled to the new steam pressure anticipated after the Unit 1 power uprate. The Turbine Impulse Pressure, P-13 interlock is actuated when the pressure in the fist stage of the high pressure turbine is greater than approximately 10% of the full power pressure. This modification replaces existing Barton Pressure Transmitter (1PT-0506) Model No. 753 with new Rosemount Model No. 1153 GB. The physical configuration between the existing and the new components are slightly different and requires minor modification to the existing supports and tubing. The DCP also provides rescaling of PI-MS0004, no physical or functional change is required for PI-MS0004.

The Turbine Impulse Pressure, P-13 interlock is actuated when the pressure in the first stage of the high pressure turbine is greater than approximately 10% of the full power pressure.

There are no changes to the UFSAR created by this design change. This modification also updates station procedures and corrects various editorial discrepancies in documentation discovered during the preparation of the modification package (i.e. revise directional notes to give correct locations for details).

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the proposed replacement pressure transmitter (Rosemount model 1153 GB) is designed for the nuclear power industry and meets specific seismic and environmental criteria. The criteria has been reviewed as applicable to the as installed condition and found to be acceptable for this application. The scaling capability of this component provide adequate margin for the maximum anticipated uprate pressure and the quality of these replacement component increases reliability.

   Modifications to the instrument support is necessary to facilitate the bolting pattern and positioning of the new instrument and calculations have been revised to incorporate the applicable information for this change. A scaling and uncertainty calculation has been revised to the manufacturers calculated uprate power condition. This value will bound the interim condition before uprate.

   This work activity will be implemented during the A1R09 outage and does not impact any plant systems necessary to support core cooling.

   The modification is essentially a direct component replacement with an equal or better component having the same function and signal output. Therefore the probability of occurrence or the consequences of an accident or a malfunction of equipment important to safety has not increased.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the proposed modification replaces existing turbine impulse pressure transmitter, 1PT-0506, with new Rosemount model 1153 GB transmitter. Both the existing and the replacement transmitters are analog type components. The replacement transmitter performs the same design function of converting pressure to an electrical signal (the output signal will remain 4 to 20 milliamps). Because the design function of the new component is no different than the original, this modification will not affect plant operations nor change any system operations or interactions for all operating modes as previously defined.

   This work activity will be implemented during the A1R09 outage and does not impact any plant systems necessary to support core cooling.

   Since the design function of the replacement transmitter (Rosemount) is the same as the existing transmitter (Barton) and the replacement transmitter meet or exceed all the design conditions, the possibility for an accident or malfunction of a different type than any evaluated has not been created.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because the replacement of the existing Barton model 753 transmitter with a new Rosemount model 1153 GB transmitter will have no impact on the system function. All critical characteristics of the replacement Rosemount transmitter meet or exceed those of the currently installed Barton transmitter. The Rosemount transmitter is a nuclear grade component, which has been qualified to seismic and environmental criteria that meet or exceed those of the existing system requirements.

   This work activity will be implemented during the A1R09 outage and does not impact any plant systems necessary to support core cooling.

   The impact of the installation has been evaluated and determined not to impact the design function of the instrument loop.

   The margin of safety as defined in the Technical Specification Table 3.3.1-1 remains unchanged by this modification and no other Technical Specification Sections are associated with this change.

Safety Evaluation Summary Form

Tracking No. BRW-SE-2000-968
Activity No. DCP No. 9900400

DESCRIPTION:

On a reactor trip, reinstate the low average temperature (LO T_{Ave}) interlock for Feedwater (FW) isolation for Main FW Isolation valves 2FW009A-D, FW Tempering Control Valves 2FW034A-D, FW Tempering Isolation Valves 2FW035A-D, Main FW Isolation Bypass valves 2FW043A-D, Main FW Reg valves 2FW510, 520,530,540, and Main FW Reg Bypass valves 2FW510A, 520A, 530A and 540A.

The existing logic on FW Preheater Bypass Isolation valves 2FW039A-D remains unchanged. The subject valves will close on a Reactor Trip signal. This function is required to isolate the Main FW nozzle from the Auxiliary Feedwater nozzle in the faulted Steam Generator (SG) during a feedline break accident scenario.

The LO T_{Ave} interlock was removed in conjunction with the removal of the Feedwater bypass line check valves, 2FW078A-D, disk removal as-part of modification M20-2-88-029. These check valves were removed since they caused improper flow splits between the main FW nozzle and the AF nozzle on the Steam Generators. The limitation of FW flow to the main FW nozzle is necessary to prevent tube vibration resulting in premature wear of steam generator tubes.

Add interlock to open the FW Recirculation Valves, 2FW012A-C, on reactor trip. The FW012 valves presently cycle open on low feedwater flow.

SAFETY EVALUATION SUMMARY:

1. The probability of occurrence or the consequences of an accident or a malfunction of equipment important to safety previously evaluated in the safety analysis report is not increased because:

The proposed changes do not adversely affect the design basis, reliability, and response characteristics of any SSCs associated with the FW system and interfacing systems. In addition, the FW isolation logic changes and FW recirculation valve opening upon reactor trip does not cause any SSCs associated with UFSAR accidents and transients to be operated outside their design limits or become susceptible to degradation. Opening of the FW recirculation valves at full FW flow has no adverse impact on the FW recirculation discharge piping structural integrity since the stroke times are not impacted and the hydraulic transient should be less severe. This is due to pressures at full flow being lower than the reduced flow condition that results in FW recirculation valve opening. Also there are no pump run out concerns for the FW, HD and CB pumps and no suction pressure concerns for the FW pumps. There are no changes to the initial conditions of any UFSAR accident and transients. Therefore, there is no increase in the probability of any UFSAR accidents.

The proposed logic changes do not alter the radiological consequences of any accident since they do not degrade or prevent actions described or assumed in the UFSAR accidents, do not alter any assumptions previously made in the evaluation of the radiological consequences, do not impede actions required to mitigate the radiological consequences of an accident, do not impact the availability of accident mitigating SSCs and fission product barriers, do not impact UFSAR accident scenario Operator Actions and all the analyses described in the UFSAR are

Safety Evaluation Summary Form

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bounding for the proposed activity. Therefore, there is no increase in the consequences of any UFSAR accidents.
The FW Recirculation valves do not perform a safety function. Safety related interposing relays will be used to provide isolation between the 1E Reactor Trip System/ESFAS circuits and the non-1E FW feedwater recirculation control circuits. Thus failure of the non-1E circuits will not cause any impact on the 1E circuits. Opening of the FW recirculation valves at full FW pump flow as compared to a low flow condition, has no adverse impact on the structural integrity of the piping downstream of the recirculation valves. The opening and closure time of the subject valves has not change as a result of this change. In addition, any hydraulic transients due to flow on the circulation piping should be reduced due to lower pressure in the system during full FW pump flow conditions. There are no FW, HD, and CB pump performance concerns.
The control circuit for the isolation logic has been evaluated for the additional relay load and was found to be acceptable. The proposed change to the logic for the Feedwater Isolation valves does not change the way the valves function or operate only the logic associated with FW isolation on a reactor trip. On reactor trip the FW isolation valves will not isolate until the LO T_{Ave} setpoint is reached with the exception of the 2FW039A-D (close on reactor trip).
There is no equipment which are operated outside their Design Basis as a result of this change. Based on the above, there is no increase on the probability of occurrence of a malfunction of equipment important to safety.

The LO T_{Ave} interlock was originally removed from the FW isolation on reactor trip to provide an alternate method (the FW Bypass line check valves were deleted) to prevent AF flow into the SG preheater section of the original SGs and to limit blowdown from a SG in the event of a feedline break in the upper nozzle line. It is possible with the modification to the FWI logic that a single failure of a 2FW039A-D valve to close could result in an increased AF purge volume in a single intact loop. If this were to occur, the AF system would have to purge warm main FW from the bypass FW line into the SG. However, if the single active failure were a failed open 2FW039A-D valve (in an intact loop), then an additional AF pump could be credited in the analysis. This would double the AF flow delivered to all intact SGs, since flow restriction (via flow control valves 2AF005A-H and flow restricting orifices 2AF02MA-H) is provided in the single pump AF lines in each loop before they are joined in a common header and enter each SG. Doubling the AF flow would more than offset the change in purge volume.
Based on the above, there is no increase on the consequences of a malfunction of equipment important to safety.

2. The possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report is not created because:

The FW system was originally designed to operate with FW isolation interlocked with RCS low average temperature (LO T_{Ave}) and with a check valve installed on the main FW bypass flow line. The check valve was removed via Modification M20-2-88-029 to address the FW flow split anomaly created by the disc of the check valve. Removal of the check valve resulted in the elimination of the LO T_{Ave} interlock to protect the Steam Generator preheater from a potential bubble collapse type water hammer in the event of Auxiliary Feedwater (AF) backflow into the FW bypass flow line and minimize the amount of main feedwater that needs to be purged before colder AF is introduced to the steam generator on feedwater system pipe break event.

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Maintaining the existing logic on the 2FW039A-D valves (close on Reactor Trip) also isolates the SG preheater section from AF.

Assuming a single failure of a FW039 valve to close, AF would enter the SG preheater section until the main FW isolation valves close. Westinghouse document #RC&SGSS-CAE-1590, "Evaluation of the Byron/Braidwood Feedwater Bypass Line Controlled Closure Check Valve Disc Removal", states that water hammer occurrences from AF flow to the SG preheater is allowed up to ten (10) times over the design of the plant. Thus, although undesirable, the SGs are designed for this occurrence.

No new systems, structures, or components are being added to the plant with the following exceptions: Safeguards Test Cabinet 2PA11J and 2PA12J (installation of new slave relay test switch), Installation of new control cable in existing trays located in the upper and lower cable spreading room; these cables are routed between cabinets 2PA28J and 2PA10J, 2PA27J and 2PA09J. Wiring changes are also made in the Auxiliary Relay cabinet 2PA27J, Auxiliary Relay cabinet 2PA28J, and Main Control Board 2PM04J. These cables are routed and supported seismically. The change in control logic does not create any new modes of operation nor new adverse interactions. Opening of the FW recirculation valves at full FW flow has no adverse impact on the minimum suction requirements of the FW pumps. Additionally, the HD, CB and FW pumps do not approach their run-out limits (NFM Letter PSA:00-046 dated 5-24-2000). Opening of the FW recirculation valves at full FW flow has no adverse impact on the structural integrity of the FW recirculation discharge piping since the stroke times of the affected valves are not impacted. In addition, the hydraulic transient in the recirculation piping upon opening of the recirculation valves at full flow will be less severe than the reduced flow condition due to lower system pressure. Therefore, no new accidents or transients are created.

The LO T_{Ave} interlock was originally part of the design and was removed as part of Modification M20-2-88-029. No new systems, structures, or components are being added to the plant with the following exceptions: Safeguards Test Cabinet 2PA11J and 2PA12J (installation of new slave relay test switch), Installation of new control cable in tray in the upper and lower cable spreading room; these cables are routed between cabinets2PA28J and 2PA10J, 2PA27J and to 2PA09J. Wiring changes are also required in the Auxiliary Relay cabinet 2PA27J, Auxiliary Relay cabinet 2PA28J, and Main Control Board 2PM04J. These cables are routed and supported seismically. Opening of the FW recirculation valves at full FW pump flow as compared to a reduced flow condition, has no adverse impact on the structural integrity of the piping downstream of the recirculation valves. The opening and closure stroke time of the subject valves has not changed as a result of this change. In addition, any hydraulic transients on the circulation piping will be less severe due to lower pressure in the system during full FW pump flow conditions. There are no FW, HD, and CB pump performance concerns. The change in control logic does not create any new types of malfunctions. No new failure modes are created. The change in control logic does not create any new modes of operation. Therefore, the proposed modification does not create the possibility of a different type of malfunction.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because:

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The proposed change does not affect FW Isolation on SG High-High and SI. The change in logic for FW isolation on reactor trip coincident with LO T_{Ave} and FW recirculation valve opening on reactor trip do not affect the basis for the margin of safety. The bases for the minimum shutdown margin requirements and the bases for the control rod insertion limits are not affected. Page B3.3.2-36 of the Bases describing the Engineered Safety Feature Actuation System Interlocks Reactor Trip, P-4 will be revised to include that the FW isolation function of the P-4 interlock is also interlocked with low TAVE. In addition, a statement will be added in the same page to indicate that for Unit 2, a reactor trip isolates the FW preheater bypass isolation valves 2FW039A-D. The FW isolation function is interlocked with P-4 to avert or reduce the continued cooldown of the RCS following a reactor trip. An excessive cooldown of the RCS following a reactor trip could cause an insertion of positive reactivity with a subsequent increase in core power. The FW isolation function from a P4 signal is not credited as a mitigation function in the Chapter 15 analysis of design basis event. In, addition none of functions associated with the reactor trip signal, is required to show that the plant licensing basis safety analysis acceptance criteria are not exceeded. Therefore, this activity does not reduce the margin of safety as described in the basis of the subject technical specification.

DESIGN CHANGE

DCP 9900373

DESCRIPTION

The change adds a second set of HP Gland Steam spillover lines from the HP turbine rotor gland seals to the condenser. The change involves the addition of two 3 inch diameter pipe connections to each rotor gland on the HP turbine, connecting the 3 inch lines to a 6 inch header under the HP turbine and the connection of a single 6 inch line from the header to the main condenser. Also, bypass valve 1GS025 for pressure control valve 1GS023 is converted from a motor operated valve (MOV) to a manual valve and the equipment part number is changed to 1GS090. A new motor operated isolation valve is included on the new spillover header. This will be named 1GS025 and will be supplied with the power and control cables from the original 1GS025. Furthermore, revisions are required to operating procedures to open and close 1GS025 and 1GS090, and align the breakers, to reflect this design change.

This change is being implemented because the high pressure turbine steam gland has leaks caused by over pressurization of the steam gland. This change will provide additional spill-over capacity, which will allow the relief of the steam pressure thus eliminating the gland leaks.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because this design change does not affect safety related equipment. A failure of the new lines could cause a loss of, or low, condenser vacuum. The new lines are evaluated to the applicable codes for the required loads and found to be acceptable. Failure of the new lines is no more probable than failure of an existing line. Therefore, this proposed activity will not increase the probability of occurrence of any analyzed accidents or transients.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the proposed design change performs the same non-safety related function. The changes do not interact with any safety related systems or plant controls. Thus there is no possibility that the change will create an accident or transient of a different type.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because this activity does not affect any parameter upon which the Technical Specifications are based.

UFSAR REVISION

DRP 8-188

DESCRIPTION

The purpose of this activity is to track the required changes to the UFSAR to reflect the modification packages that addresses multiple tasks associated with 1A Emergency Diesel Generator (EDG) starting air subsystem powered by compressor 1DG01SA-B to replace the current refrigeration type air dryer 1DG01SA-D with two membrane type air dryers (1DG01SA-DA & 1DG01SA-DB); the two dryers will be installed in parallel. This type of air dryers employs the principle of selective permeation through a membrane to separate water vapor from compressed air. Some other supporting equipment (e.g. filters, solenoid valves, etc.) were added. The setpoints of two pressure switches and a relief valve were changed to enhance the operation of the starting air system and the EDG itself. Rerouting and re-classification of piping were employed in accordance with the approved codes and standards.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, due to a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the modification did not change any initiating conditions or events associated with any analyzed accident/transient, nor changed/affected the functions of the EDG to mitigate any accident/transient.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the modification did not have an adverse impact on the reliability of the EDG or any of the interfacing systems. Also, the modification did not introduce any new operational limitations for the EDG or its subsystems.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because Technical Specifications 3.8.1 and 3.8.2 ensure that a reliable source of emergency power is available. This modification did not challenge the reliability or the availability of the EDG.

DESIGN CHANGE

DCP 9900581

DESCRIPTION

This Design Change Package (DCP) replaces and re-routes portions of the underground Unit 1 supply and return lines 1DO08A-3" and 1DO10A-1.5". The replaced piping is connected to the existing lines at the valve pit and inside the Unit 1 Aux. Steam Boiler Room. The existing carbon steel piping was coated and taped for corrosion protection while the replacement stainless steel piping is coated with polyurethane and is encased with a filament wound fiberglass jacket for enhanced corrosion protection. Re-routing of the piping will introduce new penetrations at the valve pit and the Turbine Building wall and minor rerouting at the connection points.

The effect of this DCP on plant operation is insignificant. The piping replacement and re-routing has no impact on the ability of the non-safety related fuel oil tanks to provide fuel for the safety related Unit 1 and Unit 2 Diesel Oil Storage Tanks and Day Tanks and the Auxiliary Feedwater Diesel Oil Day Tank. The fuel oil tanks also supply non-safety-related equipment, including the Auxiliary Steam Boilers. The replaced and re-routed piping will function in the same manner as the original piping. The Unit 2 equipment is unaffected by this change (i.e., the permanent non-safety related tanks will continue to be the source of fuel oil for the Unit 2 equipment).

The existing underground fuel oil supply and return lines may have corroded through the pipe wall, which would necessitate isolating the lines for repairs. Replacing the piping with stainless steel material will minimize internal corrosion concerns (pitting has been suspected) and potential external corrosion. The polyurethane and filament wound fiberglass casing will provide corrosion protection without dependence on the cathodic protection system.

This change is being implemented because the high pressure turbine steam gland has leaks caused by over pressurization of the steam gland. This change will provide additional spill-over capacity, which will allow the relief of the steam pressure thus eliminating the gland leaks.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because this design change does not affect safety related equipment. The proposed changes do not impact the system performance in a manner that could increase the probability of accident since these changes do not cause the DO system to operate outside its design or operating limits. The piping changes do not impact any system interfaces. The existence of the non-safety related fuel oil storage tanks and associated piping are not credited in any accident scenario. The tanks and associated piping are Seismic Category II and are assumed to fail in a seismic event. The safety related tanks which are supplied by these non-safety related tanks contain enough fuel to meet Technical Specification requirements, and include

seismically supported fill connections to supply additional fuel to the tanks, should the need arise (i.e., if the non-safety related tanks are unavailable). Additionally, the failure of either the non-safety related fuel oil tanks or the associated piping does not initiate nor alter the initial conditions of any accident. Thus, the probability of an accident is unaffected by the proposed changes to the supply and return piping.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the proposed design change performs the same non-safety related function. The proposed piping changes allow the non-safety-related portion of the diesel fuel oil storage transfer system to operate in the same manner as the original configuration. As with the existing configuration, a failure of the new components does not result in any accident or transient. The safety related tanks contain an adequate supply of fuel oil to meet Technical Specification requirements. A safety related fill connection and approved station procedures are in place to add fuel from a temporary tanker, should the need arise. Thus, the proposed piping changes do not create the possibility of an accident or transient different than previously evaluated

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because this activity does not affect any parameter upon which the Technical Specifications are based. The proposed piping changes do not affect the inventory in the safety related storage tanks. These safety related tanks provide the necessary fuel to meet commitments regarding safe shutdown of the plant, with provisions for providing additional fuel in the event of the failure of the non-safety related supply tank or associated piping. Therefore, the proposed activity does not reduce the margin of safety as described in the basis for any technical specification.

Tracking Number: BRW-SESV-2000-991

NUCLEAR WORK REQUEST (NWR)

990190446-01

DESCRIPTION

The purpose of this activity is to address the removal of a floor plug at location elevation 401 N-10 for the purpose of cleaning tank 0WX01DB. The floor plug is considered an auxiliary building HVAC boundary and its removal needs to be evaluated per the PBI program.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR is not increased since the new flowpath has been previously evaluated under BRW-SE-1997-0536 and determined that the flowpath is acceptable and will maintain the Auxiliary Building within acceptable limits..

2. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created due to ventilation concerns. There is no increase in the consequences of an equipment malfunction since no new assumptions are being made with regard to the reliance on equipment or equipment performance.

3. The margin of safety, as defined in the basis of the Technical Specification, is not reduced since the change does not affect the Technical Specification requirements involving any ventilation flow or differential pressure requirements.

ENGINEERING REQUEST

ER9903325

DESCRIPTION

The purpose of this Engineering Request (ER) was to evaluate the temporary installation of two freeze seals on the 1/1/2" Reactor Coolant Loop A Equalization Line (2RC22AA-1 ½") during modes 5 or 6. The freeze seals provide flow isolation for repairing a leak at the orifice flange (2FE-418) gasket connection. The orifice flanges house the flow orifice and the flow elements.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased. The piping has been qualified for the weight of the freeze jacket, and failure of the pipe due to freezing is not expected. Any potential leakage due to failure of the freeze seals can be minimized by operator actions to depressurize the Reactor Coolant System (RCS) and isolate the loop stop valves. Potential flooding or dose release due to failure of the freeze seals is bounded by design basis analyses. The RCS inventory will be maintained to cover the reactor core and all RCS loops will remain operable to maintain the RCS. pressure and temperature.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created. The affected piping is seismically supported and the pipe stress due to the addition of the freeze seals is within the design limit. The RCS loop 'B' hot leg and cold leg stop valves are kept open, while the equalization isolation valve is closed, to maintain the temperature of the cold leg piping. In the unlikely event of a failed freeze seal, a contingency plan is in place to isolate the RCS 'B' loop to minimize RCS inventory loss. The piping configuration precludes the coolant level in the reactor vessel to be drained below the fuel assemblies. Further, the amount of leakage from a failed freeze will be accommodated by the Containment floor drain system and is bounded by existing flooding and dose analysis.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because the change does not affect any parameters upon which Technical Specifications are based.

Tracking Number: BRW-SE-2000-1004

PROCEDURE REVISION
MA-BR-EM-6-00676

DESCRIPTION

This new procedure provides directions to install and remove temporary AC power to any of the Unit 1 and 2 Post Accident Nuclear Instrumentation Channels. This procedure directs the disconnection of normal ESE power and provides directions for connecting to an alternate non-safety related power source on a temporary basis.

The procedure will provide temporary power to a de-energized Gamma-Metrics post accident nuclear instrument channel to allow it to be re-energized and made available for refueling operations, during an ESE Bus outage. This new procedure will provide power from an energized non-safety related MCC.

During refueling outages, one of the Auxiliary Power (AP) system 4160V busses is de-energized for maintenance. When this occurs the normal power source to a Gamma-Metrics Post Accident Nuclear Instrumentation channel is lost. This loss of a neutron monitoring channel reduces the available number of instruments from 4 to 3. This reduction prevents the flexibility to use the Westinghouse N31 and N32 and Gamma-Metrics Channel A (NR11) and Channel B (NR13) source range instrumentation during refueling operations, as allowed by Technical Specification 3.9.3. This flexibility is desired since the nature of the work in the Containment can periodically induce noise in the Westinghouse N31 and N32 channels. This noise causes source range indication to be considered unreliable and stops refueling activities until the source of the induced noise is resolved. Providing power to the Gamma-Metrics source range channel affected by the ESF Bus outage will allow both PANM channels to be available. Providing an alternate source of 120 VAC power to 1(2)NR11E or 1(2)NR13E will make all four channels of source range instrumentation available during refueling activities concurrent with an ESF Bus Outage.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the installation of a temporary power feed to the Post Accident Neutron Monitor(s) will not increase the probability or the consequences of an unplanned RCS dilution event or a fuel handling accident as described in the SAR. Temporary power is being provided to the PANM to ensure that all four channels of source range instrumentation are available to monitor any changes in core activity during refueling activities concurrent with the Bus outages and has no interface with any SSC required to mitigate these accidents as described in the SAR.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because PANM is one of four source range detectors that can be used to provide indications of changes in neutron flux. The Technical Specification Bases for Section 3.9.3 allows the use of either the Westinghouse source range detectors or the Gamma-Metrics Post Accident Neutron Monitors for source range instrumentation in Mode 6. Implementation of this procedure change will not result in the creation of any new accident or plant transient that has not been previously analyzed.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because the temporary change to the plant is consistent with the criteria that was used in the development of the requirements, associated action items, associated surveillances, and Bases for the Technical Specification sections. Thus, the margin of safety is not reduced.

UFSAR REVISION

UFSAR Draft Revision Package 8-137

DESCRIPTION

The purpose of this UFSAR Revision was to revise tables 7.5-1 and 7.5-2 of the UFSAR to identify the basis of instrumentation accuracy listed in both tables.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the proposed change merely provides basis for th4 accuracy of the display instrumentation in tables 7.5-1 and 7.5-2. The instrumentation only provides display function and does not impact any equipment or function. Therefore, the probability of occurrence or consequence of an accident important to safety previously evaluated in the safety analysis report is not increased.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the proposed change merely provides basis for the accuracy of the display instrumentation in table 7.5-1 and 7.5-2. The instrumentation only provides display function and does not impact any equipment or function. Therefore, the probability of an accident or malfunction of a different type than any evaluated previously in the safety analysis report is not created.

3, The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because the display instrumentation channels listed in tables 7.5-1 and 7.5-2 are instruments installed in the main control room to meet the requirements installed in the main control room to meet the requirements of Regulatory Guide 1.97 in providing indication from selected plant instrumentation essential to operators in determining plant condition during normal and accident scenarios. The instrument accuracies listed in these tables are well within the errors used in the plant safety analysis and does not reduce the margin of safety.

DESIGN CHANGE

9900472

DESCRIPTION

The purpose of this Design Change Package (DCP) was to adjust blade angles on the Auxiliary Building HVAC System (VA) main supply ad exhaust fans to relocate the exhaust fans' operating point away from the unstable (stall) region of the fan curve.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the VA System does no initiate or alter the initial conditions of any accident or transient. The VA fans are not required to run during a LOCA. The Charcoal Filter Booster fans are the fans credited during the accident. Therefore consequences are not increased.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the VA System is unrelated to the sequence of events leading to the initiation of any accident. Since the system's normal and accident functions will be maintained, the possibility of an accident or malfunction of a different type from those previously evaluated is not created. The airflow rate will maintain EQ zone temperature limits and airflow direction from clean to potentially contaminated areas.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because the Non-Accessible Area Exhaust Filter Plenum Ventilation System and the Fuel Handling Exhaust Filter Plenum System are unaffected by this design change. However, a change is required to the testing flow rates for the filters (5.5.11). The new system airflows may be less than those required for testing. A Technical Specification Amendment may be submitted to change the flow test rates to conform to the ANSI N5.10-1980 testing criteria, if required.

Tracking Number: BRW-SESV-2000-1035

NUCLEAR WORK REQUEST (NWR)

990191367-01
990197054-01

DESCRIPTION

The purpose of this activity is to address the removal of a floor plugs at location elevation 401 N-10 for the purpose of cleaning tanks 0WX01DC and 0WX01DD. The floor plugs are considered an auxiliary building HVAC boundary and its removal needs to be evaluated per the PBI program (CC-AA-201).

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR is not increased since the new flowpath has been previously evaluated under BRW-SE-1997-0536 and determined that the flowpath is acceptable and will maintain the Auxiliary Building within acceptable limits..

2. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created due to ventilation concerns. There is no increase in the consequences of an equipment malfunction since no new assumptions are being made with regard to the reliance on equipment or equipment performance.

3. The margin of safety, as defined in the basis of the Technical Specification, is not reduced since the change does not affect the Technical Specification requirements involving any ventilation flow or differential pressure requirements.

Tracking Number: BRW-SESV-2000-1039

PROCEDURE REVISION

BwOP CV-17

DESCRIPTION

This procedure revision allows increasing the maximum flowrate through the mixed- bed demineralizers and the RH/CV Letdown system to 150 gpm provided that Reactor Coolant System (RCS) pressure is <50 psig and RCS temperature is < 140°F.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR is not increased since the additional flow does not adversely affect systems required to mitigate the consequences of an accident for the conditions of this procedure.

2. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created due to the increased letdown flowrate. There is no increase in the consequences of an equipment malfunction since no new assumptions are being made with regard to the reliance on equipment or equipment performance.

3. The margin of safety, as defined in the basis of the Technical Specification, is not reduced since there are no Technical Specifications affected as a result of this activity.

UFSAR REVISION

DRP 8-177

DESCRIPTION

The purpose of this UFSAR revision is to incorporate the following:

- Appendix E, Section E.75, is being revised so that the information in the UFSAR will reflect the information in the TSC HVAC diagrams M-94 sheet 2 and sheet 3. These diagrams depict the actual rooms, corridors, offices, etc. served by the TSC HVAC system, and they do not indicate a "records room".
- Table 9.5-1 is being revised so that the information is the UFSAR will be consistent with the information contained on drawings 20E-1 -3789 and 6E-1-3789. These drawings depict the location of various components of the Communication System.
- Appendix E, Section E.77, is being, revised so that the information in the UFSAR will reflect the new performance based regulations of Option B of 10CFR50 Appendix J and Regulatory Guide 1.163 as changed in the plant Technical Specifications per Amendment 81. The original UFSAR change package to revise the testing frequency was processed under DRP 6-056, however Appendix E, Section E.77 was not changed.
- Table 9.1-2 is being revised so that the information in the UFSAR will be consistent with the information contained in Vendor Manual Binder #L-0074 and Vendor Manual 2775. Vendor Manual Binder #L-0074 provides the rated flow for the Spent Fuel Pool skimmer filter as 150 gpm. Vendor Manual 2775 provides that the design pressure rating of the Spent Fuel Pool Filter as 150 psig.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR is not increased because the components identified in this revision cannot initiate an accident described in the Safety Analysis Report (SAR) and there is not physical change to plant equipment or procedures. The revision to the UFSAR is editorial only and has no impact on operation, configuration.

2. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because there is no physical change to plant equipment.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because the proposed activity is to enhance the description of, or supply corrected information to, Tables 9.1-2 and 9.5-1 and Appendix E of the UFSAR. This revision of the UFSAR does not affect any parameters upon which Technical Specifications are based; therefore, there is no reduction in the margin of safety.

DOCUMENT CHANGE REQUEST

Number

DESCRIPTION

The purpose of this Document Change Request (DCR) was to correct the UFSAR description only.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because no physical or operational changes are made to any SSC, nor are any new SSCs introduced. Because all SSCs will continue to function as they have, there can be no increase in the probability of occurrence or the consequences of an accident or a malfunction of equipment previously evaluated.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because no physical or operational changes are made to any SSC, nor are any new SSCs introduced. Because all SSCs will continue to function exactly as they have, there is no possibility of creating a new type of accident or equipment malfunction.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because no changes are made to any SSCs that affect any setpoint, surveillance, or basis in the Technical Specifications This change corrected the UFSAR description only.

Tracking Number: BRW-SE-2000-1051

UFSAR REVISION

DRP 8-181

DESCRIPTION

The purpose of this UFSAR revison is to incorporate the following:

- To correct a discrepancy between schematics 6/20E-1-4030AF01, 6/20E-2-4030AF01, 6/20E-1-4030AF02, 6/20E-2-4030AF02, which indicate that the Auxiliary Feed Pump Control switches located at-the Remote Shutdown Panel have "START" and "STOP" and the UFSAR indicates "CLOSE" and "TRIP" positions.
- To correct a discrepancy between UFSAR section 10.2.2.4.1, page 10.2-6 which states that the turbine will trip upon initiation of an electronic over speed signal actuating solenoid valve 20-1/AST, and block diagram 20E-1-4026 B, which shows this solenoid valve to be 20/ET.
- To correct a discrepancy between UFSAR section 10.4.6.2.2.6, page 10.4-16 which specifies sluice water pumps have 400 gpm, 100 psig, and VETIP Manual L-0646, page 0-2c which specifies pump flow as 400 gpm at approximately 100 feet.
- To correct a discrepancy between UFSAR section 10.4.5, page 10.4-8 which specifies makeup water pumps have a capacity of approximately 24,000 gpm at a total developed head of approximately 35 feet, and Makeup Water Pump drawing number 2733369, Revision C which specifies capacity of 24,000 gpm and head of 374 feet.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR is not increased because the components identified in this revision cannot initiate an accident described in the Safety Analysis Report (SAR) and there is not physical change to plant equipment or procedures. The revision to the UFSAR is editorial only and has no impact on operation, configuration.

2. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because there is no physical change to plant equipment.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because all Technical Specification requirements were met.

50.59 REVIEW COVERSHEET FORM

LS-AA-104-1001
01/11/01

BRW-SESV-2000-1053

Station: Braidwood

Activity/Document Number: BRW-SESV-2000-1053 **Revision Number:** 0

Title: Site Review of Westinghouse Top Nozzle Replacement procedure

Description of Activity:

Validate the 50.59 screening performed under BRW-PTES-1999-1342 to incorporate revisions to the Westinghouse Top Nozzle Replacement procedure.

Reason for Activity:

The Westinghouse site use procedure was approved for use on site using screening BRW-PTES-1999-1342. Minor admin and typographical changes were made to the procedure.

Effect of Activity:

The top nozzle replacement will be performed the same as it was in the past. The changes to the site use procedure do not impact the performance of the reconstitution activities.

Summary of Conclusion for the Activities 50.59 Review:

The findings of BRW-PTES-1999-1342 remain valid for the revised Westinghouse site use Top Nozzle Replacement procedure.

Attachments:
Attach completed Applicability Review if 50.59 Screening is not required.
Attach completed 50.59 Screening if 50.59 Evaluation is not required.
Attach completed 50.59 Evaluation if required to be performed.
Attach completed 50.59 Screening and 50.59 Evaluation if multiple discrete elements of an activity have been linked together and certain elements required a 50.59 Evaluation while other elements did not.

Forms Attached: (Check all that apply.)

	Applicability Review				
	50.59 Screening	**50.59 Screening No.**		**Rev.**	
	50.59 Evaluation	**50.59 Evaluation No.**		**Rev.**	
X	**50.59 Validation**	**50.59 Validation No.**	BRW-SESV-2000-1053	**Rev.**	0

NUCLEAR WORK REQUEST (NWR)

99189579

DESCRIPTION

The purpose of this Work Request was to evaluate the installation of a freeze seal upstream of the 1SI8804B valve on line 1SI34A-8" in accordance with approved Station procedures. ECCS System venting activities and subsequent ultrasonic inspections identified a small amount of air entrained in line 1SI34A-8". It has been determined that it was necessary to install a vent valve in the line to remove the air. This freeze seal provided component isolation on the upstream side of the intended location for the vent valve and maintained the Residual Heat Removal (RH) System pressure boundary integrity.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the integrity of the ECCS pressure boundary is not degraded by the installation of this freeze seal. The installation of freeze seals to provide component isolation for maintenance is a common, proven industry practice. The procedures utilize industry recognized methodologies to ensure system integrity is maintained throughout the maintenance activity. The freeze seal will not result in ECCS System leakage or the potential for a Loss of Coolant Accident (LOCA) outside containment that could affect off-site dose analyses. The Safety Injection System and interfacing components within the ECCS System remain capable of providing their accident mitigation functions and the installation of the freeze seal upstream of the 1SI8804B valve does not increase the consequences (off-site dose) of any accident or transient.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the installation of the freeze seal and the short duration of the vent valve installation does not adversely impact ECCS System pressure boundary integrity. In the event of a freeze seal failure only minor leakage is expected from the pipe penetration for the installation of the vent tap. The concurrent failure of the freeze seal with an ECCS System actuation is unlikely to occur prior to completing the socket welds on the vent tap. Since the ECCS System remains capable of performing its intended design function during the period in which the freeze seal is installed and no new failure modes are created, there is no possibility to create an accident or transient of a type from those evaluated in the UFSAR.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because all Technical Specification requirements were met.

UFSAR REVISION

UFSAR Draft Revision Package 8-182

DESCRIPTION

The purpose of this UFSAR Revision was to correct the reactor vessel closure head studs, nuts and washers material shown in UFSAR page 5.3-8. UFSAR page 5.3-8 currently shows the material for the closure studs for the reactor vessel head fabricated of SA540, Class 3 Grade B24 whereas the correct material is SA540, Class 3 Grade B23 as shown on UFSAR Table 5.3-3a, Table 5.3-3b, CAE Drawing 184559E, CBE Drawing 185268E, CCE Drawing 185299E and CDE Drawing 185330E. No physical changes are made to the closure head stud/nut/washer or any other component of the reactor vessel head closure system, no new equipment is added, and no changes are made to the interfaces of this system with any other plant system.

This Safety Evaluation addresses the correction of first line of the last paragraph of UFSAR page 5.4-61. The referenced UFSAR section states that Table 5.2-2 lists the material specifications for the pressurizer relief tank (PRT). This is an incorrect statement, in the Table 5.2-2 lists only class I components and the pressurizer relief tank is not listed. No physical changes are made to the pressurizer relief tank or any other component of the pressurizer relief tank system, no new equipment is added, and no changes are made to the interfaces of this system with any other plant system.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the change evaluated is the correction of the reactor vessel closure studs, nuts and washers material. No physical changes are made to the vessel or any other component of the reactor vessel closure head, no new equipment is added, and no changes are made to the interfaces of this system with any other plant system. The correction of the discrepancy between UFSAR page 5.3-8 and Table 5.3 – 3a / -3b and mentioned drawings for the reactor stud material is not a factor in the evaluation of any event previously evaluated in the safety analysis report, and does not affect the probability of occurrence of any accident or malfunction of equipment important to safety.

   The change evaluated is the correction of the first line of the last paragraph of UFSAR Section 5.4.10.2.2, page 5.4-61. No physical changes are made to the pressurizer or any other component of the pressurizer, no new equipment is added and no changes are made o the interfaces of this system with any other plant system. The correction of the discrepancy between UFSAR page 5.4-61 and Table 5.2-2 is not a factor in the evaluation of any event previously evaluated in the analysis report, and does not affect the probability of occurrence of any accident or malfunction of equipment important to safety.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because no physical changes are made to the reactor vessel closure head or any other component of the reactor vessel closure head system, no new equipment is added, and no changes are made to the interfaces of this system with any other plant system.

Therefore, no mechanism is introduced which could lead to the possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report.

No physical changes are made to the pressurizer relief tank or any other component of the pressurizer relief tank system, no new equipment is added, and no changes are made to the interfaces of this system with any other plant system. Therefore, no mechanism is introduced which could lead to the possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because the correction of the discrepancy between the UFSAR Section 5.3.1.7, page 5.3-8 and UFSAR Table 5.3 – 3a / 3b for the closure studs material has no direct or indirect effect on the bases of any Technical Specification. Therefore, the proposed activity does not reduce the margin of safety as described in the basis for any technical specifications.

   The correction of the discrepancy between the UFSAR Section 5.4.10.2.2, first line of the last paragraph has no direct or indirect effect on the bases of any Technical Specification. Therefore, the proposed activity does not reduce the margin of safety as described in the basis for any Technical Specifications.

ENGINEERING REQUEST

9903268

DESCRIPTION

The purpose of this Engineering Request was to install a freeze seal to provide downstream isolation for relief valve 1CC9429 from an unisolable portion of CC return header line 1CC60A-16" (downstream of valves 1CC9502B & 1CC9503) without affecting the function of the remaining portions of the CC system. Line 1CC60A-16" will be isolated upstream of valves 1CC9502B & 1CC9503, which will provide upstream isolation for the relief valve. Isolating this section of line 1CC60A-16" will render Unit 1 Spent Fuel Pit Heat Exchanger 1FC01A inoperable, since it is contained within the OOS boundaries. Isolating this section of line 1CC60A-16" and its affect on the plant are covered under the Station Out-Of-Service program and are not covered by this 50.59. The freeze seal itself therefore has virtually no effect on plant systems since the portion of line 1CC60A-16" which relief valve 1CC9429 protects, will be isolated and OOS.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the installation of the freeze seal on this Component Cooling Water (CC) piping does not change any initiating condition or impact any accidents and transients evaluated in the UFSAR. A failure of the freeze seal on the CC piping would not initiate nor alter the initial conditions to any of the accidents. Leakage from a freeze seal failure during this time would be minimal and bounded by the existing flooding analysis in calculation 3C8-0685-002, Flood Zone G3-3A. The limiting failure for Flood Zone G3-3B is a break in line 1CV09A-4", with a flow rate of 2.45 ft3/sec (1100 gpm). The freeze seal has no direct effect on plant equipment since the only function of relief valve 1CC9429 is to provide overpressure protection for the CC side of Unit 2 Spent Fuel Pit heat exchanger 1FC01A, which will already be OOS. Therefore the probability of any accident or transient will not be increased. Any leakage from a failed freeze would be contained in the Auxiliary Building and no increase in offsite dose would occur.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the temporary freeze seal installation does not impact any other plant equipment that could initiate or create an accident different from those evaluated in the UFSAR. The freeze seal does not affect required plant equipment since the overpressure protection function of the relieve valve is not required with the Unit 2 Spent Fuel Pit heat exchanger 1FC01A isolated and OOS.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because all Technical Specification requirements were met.

DOCUMENT CHANGE REQUEST

990794

DESCRIPTION

The proposed activity is "document change only" that revises affected Drawings M-52-14, M-603-75, M-603-76, M-603-77, M-511, 20E-0-4967A, 20E-0-4030FP05 and Procedure 0BwOS FP-M8 to match the as-built configuration of the plant. The EPN data panel records of the associated components are also being enhanced, as appropriate. The as-built plant configuration has always been correct but the documents were not consistent. Drain Valve 2FP5165 is being deleted from Drawing M-52-14 since this valve does not exist in the plant on the Receiving Building Sprinkler System supply header. This valve is actually an Inspector Test Valve for the Unit 2 Trackway Sprinkler System that exists in the field, properly tagged and correctly reflected in the EWCS, on the related drawings and procedures. As such, deletion of this drain valve from Drawing M-52-14 makes it consistent with the as-built configuration and does not affect plant operation. The rest of the proposed changes are editorial in nature to correct EPN and interfacing drawing information including titles on some of the affected drawings. The design and operation of the fire protection system is not impacted by implementation of the proposed changes. There are no changed interactions with other systems, structures and components.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the subject uninstalled filter does not impact the function of the FP system. The FP system is not related to the sequence of events leading to the initiation of any of the analyzed accidents. Therefore, the proposed DCR does not increase the probability of occurrence of any accident or transient described in the UFSAR.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created since the subject items do not impact the intended function of the FP system. No adverse SSC interactions are introduced as a result of theses changes. Therefore, the possibility of an accident or a transient of a different type from those evaluated in the UFSAR is not created.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because all Technical Specification requirements were met.

NUCLEAR WORK REQUEST (NWR)

990043388

DESCRIPTION

The purpose of this Nuclear Work Request was to address the removal of the manual gear operator from valve 1CC9467B to perform maintenance on the operator. This valve is the outlet isolation from the Unit 0 Component Cooling (CC) heat exchanger to Unit 1..

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased. An engineering evaluation has concluded that the valve will remain open under postulated conditions, including seismic, and thus will retain its safety related function and the Unit 0 CC heat exchanger will remain operable for all postulated accidents.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created. The removal of the gear operator for valve 1CC9467B will not affect the operability of the valve. The valve will remain open thus maintaining CC flow through the Unit 0 CC heat exchanger and maintaining the operability of the Unit 0 CC heat exchanger. Additionally, the affected piping subsystem, by Engineering Judgment, will remain seismically qualified upon removal of the operator's weight. The operation of the CC System will remain as described in the UFSAR.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because the valve will still perform its safety function. The CC System will still be able to perform its function as described in the Technical Specifications.

CORE RELOAD DESIGN

Unit 2 Cycle 9

DESCRIPTION

The proposed activity is to allow the refueling and operation (all modes) of the Braidwood 2 Cycle 9 reactor core. The Braidwood Unit 2 Cycle 9 core has been designed and evaluated using NRC reviewed and approved methods.

In summary, the Braidwood Unit 2 Cycle 9 reload design, including the development of the Core Operating Limits Report (COLR), was generated and verified using NRC-approved methodologies.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the reload design, considering all features described, does not involve an increase in the consequences of an accident previously evaluated in the safety analysis report. The Unit 2 Cycle 9 reload design has been verified to satisfy accident analysis limits and assumptions presented in the Byron/Braidwood UFSAR. The core design does not have a direct role in mitigating the radiological consequences of any accident.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the Unit 2 Cycle 9 reload design, including consideration of the effects of the changes, will continue to meet key safety parameter limits. All design and performance criteria will continue to be met and no new failure modes or limiting single failure mechanisms have been created nor will the core operate in excess of pertinent design basis operating limits for the key safety parameters. The demonstrated adherence to these standards and criteria precludes new risks to components and systems that could introduce a new type of accident.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because each of the referenced Technical Specifications and Technical Requirements Manual Limiting Conditions for Operation were reviewed to determine the impact of the Unit 2 Cycle 9 reload core on the acceptance limits/margin of safety. Operation of Unit 2 Cycle 9, with the introduction of Region 11 fuel has been analyzed in accordance with NRC approved methodologies. The reload core has been designed to operate within safety analysis acceptance limits and will therefore maintain safety margins.

NUCLEAR WORK REQUEST (NWR)

990213763-01

DESCRIPTION

The purpose of this activity is to address the removing of the 2SX-FS02-3 floor plug. The floor plug is being removed to transport equipment in support of this activity. The floor plug is considered an HVAC boundary for the 1B/2B SX Pump Room.

The normal mode of VA system design for this room involves two supply ducts providing supply air in the room and an exhaust duct back to the VA exhaust plenum.. The VA system design requirements have been reviewed and determined acceptable to remove the floor plug The basis for this validation is the Safety Evaluation , BRW-SE-1997-859, performed to evaluate HVAC effects to the VA system and the room when the system is operated under two fan configuration and extended abnormal operation..

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR is not increased because the addressed modes of operation will not have any impact on the initiating events of any accidents analyzed in the UFSAR. The VA System is unrelated to the sequence of events leading to the initiation of any accident.

2. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created since the VA system's accident mitigation and normal functions will be maintained. The VA System is unrelated to the sequence of events leading to the initiation of an accident. There are no radiological concerns since the airflow direction is maintained, i.e., the airflow is from clean areas to areas of lesser potential for contamination and then into areas of greater potential for contamination.

3. The margin of safety, as defined in the basis of the Technical Specification, is not reduced since the operation of the VA system is not affected as demonstrated by successful completion of Technical Specification Surveillance Requirements.

Safety Evaluation Summary Form

Tracking No. BRW-SE-2000-1076
Activity No. _____

DESCRIPTION:

This safety evaluation was performed for qualification of scaffolding materials stored within the plant and installation of permanent scaffolds to support repetitive maintenance activities. The storage of scaffold materials at locations around the plant and the installation of permanent scaffolding will reduce the manpower and time required to move scaffold materials and to erect scaffolds for repetitive maintenance activities during normal operations or refueling outages.

SAFETY EVALUATION SUMMARY:

1. The probability of occurrence or the consequences of an accident or a malfunction of equipment important to safety previously evaluated in the safety analysis report is not increased because:

   Permanent scaffolds installed per NGG Procedures MA-AA-AD-6-00024 and MA-AA-AD-6-00025 provide adequate clearances between the scaffold structure and operating equipment. Scaffolds installed to the additional requirements of Engineering Standard NES-MS-04.1 are qualified to withstand seismic events and also maintain adequate clearances between the scaffold structure and operating equipment. All permanent scaffolds are reviewed by engineering, operations, and the fire marshal and are only approved at locations with configurations that will not interfere with safe operations of the plant. Also, the storage of scaffold materials is evaluated by engineering and is only approved at locations that will not interfere with plant operations.

   Permanent scaffolds and stored scaffold materials will not alter the operation of any plant equipment or otherwise increase their failure probability. Permanent scaffolds and stored scaffold materials do not act as initiators or precursors to any design basis accidents previously evaluated in the UFSAR. Therefore, permanent scaffolds and stored scaffold materials do not increase the probability of occurrence or the consequences of an accident or a malfunction of equipment important to safety previously evaluated in the safety analysis report.

2. The possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report is not created because:

   Permanent scaffolds installed per NGG Procedures MA-AA-AD-6-00024 and MA-AA-AD-6-00025 provide adequate clearances between the scaffold structure and operating equipment. Scaffolds installed to the additional requirements of Engineering Standard NES-MS-04.1 are qualified to withstand seismic events and also maintain adequate clearances between the scaffold structure and operating

Safety Evaluation Summary Form

Tracking No. BRW-SE-2000-1076
Activity No. ___

equipment. All permanent scaffolds are reviewed by engineering, operations, and the fire marshal and are only approved at locations that will not interfere with safe operations of the plant. Also, the storage of scaffold materials is evaluated by engineering and is only approved at locations that will not interfere with plant operations.

Permanent scaffold structures installed to the NGG Procedures and Standards will not create the possibility of an accident or transient of a different type than any previously evaluated. Stored scaffold materials and scaffold structures are being controlled in a manner that ensures they will not interact with plant equipment or adversely affect equipment performance. No installed equipment is being operated in a new or different manner. There is no alteration to the parameters within which the plant is normally operated or in the setpoints that initiate protective or mitigation actions. No change is being proposed to the procedures governing normal plant operations or to those procedures relied upon to mitigate a design basis event. Therefore, permanent scaffolds and stored scaffold materials do not create the possibility of an accident or malfunction of a different type than any previously evaluated in the safety analysis report.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because:

Calculation DCR Type #990543 was performed to evaluate the addition of scaffolding materials into the Containment Building. The results of this calculation show that the maximum containment hydrogen concentration does not exceed the 4% limit set in Regulatory Guide 1.7.

Nuclear Fuel Management Group Letter #NFM:PSA:00-029 transmitted the annual 10CFR50.46 reports to the Station. This report documents the assessment of the impact of changes in design inputs that would affect Peak Cladding Temperature (PCT) after a Large Break LOCA and after a Small Break LOCA. Westinghouse has performed an evaluation to determine the impact on the PCT due to the addition of various passive heat sinks. The results of this evaluation show that the scaffold materials combined with lead shielding blankets stored in Containment result in a PCT penalty of 2°F. This increase was reported to the NRC as part of the 10CFR50.46 Annual report. This report represents the new design basis and therefore the margin of safety is maintained. The total PCT remains below the 10CFR50.46 limit of 2,200 °F.

UFSAR REVISION

UFSAR Draft Revision Package 9-006

DESCRIPTION

The purpose of this UFSAR revision is to revise the bases for concluding that the effect of an adverse environment on the Automatic Rod Control System does not represent a significant safety question.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR is not increased because the proposed activity does not affect the initiators of any UFSAR Chapter 6 or Chapter 15 transient analyses. The proposed UFSAR revision concludes that automatic rod withdrawal due to exposure to an adverse environment created by a steamline break inside containment is unlikely for the following reasons: 1) Physical location of the excore detectors relative to the postulated break location does not provide direct access for steam travel to the excore detectors and 2) Rod withdrawal is based on an auctioneered signal and, therefore, will occur only is all four excore detectors fail low. This is considered a non-credible scenario. Relying on the negative flux rate trip protective feature to conclude that this event is unlikely is not necessary and has been eliminated. Since the event is considered unlikely, there are no associated consequences. The proposed change does not involve a physical alteration to the plant. No new equipment is being introduced and no installed equipment is being operated in a new or different manner. Credible rod control system malfunctions are addressed in UFSAR Section 7.7.1.2.2. Consequently, equipment failures or malfunctions are unlikely.

2. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because as described as above, coincidental rod withdrawal due to exposure of the excore neutron detectors to an adverse environment created by a steamline break inside containment is an unlikely scenario. Assuming this unlikely event was to occur, operator training, existing procedures and available control board indication are sufficient to diagnose and terminate the event. Additionally, various reactor protection features are available to terminate this unlikely event depending on the size of the break. No new failure modes are introduced by this activity.

3. The margin of safety, as defined in the Bases of the Technical Specification, is not reduced because the UFSAR revision merely revises the bases for concluding that the effect of an adverse environment on the Automatic Rod Control System does not represent a significant safety question. This unlikely event is not considered in the Bases for any Technical Specification.

Safety Evaluation Summary Form

Tracking No. BRW-SE-2000-1081
Activity No. DRP 8-190

DESCRIPTION:

UFSAR change package #DRP 8-190 to the Byron/Braidwood UFSAR revised the description in Chapter 15, Section 15.5.1 "Inadvertent Operation of Emergency Core Cooling System During Power Operations" to remove statements that operator action will be taken to manually open the Pressurizer Power Operated Relief Valves (PORVs). The transient description will be revised to indicate that if the Pressurizer PORVs are not available, the Pressurizer Safety Relief Valves (PSRVs) will lift to relieve pressure initially releasing steam followed by subcooled water. The existing discussion of the Pressurizer Overfill case will be deleted.

SAFETY EVALUATION SUMMARY:

1. The probability of occurrence or the consequences of an accident or a malfunction of equipment important to safety previously evaluated in the safety analysis report is not increased because:

Following an inadvertent operation of ECCS event, water relief through the PSRVs may result in internal valve damage. Braidwood Station has committed to inspecting and repairing the pressurizer safety valves after an event that resulted in water discharge. Thus, at the resumption of normal plant operation following a spurious SI event, the pressurizer safety valves will be operable per design so the probability of an "inadvertent" opening is not increased.

Water discharge through the PSRVs, subsequent to a Spurious SI event, will not impair the valves' safety function assumed in the accident analysis since the PSRVs will be repaired prior to returning the plant to normal operation. The PSRVs will then be able to perform their function assumed in the RCS overpressure accidents.

The proposed change to utilize the PSRVs instead of the PORVs does not change the consequences of the spurious SI at power transient. RCS inventory will pass through the PSRVs, in place of the PORVs, to the pressurizer surge tank potentially rupturing the tank rupture disc and spilling contaminated fluid into containment. The radiological consequences remain bounded by the existing analysis.

Water relief through the PSRVs in response to a Spurious SI will not result in three (3) fully open PSRVs so that the Spurious SI event does not progress into a higher class transient (i.e., LOCA, condition III). All three PSRVs may lift in response to the event, but they will close, and the resulting leakage from three PSRVs is expected to be bounded by flow through one fully open PSRV. Thus, the spurious SI transient may result in a limited version of an inadvertent pressurizer safety relief valve stuck in the open position (also a Class II event).

In the evaluation of an "Inadvertent Opening of a Pressurizer Safety or Relief Valve", an accidental depressurization of the RCS is postulated, potentially resulting in a release of RCS inventory into containment through a PSRV and pressurizer surge tank rupture disc. No fuel damage is assumed to occur as a result of this event. As such, the radiological releases (offsite doses) resulting from this breach of the rupture disc were found to be "substantially less than that of a LOCA", but no quantifiable value is given for this dose. Since the leaking PSRV in the Spurious SI event occurs well after the reactor has tripped, the consequences of the event are bounded by the present analysis in UFSAR section 15.6.1.

Safety Evaluation Summary Form

Tracking No. BRW-SE-2000-1081
Activity No. DRP 8-190

2. The possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report is not created because:

The proposed activity does not make physical changes to the facility, nor does it change the manner in which the facility is operated. For analysis purposes, the PORVs are assumed to be unavailable for mitigation of the Inadvertent Operation of ECCS during Power Operation accident and water discharges through the PSRVs. This scenario is a limited version of an inadvertent opening of a PSRV which is analyzed in section 15.6.1 of the UFSAR. No failures of a different type than already analyzed in the UFSAR are created.

The only equipment important to safety for which malfunctions are affected is the PSRVs. The worst case scenario resulting from water discharge through the safety valves is bounded by the analysis of a failed open PSRV. A PSRV failure in the open position is analyzed in section 15.6.1. The proposed change makes no physical changes to the facility, nor does it change the manner in which the facility is operated. For analysis purposes, the PORVs are assumed to be unavailable for mitigation of the Inadvertent Operation of ECCS during Power Operation accident. No new or different types of equipment malfunctions are created.

The PSRVs will be repaired prior to returning the plant to normal operation. Therefore, water discharge through PSRVs will not create the possibility of a malfunction of a PSRV different than any previously evaluated.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because:

The PSRVs will be repaired prior to returning the plant to normal operation. Therefore, water discharge through PSRVs will not impair the valves' safety function upon return to normal plant operation.

During the Spurious SI transient, the RCS safety limit is not challenged since the physical configuration of the high head ECCS pumps (Centrifugal charging pumps) combined with the pumps shutoff head do not exceed 2735 psig (2600 shutoff head plus about 40 psig from the RWST head pressure on the suction side of the pumps).

The PORVs are not assumed to operate during the Spurious SI transient. The discharge piping from the PSRVs and PORVs run into a common line upstream of the Pressurizer Relief Tank; the integrity of the PSRVs discharge piping is maintained upon water discharge through the PSRVs, thus, the relief capacity of the PORVs is maintained. Furthermore, the water discharge through the PSRVs does not in any way impact the ability to manually operate the PORVs as required to mitigate the consequences of an SGTR (TS Basis 3.4.11).

Tracking Number: BRW-SESV-2000-1083

PROCEDURE REVISION

CC-AA-401

DESCRIPTION

The purpose of this Procedure Revision was to provide a method for the installation and control of temporary lead shielding on structures, systems or components to achieve a reduction in personnel radiation exposure. In addition, guidelines were provided for the use of water shields, frisker booths, and shielding structures. This revision also addressed an enhancement to clearance requirements of the shielding components having stable configurations.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because this activity implements a controlled mechanism for the installation and removal of lead shielding using an evaluation process which maintains the design basis and functionality of the affected system, structure, or component (SSC). The installation of the temporary shielding does not create an accident initiating condition, nor does it impact the ability of any SSC to mitigate the consequences of any accident.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because no new failure modes or conditions are created by the implementation of this activity. No interactions are created with interfacing equipment that could create or impact any new accident.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because this activity does not affect any parameters upon which Technical Specifications are based.

NUCLEAR WORK REQUEST (NWR)

990128117-02

DESCRIPTION

The purpose of this Nuclear Work Request was to support maintenance activities for the replacement of the 480 volt switchgear at BUS 132X, compartment 4A for the 1B AF diesel cubical cooler fan 1VA08CA..

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because Aux Bldg HVAC will provide a normal environment while the 1B Aux Fd Dsl is idle. Therefore, prior to any accident, the AF pump room temperature will be within design limits. The consequences of having the motor driven fan out-of-service does not result in a higher room temperature in the AF pump room than already assumed in the UFSAR.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because no new failure modes or conditions are created by the implementation of this activity. No interactions are created with interfacing equipment that could create or impact any new accident.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because this activity does not affect any parameters upon which Technical Specifications are based.

Tracking Number: BRW-SESV-2000-1095

NUCLEAR WORK REQUEST (NWR)

990055637-01

DESCRIPTION

The purpose of this Nuclear Work Request was to support maintenance activities for the 18 month inspection of the 2B AF Diesel. In order to do this, various hoses and/or cables had to be run through a propped open door (D-296). This placed the plant in a HVAC configuration different from that assumed in the UFSAR.

The normal VA design airflow path for the 2B AF pump room is to draw supply air from the 383 auxiliary building general area through a fire damper into the room. The air is eventually exhausted from the room to the VA accessible plenum.

A bypass airflow is created around fire damper 0VA391Y causing AF pump room supply air to be drawn in via the door opening which is different from that shown on UFSAR figure 9.4-5.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the doors to this room and affected air flow paths are not related to any accident causes, or accident mitigation functions of equipment in the plant. Compensatory actions are established for the breached fire door in accordance with the Fire Protection Program. Room cooling is not adversely affected and diesel oil fumes are still being removed, but at a lower rate. Explosive gas monitoring is established to ensure that fuel oil fumes do not concentrate and present a hazard in the day tank room.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the change in air flow, breach of the fire door, and room cooling do not create any new credible failure modes for the affected equipment. Each potential degradation of a barrier is adequately compensated for to prevent any new malfunctions.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because the ability to maintain the room below temperature limits is not adversely affected. The room coolers will continue to operate as designed and any communication of air with the general area of the Auxiliary Building will only help cool the Diesel Driven Auxiliary Feedwater Pump room.

NUCLEAR WORK REQUEST (NWR)
990224507

DESCRIPTION

The purpose of this Nuclear Work Request installs a pneumatic jumper on the operator of valve 1OG035 to ensure that the valve will stay in the open position, providing a path to the operating Unit-1 Off-Gas System, under all conditions. The following paragraphs explain the concept:

Per current design, valve 1OG035 will fail to the "closed" position, and valves 1OG037 & 0OG038 will fail to the "open" position, upon receiving a hi-rad signal from rad-monitor 1RE-PR027. This interlock will direct the Unit-1 off-gas through the off-gas filter unit before leaving through the stack, if radioactivity is detected in the Unit-1 off-gas effluent.

Design change D20-2-96-308, Unit-2 Off Gas Filter Plenum Modification, removes two valves (2OG035 & 2OG037) and the hi-rad signal from rad detector 2RE-PR027. Performing the task requires blocking valves 1OG037 and 0OG038 in the closed position to be used as out-of-service boundaries. This configuration will make the off-gas filter unit unavailable to the Unit-1 off-gas.

In the meantime, if hi-rad signal is generated by hi-rad monitor 1RE-PR027 under the above conditions, valve 1OG035 will fail closed while valves 1OG037 and 0OG038 will remain closed because of the installed pneumatic jumpers. This configuration does not provide a path for the Unit-1 off-gas, and would eventually result in high condenser pressure, which would ultimately result in Unit-1 shutdown.

Installing the pneumatic jumper on valve 1OG035, as described in WR990224507, would temporarily make Unit-1 configuration similar to Unit-2 configuration after the installation of design change D20-2-96-308.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the occurrence of Steam Generator tube leakage is governed by factors such as method of fabrication, metallurgy, chemistry, etc. The operation or non-operation of the OGFU has no effect on the probability of occurrence of tube leakage. Calculation BRW-99-0468-M determined that the increase in thyroid dose associated with the abandonment of the OGFU is insignificant and within federal limits for primary to secondary leakage assumed to determine compliance with 10CFR50 Appendix I.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the OGFU is designed for normal operation with Steam Generator tube leakage. The system is normally in standby with exhaust gases bypassing the OGFU. The proposed change, therefore, will not impact the operation of the steam jet air ejectors, gland exhausters, or hogging pump function to support maintaining a vacuum in the main condenser. In addition, the proposed change does not affect the safety function of any systems or components. Reliance on the OGFU to maintain off-site dose within established limits is not necessary. Actions will be initiated prior to challenging these limits based on Technical Specification requirements and the permanent abandonment of the OGFU will not result in increased risk to the general public.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because since plant operation will continue to be in accordance with the controls of the Offsite Dose Calculations Manual and doses will be maintained within the criteria of 10CFR50 Appendix I and 10CFR20.

PLANT BARRIER IMPAIRMENT

DESCRIPTION

The purpose of this activity is to address propping open of door (D-356) to allow for better circulation of air within the chemistry complex while chilled water to the lab HVAC is unavailable due to various system outages..

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because this activity review incorporates fire protection, contamination control, electrical loading, and seismic housekeeping considerations. No adverse impacts are created for any interfacing equipment important to safety. No uncontrolled release paths are created.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because no new failure mechanism or modes are created by the implementation of this impairment. Design considerations preclude any impact on equipment within the laboratory complex or any interfacing equipment or systems within the Auxiliary Building.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because impairing D-356 effectively extends the VA System boundary/envelope to the doors from the corridor to the counting room and hot lab. During normal VL System operation the chemistry laboratory complex is pressurized and exhausts' to the VA System. The ability to maintain less than or equal to ¼ inch negative pressure within the ECCS pump rooms during accident conditions is not impacted by this outside air source. With D-356 open, air will be drawn from the chemistry laboratory complex and the only air that infiltrates the system will be that which leaks by the hot lab and Turbine Building access doors. This air in-leakage is insignificant in comparison to the pressurized normal outside air source provided by the VL System. Therefore, the ability of the VA System to maintain negative pressure requirements within the Auxiliary Building is unaffected.

NUCLEAR WORK REQUEST (NWR)

990168693-02

DESCRIPTION

The purpose of this Nuclear Work Request was to support maintenance activities in order to repair valve 0FP293, which is stuck in the open position. A freeze seal will be located on line 0FPY9A-6" between anchor 2FP03028A and the tee into line 0FP02BD-6", on the 346' elev. of the Auxiliary Building near N-18 & N-19.

The freeze seal acts as an isolation point on line 0FPY9A-4", which takes out 4 hose stations (152, 156, 165, & 166) in the Auxiliary Building, 330' & 346' elevations. Compensatory measures will be in place to account for HS 152, 156, 165, & 166 being within the OOS boundary and inoperable. The Fire Marshall performs a review of all Fire Protection Out-Of-Services and determines the required compensatory actions.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because a failure of the freeze seal would not initiate nor alter the initial conditions to any accidents or design basis fires. The freeze seal has no direct effect on plant equipment since compensatory measures will be in place as required for the fire protection equipment affected within the OOS boundaries (Hose Stations 152, 156, 165, & 166). Also, should valve 0FP242 need to be closed in the event of a failed freeze seal, 8 additional hose stations and a sprinkler system will temporarily be inoperable for less than 1 hour. The 0FP293 valve can be made water tight in less than 1 hour as stated in ER9903175. This scenario was discussed with the Fire Marshall and deemed acceptable since they are allowed up to 1 hour before any compensatory measures need to be in place.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the freeze seal does not impact equipment that could initiate or create an accident or design basis fire different from those evaluated in the UFSAR or FPR as long as required compensatory measures are in place. Therefore there is no possibility of an accident or transient of a different type than previously evaluated.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because the freeze seal has no effect on operating plant equipment, since required compensatory measures will be in place for the FP equipment within the OOS boundary. The piping affected by the added freeze seal is qualified for the additional weight of the freeze assembly, flooding is not a concern, and there will be an insignificant effect on the FP system even with a failed freeze seal. There is no effect on the overall FP system if the freeze performs as designed. The margin of safety of all systems is not reduced.

Tracking Number: BRW-SESV-2000-1107

DESIGN CHANGE

9900599

DESCRIPTION

DCP #9900599 will make TMOD 99-2-018 a permanent plant installation. This TMOD disconnected the 480 VAC power feed to heater #12 of Backup Group D for the Unit 2 pressurizer. The power feed was disconnected by lifting conductors of cables 2RY452 and 2RY453 at 480 VAC distribution cabinet 2RY03ED. There are two other heaters (#11 and #35) that are powered from the same feed breaker as heater #12; these heaters will remain in service. Testing performed during A2R08 has indicated that heater #12 has a shorted heating element, which has been causing the circuit breaker at 2RY03ED that feeds the three heaters to trip. This has occurred several times since starting up from A2R07. Disconnecting heater #12 from its feed breaker will isolate the faulted heating element until it can be economically repaired or replaced, while allowing the other two heaters to remain in service.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased. Although the heaters are not specifically used in accident analysis, they provide the capability to maintain subcooling in the long term during loss of offsite power. The non-Class 1E ESF buses servicing the Pressurizer heaters can be powered from the Unit Auxiliary Transformer, the System Auxiliary Transformer, or the emergency Diesel Generator by closing the ESF to non-ESF crosstie breaker. This change will not affect the ability of the onsite auxiliary power system to supply power to the loads required for mitigating the consequences of accidents. UFSAR Section 15.2.8 concludes that the Pressurizer heaters' contribution to overpressure transients is negligible. The Pressurizer Power Operated Relief Valves along with the reactor protection, Safety Injection, and Auxiliary Feedwater systems are assumed to function to mitigate the consequences of a feedwater line break. SSCs associated with these systems will not be adversely affected by this change.
2. The possibility of an accident or malfunction of a different type than previously evaluated in the UPSAR is not created because the operation of the Pressurizer heaters with the TMOD installed will continue to satisfy the requirements for normal Pressurizer pressure control. Interfaces with other SSCs during normal or transient conditions will not change in a manner that would result in the creation of any new accident or plant transient that has not been previously analyzed. The minimum heater capacity required is sufficient to maintain the Reactor Coolant System near normal operating pressure when accounting for heat losses through the Pressurizer insulation. The remaining heaters provide sufficient capacity to maintain normal pressure and temperature conditions in the primary system. The Pressurizer will still be able to perform its design functions during normal and accident conditions.
3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because the values that establish the margin of safety related to the minimum capacity of a heater group are between the Technical Specification minimum of 150 kW and the minimum heater capacity required by Westinghouse (<150 kW) to account for Pressurizer heat loss. Since Backup Group D will still have a rated capacity (393 kW) that is well above the Technical Specification minimum, the margin of safety is not reduced by this change.

TECHNICAL REQUIREMENTS MANUAL

00-013

DESCRIPTION

The purpose of this Technical Requirements Manual (TRM) revision is to revise the Actions of TRM Limiting Conditions of Operation (TLCO) 3.1.g, "Position Indication System – Shutdown," and TLCO 3.1.k, "Position Indication System – Shutdown (Special Test Exception)." The proposed changes include: 1) providing a restoration time of 15 minutes when the required Digital Rod Position Indication (DRPI) is inoperable in Modes 3, 4, 5 and, 2) providing comparable alternate Actions in lieu of opening the Reactor Trip Breakers (RTBs) and Reactor Trip Bypass Breakers (RTBBs), i.e., initiate action to fully insert all rods or initiate boration to restore the RCS boron concentration to within the limits specified in the COLR.

The proposed change allows the Operator to select an operable indicating DRPI channel within 15 minutes in Mode 3, 4 and 5 whenever the Rod Control System is capable of rod withdrawal. If the required OPERABLE DRPI can not be restored within 15 minutes, the proposed changes provide the Operator with the option of immediately initiating action to fully insert all rods, immediately initiating boration to restore the RCS boron concentration to within the limits specified in the COLR, or immediately opening the RTBs and RTBBs. By providing alternate comparable Actions, the Operator can avoid unnecessarily opening the RTBs and RTBBs and the associated consequences.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased. The Position Indication System requirements in Modes 3, 4, and 5 do not meet the criteria for inclusion specified in 10 CFR 50.36, "Technical Specifications". In Mode 3, 4 and 5, failure to provide proper rod position indication has the potential to affect the Mode required reactivity margin-to-critical conditions, but this effect can be compensated for by an increase in the boron concentration of the RCS or an insertion of control rods. The boron concentration specified in the COLR has been conservatively calculated and ensures that the SDM requirements of TS LCO 3.1.1 continue to be met.
2. The possibility of an accident or malfunction of a different type than previously evaluated in the UPSAR is not created because the proposed change does not involve a physical alteration to the plant. No new equipment is being introduced and no installed equipment is being operated in a new or different manner. Safe plant operation will not be affected by this change since the restoration time is appropriate and the proposed alternate Actions comparable.
3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because the boron concentration limits specified in the COLR have been conservatively calculated and ensure that the SDM requirements of TS LCO 3.1.1 continue to be met.

DESIGN CHANGE

DCP 9900384

DESCRIPTION

The change adds a second set of HP Gland Steam spillover lines from the HP turbine rotor gland seals to the condenser. The change involves the addition of two 3 inch diameter pipe connections to each rotor gland on the HP turbine, connecting the 3 inch lines to a 6 inch header under the HP turbine and the connection of a single 6 inch line from the header to the main condenser. Also, bypass valve 2GS025 for pressure control valve 2GS023 is converted from a motor operated valve (MOV) to a manual valve and the equipment part number is changed to 2GS090. A new motor operated isolation valve is included on the new spillover header. This will be named 2GS025 and will be supplied with the power and control cables from the original 2GS025. Furthermore, revisions are required to operating procedures to open and close 2GS025 and 2GS090, and align the breakers, to reflect this design change.

This change is being implemented because the high pressure turbine steam gland has leaks caused by over pressurization of the steam gland. This change will provide additional spill-over capacity, which will allow the relief of the steam pressure thus eliminating the gland leaks.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because this design change does not affect safety related equipment. A failure of the new lines could cause a loss of, or low, condenser vacuum. The new lines are evaluated to the applicable codes for the required loads and found to be acceptable. Failure of the new lines is no more probable than failure of an existing line. Therefore, this proposed activity will not increase the probability of occurrence of any analyzed accidents or transients.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the proposed design change performs the same non-safety related function. The changes do not interact with any safety related systems or plant controls. Thus there is no possibility that the change will create an accident or transient of a different type.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because this activity does not affect any parameter upon which the Technical Specifications are based.

DESIGN CHANGE

D20-1-00-325

DESCRIPTION

The purpose of this Design Change Package (DCP) is to cut and cap packing leakoff lines from valves 1RH8701A, 1RH8702A, 1SI8808A, 1SI8808B, 1SI18808C, and 1SI8808D. These valves are motor operated valves (MOVs). The leakoff lines from these valves are non-RCS inputs to the PRT that cannot be isolated; these inputs make the calculated Reactor Coolant System identified leak rate greater than actual. Consequently, this could result in calculating an Unidentified RCS leak rate that is lower than actual; this is non-conservative. Design change D20-1-00-325 eliminated the non-RCS inputs identified above to the PRT.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the proposed design change does not have any impact on the RCS piping or the RCS piping loading conditions and resulting stresses. Therefore, the probability of a Loss of Coolant Accident is not increased. The RHR suction valves, 1RH8701A and 1RH8702A, are normally closed. In this configuration, the maximum pressure the valves' packing are exposed to is the pressure due to the head of water in the RWST, or about 50 psig. Since the valves' packing are rated for much higher conditions (i.e., when the RHR system operates in the shutdown cooling mode), the expected leakage past the valves' packing is extremely small. Consequently, the leakage will not have any impact on the operation of the valve operators. Since the valves will be operable to establish shutdown cooling when needed, the probability of a failure of the valves to open is not increased. After the shutdown cooling line-up is established, the valves will see a higher pressure, < 360 psig (This is the RCS pressure interlock for opening the valves). In this case, the valves will be exposed to a higher pressure, but, if the packing leak affects the valves' operators, the valves will remain in their open position (MOVs fail as-is) and a loss of shutdown cooling will not take place. Therefore, the probability of a loss of shutdown cooling is not increased. There are no changes to the initial conditions of any UFSAR accident and transients. Therefore, there is no increase in the probability of any UFSAR accidents.
2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the elimination of the leakoff lines does not affect the operation of the affected valves or any other plant equipment as to create the possibility of a malfunction of a different type than any previously evaluated. The operation of the valves will not be impaired by the expected amount of packing leakage. Two sets of packing, one below and one above the lantern ring, are installed in the valves' stuffing box. The sealing configuration and the level of sealing are not diminished by this design change.
3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because any potential impact of any packing leaks on the affected valves would not affect the function of those valves as required in support of Emergency Core Cooling System or Low Temperature Overpressure Protection.

50.59 REVIEW COVERSHEET FORM

LS-AA-104-1001
01/11/01

BRW-SESV-2000-1122

Station: Braidwood

Activity/Document Number: BwOR WEST – 251 **Revision Number:** 0

Title: Sub-Critical Rod Worth Measurement (SCRWM) Data Acquisition System

Description of Activity:
Connect a data acquisition system to the output of the source range similar to a scalar timer. While the plant is performing rod drop testing, the SCRWM is collecting source range data. The procedure includes all steps to setup up, collect data, analyze data and remove all equipment.

Reason for Activity:
To help jointly develop with Westinghouse a system that will measure rod worth while off of critical path.

Effect of Activity:
The source range channels will be continue to perform the function of core monitoring and in the event of a flux doubling or high flux trip perform the associated functions. The system is taking data from an isolated output as not to contaminate the source range channel.

Summary of Conclusion for the Activities 50.59 Review:
This procedure is a maintenance activity since prior to, during and following the surveillance activity, the system is performing its design function. Procedures for implementing surveillances and inspections, including those required by Technical Specifications, are considered to be maintenance activities and therefore are not subject to 10CFR50.59 review. For these reasons, there is no effect on the SAR documents and the activity can be completed without prior NRC approval.

Attachments:
Attach completed Applicability Review if 50.59 Screening is not required.
Attach completed 50.59 Screening if 50.59 Evaluation is not required.
Attach completed 50.59 Evaluation if required to be performed.
Attach completed 50.59 Screening and 50.59 Evaluation if multiple discrete elements of an activity have been linked together and certain elements required a 50.59 Evaluation while other elements did not.

Forms Attached: (Check all that apply.)

	Applicability Review				
	50.59 Screening	50.59 Screening No.		Rev.	
	50.59 Evaluation	50.59 Evaluation No.		Rev.	
x	50.59 Validation	50.59 Validation No.	BRW-SESV-2000-1122	Rev.	0

DESIGN CHANGE PACKAGE

9900355 & 9900356

DESCRIPTION

The purpose of this Design Change Package (DCP) was to remove the actuation signal for Pressurizer Power Operated Relief Valve (PORV) 1(2)RY455A from the demand output of the Master Pressurizer Pressure Controller (MPPC) 1(2)PC-0455A and move it to the actual Pressurizer pressure as selected from relay card 1(2)PY/-0455V. The output demand signal is currently processed at comparator card 1(2)PB-0455E, which would not receive the actual Pressurizer pressure signal directly, instead of the corrected demand output signal from the MPPC. The DCPs will also revise the lift setpoint for 1(2)RY455A from 2335 psig to 2345 psig (reset setpoint will remain 2315 psig). This design Change includes internal wiring changes within NSSS Control cabinet 1(2)pa05J located in the Aux. Electrical Equipment Room

SAFETY EVALUATION SUMMARY

1. The probability of occurrence or the consequences of an accident or a malfunction of equipment important to safety previously evaluated in the safety analysis report is not increased because the operation, or failure of operation , of a pressurizer PORV are not initiating events for a Turbine Trip, Loss of Nonemergency AC power to Plant Auxiliaries, Loss of Normal Feedwater Flow, a Feedwater System Pipe Break, an Increase in Reactor Coolant Inventory, or a Steam Generator Tube Rupture. The proposed change utilizes existing plant components in the PORV control circuit and does not change the function or operation of the PORV or the PORV itself, in a manner that would increase the probability of occurrence of an Inadvertent Opening of a Pressurizer Safety or Relief Valve. This change does not alter the safety function or the automatic or manual operation of PORV 1(2)RY455A, or the PORV itself. No boundary to radioactive release is changed. Based on the above, this change does not increase the probability of, or consequences of any accident or transient.

2. The possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report is not created because the function and operation of 1(2)RY455A does not change as a result of this design change. The actuation signal is being changed from the corrected demand output signal of the MPPC to the actual Pressurizer pressure signal to provide proper control of the lifting of the PORV (@2345 psig) This design change utilizes existing, without changing the function or operation of the PORV. No new circuit, component, or system interactions are created. This change, therefore, does not create the possibility of a new type of accident, transient or malfunction not previously evaluated.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the operation of the PORV and the ability of the PORV to perform its intended design function are not affected by the change to its control circuit or lift setpoint. This change will not affect the operation of the proportional heaters, the backup heaters, and the spray valves, which are also controlled from the demand output signal of the MPPC. The PORV relief setpoint and relief path do not change as a result of this design change This

change does not affect the stroke time of the PORV. This change does not introduce a new circuit, component, or system interface. Therefore, the margin of safety is not reduced as a result of this design change.

TEMPORARY MODIFICATION

00-2-010

DESCRIPTION

The purpose of this Temporary Modification adds a crosstie between the normal hydrogen supply and the nitrogen supply piping to the Volume Control Tank (VCT). The crosstie connects hydrogen supply line (2HY06A-1") upstream of the hydrogen supply pressure control valve (2CV8156) to the nitrogen supply line (2NT28A-1") upstream of the nitrogen supply pressure control valve (2CV8155). While the TMOD is installed, pressure control valve 2CV8155 will maintain hydrogen overpressure in the VCT at approximately 17 lbs This will require the controller for valve 2CV8155 to be recalibrated to match the setup for the 2CV8156 controller.

In order to install the crosstie, the removable spool piece upstream of valve 2CV8156 will be replaced with a modified spool piece consisting of a bline flange, threaded flange, and a tee that will connect to a threaded flex hose. Two diaphragm valves are added, one on the corsstie line and one on the nitrogen supply line upstream of the crosstie connection to ensure adequate isolation capabilities. Flexible hoses will be utilized to connect the hydrogen line to the nitrogen line.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the TMOD configuration will operate the same as that for the normal configuration.. Only the flow path is different, utilizing the nitrogen pressure control valve to regulate hydrogen supply pressure to the VCT. This change does not alter the initial conditions of any accident, does not change an SSC that is assumed to function during or after an accident, and does not change an SSC whose failure could lead to an accident.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the TMOD configuration will operate the same as that for the normal configuration, but through an alternate flow path. Isolation valves and administrative controls will ensure that the hydrogen does not contaminate the nitrogen system.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because the installation of the TMOD does not affect any parameters upon which the Technical Specifications are based.

UFSAR REVISION

DRP 9-018

DESCRIPTION

This UFSAR revision addresses increasing the maximum CVCS flowrate through the mixed-bed demineralizers and the RH/CV Letdown system to 150 gpm provided that Reactor Coolant System (RCS) pressure is <50 psig and RCS temperature is < 140°F for RCS radioactive material cleanup following a plant shutdown.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR is not increased since the additional CVCS letdown flow does not adversely affect systems required to mitigate the consequences of an accident for the conditions of this procedure.

2. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created due to the increased letdown flowrate. There is no increase in the consequences of an equipment malfunction since no new assumptions are being made with regard to the reliance on equipment or equipment performance.

3. The margin of safety, as defined in the basis of the Technical Specification, is not reduced since there are no Technical Specifications affected as a result of this activitiy.

PROCEDURE REVISION

BwOP CV-12
BwOP CV-13
BwOP CV-M2

DESCRIPTION

The purpose of this Procedure Revision is a validation of Safety Evaluation BRW-SE-2000-1135 for the revision of BwOP CV-12, Rev. 15, Establishing a Nitrogen Blanket on the VCT, BwOP CV-13, Rev. 14, Establishing a Hydrogen Blanket on the VCT and BwOP CV-M2, Rev. 12, Operating Mechanical Lineup Unit 2.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because these procedure revisions are due to TMOD 00-2-010 (DCP 9900608) on Unit 2. This revision does not change the original intent of Safety Eval BRW-SE-2000-1135.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because this procedure change will allow proper operation of the hydrogen and nitrogen systems with the temp mod installed. This revision does not change the original intent of Safety Eval Brw-SE-2000-1135.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because this changes the procedures for safe operation of the TMOD. This revision does not change the original intent of Safety Eval BRW-SE-2000-1135.

Tracking Number: BRW-SE-2000-1141

TEMPORARY MODIFICATION

00-1-005

DESCRIPTION

The purpose of this Temporary Modification (T-MOD) is to modify the casing drain piping for the lB AF pump, downstream of manual isolation valve 1AF019B. The pump casing drain line isolation valve 1AF019B is leaking by. This results in a significant leakage flow when the 1B AF pump is in operation (Reference Condition Reports #A2000-03829 and #A2000-04236). The installation of this temporary modification will eliminate this leak. As determined in these Condition Reports, the amount of flow past the isolation valve does not render the pump inoperable. However, the installation of the threaded caps is desirable to address material condition problems arising from the leaking valve (i.e., to eliminate leakage from the system onto the floor). The installation of the threaded caps on the casing drain will remove the hard piped flowpath for the 1B AF pump casing. Future activities that require draining the pump casing will necessitate re-installing this piping or other contingency measures for containing the drained water.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because this temporary modification to the casing drain line piping from the lB AF pump does not alter the initial conditions for any of the accidents evaluated in the UFSAR. Additionally, failure of the components affected is not a precursor to the initiation of any of these accidents. The piping configuration attached to the AF pump casing has been qualified for operating and seismic conditions (Reference Calc. #DCR 990820); thus, the probability of a piping failure is not increased and the design basis flood analysis remains bounding.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the modified casing drain piping does not have any impact on plant equipment as to create an accident or transient of a different type than any previously evaluated. The piping configuration attached to the AF pump casing has been qualified for operating and seismic conditions. Thus there is no possibility that the change will create an accident or transient of a different type.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because the proposed temporary modification does not affect the operation of the 1B AF pump. In addition, the capped casing drain line will maintain the cooling water inventory in the Condensate Storage Tank.

Tracking Number: BRW-SESV-2000-1142

NUCLEAR WORK REQUEST (NWR)

990136853

DESCRIPTION

The purpose of this Nuclear Work Request was to disable the "High-High Traveling Screen Differential Pressure" trip for Circulating Water (CW) Pump 2CW01PB for instruments 2LDS-SW007 and 2LDR-SW007. The 2B CW Pump was still in service, and was expected to remain in this condition until the maintenance troubleshooting is completed.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the 'consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the purpose of the trip signal is to minimize the chance of damaging the CW Pump resulting from low pump suction pressure. The elimination of the traveling screen high differential pressure trip signal on the suction side of the 2B Circulating Water Pump reduces the probability of a CW Pump trip. With the elimination of this trip signal, the pump will not trip unless manually tripped or unless the pump fails. By reducing the probability of a CW Pump trip, the probability of a turbine trip due to low condenser vacuum is decreased. The elimination of the trip signal has no impact on any fission product boundary and does not impact the ability of any system to mitigate the consequences of an accident. Equipment important to safety is not adversely affected by the elimination of the traveling screen high differential pressure trip signal. The screen wash and circulating water systems are not relied upon to mitigate the consequences of an accident.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the traveling screen high differential pressure trip signal is intended to trip the associated CW Pump before the pump is damaged due to low suction pressure. By eliminating the trip signal, this pump protection feature is lost. The failure of the CW Pump could result in low condenser vacuum, leading to a turbine trip. This is an analyzed transient. No other accidents or transients are created or eliminating the trip signal. The CW Pumps are non-safety related and are not required to mitigate the effects of any transient or accident. The failure of a CW Pump does not impact the ability of any equipment important to safety from performing as designed. No new failure modes are introduced.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because this activity does not affect any parameter upon which the Technical Specifications are based.

Tracking Number: BRW-SE-2000-1145

DOCUMENT CHANGE REQUEST

990689

DESCRIPTION

The purpose of this Document Change Request was to revise piping and Instrument Diagram M-54-1A (Braidwood UFSAR Figure 9.3-2. Sheet 1) depicts the Service Air System from the Service Air Compressors (SAC) through the Service Air Receiver Tanks and the Service Air header piping at the Lake Screen House (LSH). This drawing chance corrects multiple minor drawing errors that currently exist on the print. These changes have no effect on Plant operation or safety because they do not affect the function of the system. The addition of the subject flanges. unions, temperature indicators. valves, and reducers to the drawing provides a more accurate system representation. The EPN corrections are editorial/administrative in nature. There are no safety-related systems that require compressed air to perform their safety-related function under post accident or emergency cooldown conditions.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because this is an administrative change to have the drawings reflect actual plant conditions. No changes were made to the SA System in the plant.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created since this is an administrative change to have the drawings reflect actual plant conditions. No actual changes are being made to the system/equipment.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because this activity does not affect any parameters upon which the Technical Specifications are based.

Safety Evaluation Summary Form

Tracking No. BRW-SESV-2000-1150
Activity No. SH-AA-113, Revision 2

DESCRIPTION:

This revision clarifies existing program requirements and wording for the non-radiological respiratory protection program. It allows for Radiation Protection to issue non-radiological respirators without prior safety/IH approval for situations outlined in the procedure and allows for the issuance of the respirator to be logged on appropriate RP log sheets or electronic equivalent. It clarifies the responsibilities for the completion of Attachment II and the criteria for which voluntary use respirators wearers must comply with prior to issuance.

SAFETY EVALUATION SUMMARY:

1. The probability of occurrence or the consequences of an accident or a malfunction of equipment important to safety previously evaluated in the safety analysis report is not increased because:

The procedures govern administrative elements of the non-radiological respiratory protection program. The changes do not affect plant equipment or operation and, therefore, do not increase the probability of an occurrence or the consequence of an accident or malfunction.

2. The possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report is not created because:

The procedures govern administrative elements of the non-radiological respiratory protection program. There is no affect on plant equipment and operations such that the possibility of an accident or malfunction of a different type is created.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because:

There are no requirements in the Technical Specification relating to the non-radiological respiratory program.

UFSAR REVISION
UFSAR Draft Revision Package 9-022

DESCRIPTION

The purpose of this UFSAR revision DRP 9-022 was to incorporate the following:

- Delete equipment references in UFSAR Tables 11.2-5 and 11.4-1, and Figure 12.2-1 for the non used volume reduction and radwaste evaporator systems. Make editorial changes in applicable UFSAR sections consistent with deleted Figure 12.2-1.
- Delete source term and shielding design information contained in UFSAR Tables 11.1-12, 12.2-44, 12.2-49 through 12.2-52 for the non-used volume reduction system. Make editorial changes in applicable UFSAR sections consistent with deleted Tables 12.2-49 through 12.2-52.
- Delete reference in UFSAR section 11.4.1.3 to wet solid wastes transported by the sludge handling subsystem.
- Describe, in UFSAR Sections 11.4.2.6 and 11.4.2.13, that the dry waste compactor and the dry waste shredder, respectively, are not normally used for solid waste processing.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR is not increased because the proposed activity does not change any initiating conditions or events associated with any accident or transient. Therefore, implementation of DRP 9-022 does not change the probability of occurrence of the accidents/transients.

2. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the changes implemented under DRP 9-022 do not change any operational or performance characteristic of the radwaste handling systems. There are no impacts on interfacing equipment important to safety introduced under these changes. Therefore, these changes cannot introduce or create a malfunction different than that previously evaluated..

3. The margin of safety, as defined in the basis of the Technical Specification, is not reduced because the this activity does not affect any parameters upon which the Technical Specifications are based.

DESIGN CHANGE

9700006

DESCRIPTION

This design modification will permanently change the Unit 1 Off Gas (OG) flow path configuration, disable the exhaust fan (0OG01C) hi-rad interlock signal from rad detector 1RE-PR027 and abandon the OG filter plenum, 0OG01S, in place. The butterfly valves 1OG037 and 0OG038 will be replaced with blind flanges to isolate the Off Gas Filter Plenum from OG flow. The butterfly valve 1OG035 will be replaced with a spool piece (spacer flange), to prevent any interruption of the Off Gas flow to the stack. Additionally, power cables from the related MCC's to the local panel and the exhaust fan will be abandoned, and the instrument air tubing will be capped at the nearest support. Fan 0OG01C, Dampers 0OG01Y/2Y, OG filter plenum, 0OG01S, along with the associated equipment and instrumentation, and the local control panel, 0OG03J, will be abandoned in place. All the filters, including the charcoal adsorbers and HEPA filters, will be removed. By performing this design change, the full abandonment of the Off-Gas Filter Plenum will be completed.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the occurrence of Steam Generator tube leakage is governed by factors such as method of fabrication, metallurgy, chemistry, etc. The operation or non-operation of the OGFU has no effect on the probability of occurrence of tube leakage. Calculation BRW-99-0468-M determined that the increase in thyroid dose associated with the abandonment of the OGFU is insignificant and within federal limits for primary to secondary leakage assumed to determine compliance with 10CFR50 Appendix I.
2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the OGFU is designed for normal operation with Steam Generator tube leakage. The system is normally in standby with exhaust gases bypassing the OGFU. The proposed change, therefore, will not impact the operation of the steam jet air ejectors, gland exhausters, or hogging pump function to support maintaining a vacuum in the main condenser. In addition, the proposed change does not affect the safety function of any systems or components. Reliance on the OGFU to maintain off-site dose within established limits is not necessary. Actions will be initiated prior to challenging these limits based on Technical Specification requirements and the permanent abandonment of the OGFU will not result in increased risk to the general public.
3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because since plant operation will continue to be in accordance with the controls of the Offsite Dose Calculations Manual and doses will be maintained within the criteria of 10CFR50 Appendix I and 10CFR20.

TEMPORARY MODIFICATION

TMOD #00-0-006

DESCRIPTION

The purpose of this Temporary Modification (TMOD) was to furnish a contingency source of Instrument Air (IA) to Auxiliary Building "TAP-4" components downstream of valve 1IA144 (Ref. P&ID M-55-5), which will be used as an OOS boundary to repair a leak on line 0IA031B-4" in the Unit 1 Auxiliary Building. The TMOD is intended to supply instrument air, if required, to operate air operated valves, including 1CV112A, and other equipment supplied by "TAP-4" Instrument Air. The supply of air will be from Service Air drop valve 0SA159 @ L-12, elevation 383', via a dryer to a new temporarily installed Instrument Air Tap valve downstream of valve 0IA756, at N-12, on Mezzanine elevation 392'.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the proposed TMOD considers material compatibility, pressure boundary integrity, air quality, and air quantity to the affected equipment. In addition, the impact on interfacing equipment was considered. The challenge or risk to the pressure boundary integrity of the SA or IA systems is no different than for a service/tap connection supplying pneumatic tools, etc. The IA & SA systems are non-safety related and are not relied upon during any accident or transient event. Any TAP-4 components or equipment using IA or SA will return to their designed "Fail Safe Position" on loss of air. Therefore, the TMOD will have no adverse impact on the probability of any accident or transient.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the proposed TMOD is a passive extension of the IA and SA Systems. A break or breach in the pressure boundary of the TMOD does not represent a new failure mode for the affected systems. In addition, design considerations for the TMOD address preventing any impact on interfacing equipment.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because this activity does not affect any parameters upon which the Technical Specifications are based.

UFSAR REVISION

UFSAR Draft Revision Package 8-164

DESCRIPTION

The purpose of this UFSAR Draft Revision Package is to revise the wording in UFSAR sections 8.3.2.1.2 and 10.4.9.2.1 to include a statement similar to ..."The minimum sufficient battery capacities and minimum battery/charger configurations for starting and running the diesel driven AFW pump are specified in an approved safety-related calculation."

This UFSAR verbiage change is a result of eight (8) new procedures written for Byron Station allowing for testing of a single AF diesel battery while online. Although these procedure changes have not been incorporated at Braidwood, calculations are in place to allow either single battery or dual battery testing configurations. The current Braidwood practice is to test two batteries at a time during an outage.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the AF system or the activities of performing an AF battery capacity test are not accident initiators for any of the UFSAR accidents The proposed activity does not increase the dose to the public because the functions of the AF system are not changed.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the AF system provides a mitigating function in the event of an accident or transient. The AF system is designed to provide adequate feedwater to an unfaulted SG in the event of any single passive or active failure. If the diesel driven AF pump failed in some way, the other fully redundant and diverse train would provide the required feedwater to the unfaulted SG. Any AF system failure is bounded by the current design.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because availability of the diesel driven AF pump will be increased during routine battery capacity testing. Previous battery capacity testing made the diesel driven AF pump inoperable due to testing two batteries at once. By testing only one battery at a time the diesel driven pump will remain operable.

Tracking Number: BRW-SESV-2000-1168

PROCEDURE REVISION

RP-AA-202
RP-AA-825

DESCRIPTION

The purpose of these Procedures Revisions was to implement two standardized corporate procedures covering the administrative requirements of the radiological respiratory protection program to incorporate the changes to 10CFR20 which became effective on February 4,2000.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the respiratory protection procedures are designed to provide training, fit testing, evaluation, selection and use of respiratory protection devices, as well as maintenance and care of respiratory protection devices. There are no plant systems, structures, or components affected by the radiological respiratory program.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the respiratory protection procedures are designed to provide training, fit testing, evaluation, selection and use of respiratory protection devices, as well as maintenance and care of respiratory protection devices. There are no plant systems, structures, or components affected by the radiological respiratory program.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because this activity does not affect any parameters upon which the Technical Specifications are based.

Tracking Number: BRW-SESV-2000-1172

ENGINEERING REQUEST

9903805

DESCRIPTION

The purpose of this Engineering Request was to install a freeze seal to provide downstream isolation of CC return header line 2CC60A-16" (downstream of valves 2CC9502B & 2CC9503) to affect repair to 2CC9502B, without affecting the function of the remaining portions of the CC system. Line 2CC60A-16" will be isolated downstream of valves 2CC9502B & 2CC9503. Isolating this section of line 2CC60A-16" will render Unit 2 Spent Fuel Pit Heat Exchanger 2FC01A inoperable, since it is contained within the OOS boundaries. Isolating this section of line 2CC60A-16" and its affect on the plant are covered under the Station Out-Of-Service program and are not covered by this 50.59. The freeze seal itself therefore has virtually no effect on plant systems since the portion of line 2CC60A-16" which 2CC9502B, will be isolated and OOS.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the installation of the freeze seal on this Component Cooling Water (CC) piping does not change any initiating condition or impact any accidents and transients evaluated in the UFSAR. A failure of the freeze seal on the CC piping would not initiate nor alter the initial conditions to any of the accidents. Leakage from a freeze seal failure during this time would be minimal and bounded by the existing flooding analysis in calculation 3C8-0685-002, Flood Zone G3-3B. The limiting failure for Flood Zone G3-3B is a break in line 2SI05BB-8", with a flow rate of 2.61 ft3/sec (1171 gpm). The freeze seal has no other direct effect on plant equipment beyond the CC side of Unit 2 Spent Fuel Pit heat exchanger 2FC01A, which will already be OOS. Therefore the probability of any accident or transient will not be increased. Any leakage from a failed freeze would be contained in the Auxiliary Building and no increase in offsite dose would occur.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the temporary freeze seal installation does not impact any other plant equipment that could initiate or create an accident different from those evaluated in the UFSAR. The freeze seal does not affect required plant equipment since the Spent Fuel Pool cooling is being provided by the Unit 1 Spent Fuel Pit heat exchanger 1FC01A while the Unit 2 Spent Fuel Pit heat exchanger 2FC01A isolated and OOS.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because all Technical Specification requirements were met.

Tracking Number: BRW-SESV-2000-1175

NUCLEAR WORK REQUEST (NWR)

990233296-02

DESCRIPTION

The purpose of this activity is that Work Request 990233296-02 requires propping open of door D-278 for routing of nitrogen hoses. Door D-278 is part of the Auxiliary Building nonaccessible ventilation boundary which assists in maintaining a negative differential pressure between the Unit 2 curved wall area and the auxiliary building general area. The differential pressure will essentially be reduced to zero when door D-278 is propped open. The ECCS equipment rooms are to be less than negative ¼ IWG with respect to outside atmosphere. Therefore, compensatory actions will be implemented to ensure UFSAR and Technical Specification requirements will be met for the subject activity.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR is not increased. During the performance of this maintenance activity, the pressure in the affected Areas will be verified to remain within the Tech. Spec. allowable 1/4" negative pressure with respect to the outside atmosphere. Hence, the off-site dose resulting from any analyzed accidents will not be increased.

2. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created. The only door propped open will be D-278. The aux. bldg. DP will be controlled using the 0VA600Y. The use of this doorway will not have any impact on the events which initiate a Loss of Coolant Accident (LOCA) or Radioactive Release accident including a Fuel Handling accident.

3. The margin of safety, as defined in the basis of the Technical Specification, is not reduced. During the period that door D-278 are propped open, the pressure in the affected areas will be verified to remain within the requirements of Technical Specifications (1/4" H_20 negative pressure with respect to the outside atmosphere).

DESIGN CHANGE

9900388

DESCRIPTION

This modification will eliminate the packing leakoffs from Residual Heat Removal pumps suction isolation valves 1RH8701A, 1RH8702A, and from Safety Injection Accumulators discharge isolation valves 1SI8808A, 1SI8808B, 1SI8808C, and 1SI8808D. The leakoff flow from the affected valves will no longer be an input to the Pressurizer Relief Tank (PRT). Any potential leakage through the packing will be located inside containment.

NRC Information Notice #94-46 reported instances of non-conservative leakage calculations for the Reactor Coolant System (RCS) at McGuire and Catawba Nuclear Stations. The non-conservatism was due to non-RCS inputs to the Reactor Coolant Drain Tank that resulted in calculating a larger than actual Identified RCS leak rate. This, in itself is conservative, but resulted in calculating a smaller than actual Unidentified RCS leakrate which is not conservative. This non-conservative leakage value could be critical as the Technical Specification limit for Unidentified RCS leakage is 1 gpm while the limit for Identified leakage is 10 gpm. The Reactor Coolant Leak rate calculation is performed to identify small leakage that may be indicative of imminent gross RCS pressure boundary failure. The capability to monitor leakage provides advance warning to permit unit shutdown before a Loss-of-Coolant Accident (LOCA) occurs. The Technical Specifications require that the Identified and unidentified RCS leak rates to be determined at least once every 72 hours with the plant in Modes 1-4. The Unidentified RCS leak rate is determined, in accordance with procedure 1BwOSR 3.4.13.1, by calculating the gross leak rate and subtracting the Identified leak rate. The gross leak rate is determined by calculating the change in RCS volume indicated by the pressurizer and volume control tank level changes. The Identified RCS leak rate is determined by calculating the change in the Pressurizer Relief Tank (PRT) and the Reactor Coolant Drain Tank (RCDT) volumes. Currently, there exist non-RCS inputs to the PRT that cannot be isolated; these inputs make the calculated Identified leak rate greater than actual. Consequently, this could result in calculating an Unidentified RCS leak rate that is lower than actual; this is non-conservative.

Removal of the leakoff lines is consistent with industry practices as a result of advancements in packing technology (Reference Nuclear Engineering Standard #NES-MS-06.2).

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the proposed design change does not have any impact on the RCS piping or the RCS piping loading conditions and resulting stresses. Therefore, the probability of a Loss of Coolant Accident is not increased. The RHR suction valves, 1RH8701A and 1RH8702A, are normally closed. In this configuration, the maximum pressure the valves' packing are exposed to is the pressure due to the head of water in the RWST, or about 50 psig. Since the

valves' packing is rated for RCS conditions , the expected leakage past the valves' packing is small. Consequently, the leakage will not have any impact on the operation of the valve operators. Since the valves will be operable to establish shutdown cooling when needed, the probability of a failure of the valves to open is not increased.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the elimination of the leakoff lines does not affect the operation of the affected valves as to create the possibility of an accident or transient of a different type than any previously evaluated. The operation of the valves will not be impaired by the expected amount of packing leakage. Two sets of packing, one below and one above the lantern ring, are installed in the valves' stuffing box. The sealing configuration and the level of sealing are not diminished by this design change. In addition, equipment located inside containment that is required for the safe shutdown of the plant has been environmentally qualified. Testing conditions include exposure to a water spray.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because plant operation will continue to be in accordance with the controls of approved procedures and the Technical Specifications.

Safety Evaluation Summary Form

Tracking No. BRW-SE-2000-1193
Activity No. _____

DESCRIPTION:

This safety evaluation was performed for qualification of scaffolding materials stored within the plant and installation of permanent scaffolds to support repetitive maintenance activities. The storage of scaffold materials at locations around the plant and the installation of permanent scaffolding will reduce the manpower and time required to move scaffold materials and to erect scaffolds for repetitive maintenance activities during normal operations or refueling outages.

SAFETY EVALUATION SUMMARY:

1. The probability of occurrence or the consequences of an accident or a malfunction of equipment important to safety previously evaluated in the safety analysis report is not increased because:

   Permanent scaffolds installed per NGG Procedures MA-AA-AD-6-00024 and MA-AA-AD-6-00025 provide adequate clearances between the scaffold structure and operating equipment. Scaffolds installed to the additional requirements of Engineering Standard NES-MS-04.1 are qualified to withstand seismic events and also maintain adequate clearances between the scaffold structure and operating equipment. All permanent scaffolds are reviewed by engineering, operations, and the fire marshal and are only approved at locations with configurations that will not interfere with safe operations of the plant. Also, the storage of scaffold materials is evaluated by engineering and is only approved at locations that will not interfere with plant operations.

   Permanent scaffolds and stored scaffold materials will not alter the operation of any plant equipment or otherwise increase their failure probability. Permanent scaffolds and stored scaffold materials do not act as initiators or precursors to any design basis accidents previously evaluated in the UFSAR. Therefore, permanent scaffolds and stored scaffold materials do not increase the probability of occurrence or the consequences of an accident or a malfunction of equipment important to safety previously evaluated in the safety analysis report.

2. The possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report is not created because:

   Permanent scaffolds installed per NGG Procedures MA-AA-AD-6-00024 and MA-AA-AD-6-00025 provide adequate clearances between the scaffold structure and operating equipment. Scaffolds installed to the additional requirements of Engineering Standard NES-MS-04.1 are qualified to withstand seismic events and also maintain adequate clearances between the scaffold structure and operating

Safety Evaluation Summary Form

Tracking No. BRW-SE-2000-1193
Activity No. ___

equipment. All permanent scaffolds are reviewed by engineering, operations, and the fire marshal and are only approved at locations that will not interfere with safe operations of the plant. Also, the storage of scaffold materials is evaluated by engineering and is only approved at locations that will not interfere with plant operations.

Permanent scaffold structures installed to the NGG Procedures and Standards will not create the possibility of an accident or transient of a different type than any previously evaluated. Stored scaffold materials and scaffold structures are being controlled in a manner that ensures they will not interact with plant equipment or adversely affect equipment performance. No installed equipment is being operated in a new or different manner. There is no alteration to the parameters within which the plant is normally operated or in the setpoints that initiate protective or mitigation actions. No change is being proposed to the procedures governing normal plant operations or to those procedures relied upon to mitigate a design basis event. Therefore, permanent scaffolds and stored scaffold materials do not create the possibility of an accident or malfunction of a different type than any previously evaluated in the safety analysis report.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because:

Calculation DCR Type #990543 was performed to evaluate the addition of scaffolding materials into the Containment Building. The results of this calculation show that the maximum containment hydrogen concentration does not exceed the 4% limit set in Regulatory Guide 1.7.

Nuclear Fuel Management Group Letter #NFM:PSA:00-029 transmitted the annual 10CFR50.46 reports to the Station. This report documents the assessment of the impact of changes in design inputs that would affect Peak Cladding Temperature (PCT) after a Large Break LOCA and after a Small Break LOCA. Westinghouse has performed an evaluation to determine the impact on the PCT due to the addition of various passive heat sinks. The results of this evaluation show that the scaffold materials combined with lead shielding blankets stored in Containment result in a PCT penalty of 2°F. This increase was reported to the NRC as part of the 10CFR50.46 Annual report. This report represents the new design basis and therefore the margin of safety is maintained. The total PCT remains below the 10CFR50.46 limit of 2,200 °F.

50.59 REVIEW COVERSHEET FORM

LS-AA-104-1001
01/11/01

tion: Braidwood

Activity/Document Number: BRW-SE-2000-1202 **Revision Number:** 0

Title: Fire Protection Report Change Package #19-049 Safety Evaluation Summary

Description of Activity:
The proposed change modifies the Fire Hazard Analysis (FHA), which is contained in Fire Protection Report (FPR) section 2.3. The FHA is being revised to incorporate cumulative combustible loading value changes where more than one FPR change package being included in Amendment 19 of the Fire Protection Report affected the combustible loading within the zone.

Reason for Activity:
FPR change #19-049 incorporates the results of calculation #ATD-0026 Revision 7, Calculation of Combustible Fire Loads, for fire zones where more than one FPR change package affected combustible fire loading in a single zone, as described in FPR change package #19-049. The scope of this evaluation does not include fire zones where only a single FPR change package affected combustible loading, since those changes were individually evaluated in their applicable change packages.

Effect of Activity:
The effect of the proposed change is to describe the cumulative effect of multiple combustible fire load changes to single fire zones. The combustible fire load is changed to reflect a net increase. The proposed change creates a potential increase in fire duration due to the addition of fuel (i.e., combustible material). In all cases, the existing fire barriers were determined to be adequate for the resulting combustible loading. Therefore, there is no adverse effect by the change.

Summary of Conclusion for the Activities 50.59 Review:
change does not increase the probability or consequences of a fire. The ability to achieve and maintain safe shutdown in the event of a fire is not adversely affected. The consequences of a design basis fire are not increased because enough equipment will remain operational in other parts of the plant to achieve and maintain a safe shutdown condition independent of the affected fire zone. Since these changes will not affect accident parameters, the conclusions of the design basis fire hazard analysis, or the safe shutdown analysis, there is no increase in radiological consequences.

Attachments:
Attach completed Applicability Review if 50.59 Screening is not required.
Attach completed 50.59 Screening if 50.59 Evaluation is not required.
Attach completed 50.59 Evaluation if required to be performed.
Attach completed 50.59 Screening and 50.59 Evaluation if multiple discrete elements of an activity have been linked together and certain elements required a 50.59 Evaluation while other elements did not.

Forms Attached: (Check all that apply.)

	Applicability Review				
	50.59 Screening	50.59 Screening No.		Rev.	
X	50.59 Evaluation	50.59 Evaluation No.	BRW-SE-2000-1202	Rev.	0
	50.59 Validation	50.59 Validation No.		Rev.	

Safety Evaluation Summary Form

Tracking No. BRW-SESV-2000-1206
Activity No. BwRP 5820-7A4, Revision 1

DESCRIPTION:

BwRP 5820-7A4 is being revised to remove the references to the interlock function associated with the 2RE-PR027 radiation monitor. This change is required due to implementation of Design Change D20-2-96-308 which removes the hi-radiation interlock signal from radiation detector 2RE-PR027 which starts the Off-Gas Exhaust Fan (0OG01C) due to abandonment of the off-gas filter unit (OGFU).

SAFETY EVALUATION SUMMARY:

1. The probability of occurrence or the consequences of an accident or a malfunction of equipment important to safety previously evaluated in the safety analysis report is not increased because:

The occurrence of steam generator tube leakage is governed by factors such as method of fabrication, metallurgy, chemistry, etc. The operation or non-operation of OFGU has no effect on the probability of occurrence of tube leakage. Calculation BRW-99-0468-M determined that the increase in thyroid dose associated with the abandonment of the off-gas filter unit is insignificant and within federal limits for primary to secondary leakage assumed to determine compliance with 10CFR50 Appendix I.

2. The possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report is not created because:

The OFGU is designed for normal operation with steam generator tube leakage. The system is normally in standby with exhaust gases bypassing the OFGU. The proposed change, therefore, will not impact the operation of the steam jet air ejectors, gland exhausters, or hogging pump function to support maintaining a vacuum in the main condenser. In addition, the proposed change does not affect the safety function of any systems or components. Reliance on the OGFU to maintain off-site dose within established limits is not necessary. Actions will be initiated prior to challenging these limits based on Technical Specification requirements and the permanent abandonment of the OGFU will not result in increased risk to the general public.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because:

Since plant operation will continue to be in accordance with the controls of the ODCM and doses will be maintained within the criteria of 10CFR50 Appendix I and 10CFR20, there is no reduction in the margin of safety.

DESIGN CHANGE

9900399

DESCRIPTION

The purpose of this Design Change Package (DCP) is that on a reactor trip, reinstate the low average temperature (LO T_{avg} interlock for Feedwater (FW) isolation for Main FW Isolation valves 1FW009A-D, FW Tempering Control Valves 1FW034A-D, FW Tempering Isolation Valves 1FW035A-D, SG Low Flow FW Isolation valves 1FW039A-D, Main FW Reg valves 1FW510, 520,530,540, and Main FW Reg Bypass valves 1FW510A, 520A, 530A and 540A.

The LO T_{avg} interlock was removed in conjunction with the removal of the feedwater bypass line check valves, 1FW078A-D, disk removal as part of modification M20-1-88-027. These check valves were removed since they caused improper flow splits between the main FW nozzle and the AF nozzle on the original Steam Generators. The limitation of FW flow to the main FW nozzle was necessary to prevent tube vibration resulting in premature wear of the original Steam Generator tubes. The replacement Steam Generators in Unit 1, uses one feedwater nozzle.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the proposed changes do not adversely affect the design basis, reliability, and response characteristics of any SSCs associated with the FW system and interfacing systems. In addition, the FW isolation logic changes and FW recirculation valve opening upon reactor trip does not cause any SSCs associated with UFSAR accidents and transients to be operated outside their design limits or become susceptible to degradation. Opening of the FW recirculation valves at full FW flow has no adverse impact on the FW recirculation discharge piping structural integrity since the stroke times are not impacted and the hydraulic transient should be less severe. This is due to pressures at full flow being lower than the reduced flow condition that results in FW recirculation valve opening. Also there are no pump run out concerns for the FW, HD and CB pumps and no suction pressure concerns for the FW pumps. There are no changes to the initial conditions of any UFSAR accident and transients. Therefore, there is no increase in the probability of any UFSAR accidents.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the FW system was originally designed to operate with FW isolation interlocked with RCS low average temperature (LO T_{avg}) and with a check valve installed on the main FW bypass flow line. The check valve was removed via Modification M20-1-88-027 to address the FW flow split anomaly created by the disc of the check valve. Additionally, the change in control logic does not create any new types of malfunctions.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because the proposed change does not affect FW Isolation on SG High High and SI. The change in logic for FW isolation on reactor trip coincident with LO T_{avg} and FW recirculation valve opening on reactor trip do not affect the basis for the margin of safety.

Tracking Number: BRW-SE-2000-1213

TEMPORARY MODIFICATION

00-2-011

DESCRIPTION

The purpose of this Temporary Modification is that disk (wedge) will be removed from valve 2CC9502B per TMOD #00-2-011 and the Unit 2 CC spent fuel pool cooling loop will be returned to service with 2CC9502B in this configuration. 2CC9502B will have all components installed per design except for the valve disk. With no disk installed in 2CC9502B, the valve will no longer be able to provide isolation capability for the portion of the CC system between valves 2CC9502A and 2CC9502B, namely the Unit 2 spent fuel pool cooling loop.

This is a contingency TMOD. Valve 2CC9502B will be disassembled for repairs under WR 990233296. After the valve is disassembled, it may be discovered that the scope of repairs required to return the valve to its original design configuration is beyond the planned scope of work. If this is the case, 2CC9502B will be returned to service without the disk installed (per TMOD #00-2-011) to restore CC flow to the Unit 2 spent fuel pool cooling loop until the valve can be restored to its original design configuration during a new work window. This will allow time to procure parts and plan the additional work to minimize risk to the plant while restoring CC flow to the Unit 2 spent fuel pool heat exchanger.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the removal of the valve disk on this Component Cooling Water (CC) valve does not change any initiating condition or impact any accidents and transients evaluated in the UFSAR. The removal of the valve disk has no other direct effect on plant equipment beyond the CC side of Unit 2 Spent Fuel Pit heat exchanger 2FC01A. Even with the disk removed from 2CC9502B, a design basis passive failure would be within the make-up capability to the CC surge tank. Only a leak between 2CC9502A and 2CC9502B greater than the design basis leak would require isolation. In order to provide this isolation, the Unit 2 CC service loop would need to be isolated requiring a Unit 2 shut down which is a Condition I event (Normal Operation and Operational Transient). Therefore, the probability of increasing the occurrence of this operational transient is negligible.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the removal of the valve disk does not impact any other plant equipment that could initiate or create an accident different from those evaluated in the UFSAR. The removal of the valve disk does not affect required plant equipment since the Spent Fuel Pool cooling can be provided by either the Unit 1 Spent Fuel Pit heat exchanger 1FC01A or the Unit 2 Spent Fuel Pit heat exchanger 2FC01A without CC isolation.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because all Technical Specification requirements were met. TMOD #00-2-011 removes the disk from valve 2CC9502B. This valve is a manual isolation valve in the Unit 2 CC spent fuel pool cooling loop. Removal of the disk from the valve essentially provides an open flow path through this component. Therefore, this activity does not impact the ability of the CC system to provide cooling to components as designed, and will not negatively impact the ability of the CC system to provide cooling to the Unit 2 spent fuel pool heat exchanger.

Tracking Number: BRW-SE-2000-1217

ENGINEERING REQUEST
99033282

DESCRIPTION

The purpose of this Engineering Request was to install a freeze seals to address repairing/replacing valves 25X052B & 25X057B (per WR's 990020347 & 990020397), which are the SX supply & return isolation valves for the 2B DG Jacket Water coolers (2DG01KB-X1 & X2). See P&ID M-126 Sh. 1. The valve maintenance was originally scheduled to be performed during A2R08, but was removed from the outage and planned to be performed online under a LCO. The Jacket Water cooler inspections are also planned to be performed online. These activities can be performed concurrently or independently. The 2B DG Jacket Water coolers (2DG01KB-X1 & X2) and 2B Diesel Generator 2DG01KB will be Out-Of-Service regardless of the freeze seals and are not included in the scope of this 50.59 for the freeze seals on the SX system. The freeze seals will be installed on line 25X26AB-10" upstream of valve 25X052B and on line 25X27DB-10" downstream of valve 2SX057B. The freeze seal on line 25X26AB-10" will be located in the Unit 2 Side of the Auxiliary Building on the 401' floor elevation (+6') near Columns 24 & S. The freeze seal on line 25X27DB-10" will be located in the Unit 2 Side of the Auxiliary Building on the 364' floor elevation (+26') in the CWA, near Columns 25 & S. The cooler inspections only require the freeze upstream of valve 25X052B to be installed. These SX lines are Safety Related, Seismic Category I.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the installation of the freeze seals on this Essential Service Water (SX) piping does not change any initiating condition or impact any accidents and transients evaluated in the UFSAR. A failure of the freeze seal on the SX piping would not initiate nor alter the initial conditions to any of the accidents. Leakage from a freeze seal failure during this time would be negligible and bounded by the existing flooding analysis in calculation 3C8-0685-002, Flood Zones S5-lB & S5-l0B. The limiting failure for Flood Zone S5-1B is a break in line 2DO04AA-4", with a flow rate of 0.082 ft^3/sec (37 gpm). The limiting failure for Flood Zone S5-l0B is a break in line 0WXC7A-3", with a flow rate of 0.12 ft^3/sec (54 gpm). The freeze seals have the same effect on plant equipment as closing the isolation valves (25X052B & 25X057B) to the 2B OG Jacket Water coolers during maintenance activities. Therefore the probability of any accident will not be increased.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the temporary addition of the freeze seals have the same effect on plant equipment as closing the isolation valves (25X052B & 25X057B) to the 2B Diesel Generator Jacket Water coolers (2DG01KB-X1 & -X2) during maintenance activities. Therefore the freeze seals do not create any accidents of a different type than previously evaluated.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because the piping affected by the added freeze seals is qualified for the additional weight of the freeze assembly, flooding is not a concern, and there will be an insignificant effect on the Unit 2 "A" or "B" trains and Unit 1 cross-tie SX system flow even with a failed freeze seal. There is no effect on the overall SX system if the freezes perform as designed. The margin of safety for the SX system is not reduced.

SETPOINT CHANGE
SSCR 00-124
SSCR 00-125

DESCRIPTION

The purpose of this activity is to change the Pressurizer Pressure backup heaters "on" and low pressure alarm setpoint from 2210 psig to 2220 psig and the deadband from 8 psig to 5 psig. The effect of changing the Pressurizer Pressure backup heaters "on" and low pressure alarm setpoint will minimize decreasing Pressurizer pressure transients during normal Load changes and to prevent unplanned entry into LCO 3.4.1 DNB, and to improve Pressurizer Pressure control.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the proposed activity is not a precursor to any accident or transient identified in the UFSAR. As such, analyses by NFM has shown that changing the backup heaters setpoint such that the heaters turn "on" sooner does not increase the probability of occurrence of any accident or transient. A safety evaluation and supporting analyses (both Current operating cycle @ 3411 MWt and Uprate cycles @ 3566.6 MWt) have shown that the proposed changes to the Pressurizer backup heaters setpoints will have no adverse impact on the safety analyses. The results and conclusions presented in the UFSAR remain valid and bounding. and all applicable design and safety limits continue to be met.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the proposed activity is not a precursor or initiating event for any accident or transient evaluated in the UFSAR. As such, changing the backup heaters "on" setpoint will not increase the possibility of an accident or transient of a different type than previously evaluated. The initiating factors for the events are not affected by the proposed change. The potential consequences of the proposed changes to the Pressurizer pressure control system setpoints are bounded by the current analyses AND uprated analyses. Since the probability of an accident is unaffected and the potential consequences are bounded by the current analyses, the possibility of an accident or transient of a different type than previously evaluated is not created.

3. The margin of safety, as defined in the basis of the Technical Specification, is not reduced because these changes will prevent unplanned entry into LCO 3.4.1 DNB.

Tracking Number: BRW-SESV-2000-1241

NUCLEAR WORK REQUEST (NWR)

990203198
990203197

DESCRIPTION

The purpose of this activity involves testing of fire door louvers located in doors D-843 (1A/1B CS door) and D-844 (2A/2B CS door). During testing, a potential exists that the louver may remain closed after the louver is drop tested due to failure of the louver mechanism. Because the louvers provides an airflow path into the 1B/2B CS and 1B/2B RH rooms, failure of the louver mechanism in the closed position would affect the airflow and differential pressure requirements for the CS and RH rooms. Thus, the contingency plan of propping open doors D-843 or D-844 in case of louver failure would allow all airflow requirements for CS and RH rooms to continue to be met. The normal VA design airflow path for the CS and RH pump rooms (refer to P&ID M-95/UFSAR Figure 9.4-5, sheet 10) is to draw supply air from the general area-346' elev. through the door louvers and eventually into the 1B/2B RH room. The air drawn from the RH rooms is eventually exhausted to the VA non-accessible exhaust plenum. A bypass airflow path is created when door D-843 or D-844 is propped open. Air will be drawn from elevation 346' general area through either door D-843 or D-844 into the 1B/2B CS pump room, through 1B/2B RH pump room, and exhausting the air eventually into the VA non-accessible exhaust plenum. The VA system design requirements have been reviewed and determined acceptable to prop open doors D-843 and D-844. The basis for this validation is the Safety Evaluation, BRW-SE-1999-508, performed to evaluate the VA system under reduced flow conditions, calculation BRW-96-461-M, and past operating history.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the Auxiliary Building will be required to maintain at least -0.3 inches of water during this work. This will satisfy the requirement for the ECCS Pump rooms and CS rooms to maintain a minimum of -0.25 inches of water with respect to outside atmosphere. Administrative controls are in place to ensure all EQ, ALARA and flooding issues are met and remain bounded by the existing analysis.

2. The possibility of an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created. The only doors propped open will be D-843 and D-844. The aux. bldg. DP will be controlled using the 0VA600Y. The use of these doorways will not have any impact on the events which initiate a Loss of Coolant Accident (LOCA).

3. The margin of safety, as defined in the basis of the Technical Specification, is not reduced. During the period that doors D-843 and D-844 are propped open, the pressure in the affected areas will be verified to remain within the requirements of Technical Specifications (1/4" H_20 negative pressure with respect to the outside atmosphere).

Tracking Number: BRW-SE-2000-1258

UFSAR REVISION

DRP 9-024

DESCRIPTION

Update the UFSAR discussion related to the Net Positive Suction Head (NPSH) available for the Containment Spray (CS) pumps and the Residual Heat Removal (RHR) Pumps when they operate taking suction from the Containment Emergency Recirculation sumps during the Recirculation phase after a Large Break Loss of Coolant Accident (LOCA). The proposed change does not have any impact on plant operations. The changes reflect the updated design basis calculations for the RHR and CS pumps. UFSAR sections 6.3.2.2 and 6.5.2.2 discuss the RHR pumps but do not provide the specific NPSH, static head, and friction losses for these pumps. DRP #9-024 revises the UFSAR to reflect the results of the updated design analyses. Inclusion of data on the NPSH and line friction losses in the UFSAR is specifically required by Regulatory Guide 1.70, "Revision 2, "Standard Format and Content of Safety Analyses Reports for Nuclear Power Plants".

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the proposed revision to the NPSH available and suction friction losses for the CS and RHR pumps, for the recirculation mode of operation with the Containment Emergency sumps as the suction source, does not have any physical impact on the Reactor Coolant Piping and does not affect the stress levels in this piping. The proposed addition of the static head on the suction of the RHR pump and the elimination of the excessive details giving the elevation of the centerline of the RHR pumps also does not impact plant physical components. Therefore, the probability of occurrence of a LOCA is not increased.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created since the revised NPSH available for the CS and RHR pumps during the recirculation mode of operation does not have any impact on plant systems. No actual changes are being made to the system/equipment. The possibility of an accident or transient of a different type than previously evaluated is not created.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because the revised NPSH available for the CS and RHR pumps, during the recirculation mode of operation, has been found to be acceptable per calculation #DCR 990628. The RHR and CS pumps will then be able to perform their function as assumed in the accident analysis.

FPR REVISION

FDRP 20-001

DESCRIPTION

Update the FPR discussion related to the NFPA fire brigade training requirement and allows a reduction in the minimum required annual training hours from what is currently stated in the NFPA code deviation. The change also allows the annual NFPA requirement of 12 hours to be met on a cumulative annual basis through quarterly training sessions (i.e., a brigade member will be trained a minimum of 12 hours per year regardless of the hours per quarter). Additionally, the discussion better describes the management operating position the Fire Brigade leader assumes when on shift. Additional statement also clarifies that the Shift Supervisor outlined in 10CFR50 Appendix "R" refers to the equivalent Braidwood position of Shift Manager.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR and FPR is not created since change is administrative in nature only and has no relationship to the probability of occurrence of a fire.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR and FPR is not created since reducing the amount of fire brigade training such that it still satisfies the intent of NFPA training requirements cannot create the possibility of an accident or transient different than that already discussed in the UFSAR and FPR, since the amount of training being provided is in accordance with NFPA and has no correlation to creation of an accident.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because this change is administrative in nature only.

DESIGN CHANGE PACKAGE

9900561

DESCRIPTION

The purpose of this Design Change Package (DCP) was to add a corrosion inhibitor chemical tank outside the Lake Screen House (LSH). The chemical will be injected through the chemical vendor's trailer into the two trains of the Essential Service Water System (SX) and into the Non-essential Service Water System

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the corrosion inhibitor chemical is being used to protect piping and equipment. All interconnections and interfaces have been evaluated as part of the design. The chemical, which is widely used for this purpose, has been evaluated and approved for use and is in compliance with the existing environmental permit. The chemical will have no adverse effects on the safety related SX System or the non-safety related WS System.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because the use to the comical has been evaluated. Potential interactions with other chemicals injected at the LSH have been evaluated and found acceptable. Since there are no adverse effects from the use of this chemical (sodium hexametaphosphate), the possibility of an accident or malfunction of a different type than previously evaluated is not created.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because the activities performed per DCP 9900561 do not have any impact on equipment or parameters upon which Plant Technical Specifications are based.

PROCEDURE REVISION

BwMP 3100-077

DESCRIPTION

The purpose of this Procedure Revision was to

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because procedure BwMP 3100-077 Attachment 2 provides a reliable back-up source of compressed air during maintenance activities on the Station Air Compressors The back-up air compressors will be used only under emergency conditions. The installation of the back-up air compressors in accordance with Attachment 2 does not introduce any new failure mechanisms or modes for the installed service air system The installation itself cannot cause a loss of instrument air or alter the response of station equipment as a result of a loss of instrument air.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because design considerations such as compressor location, hose routing, temporary power sources and catastrophic failure conditions were incorporated into the requirements for the installation of the temporary air compressors in procedure BwMP 3100-077 Attachment 2. These considerations prevent any impact on station equipment or interfacing systems to ensure that no new failure mechanism or mode is created which could introduce an accident or malfunction different currently evaluated in the UFSAR.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because the margin of safety, as defined in the basis of the Technical Specifications, is not reduced because this procedure revision does not change any parameters upon which Technical Specifications are based.

UFSAR REVISION

DRP 8-191

DESCRIPTION

Update the UFSAR to change the Limitation and Action statement which changes the admin limit for heatup and cooldown from 50°F/hr to the Tech Spec limit of 100°F in any one hour which is the Tech Spec Limit. Set restrictions on the cooldown rate to ensure UFSAR requirements are maintained by limiting cooldown rate if the following criteria apply:

- RCS Temperature must not reach 425°F prior to 2.5 hours following reactor shutdown.
- RCS temperature decrease to 340°F to support RHR operation must not occur prior to 4 hours following reactor shutdown.
- If the opposite unit is undergoing a cooldown following a LOOP/LOCA event, then unit cooldown rate is limited to 50°F/hr.
- If unit cooldown is being accomplished by means of AF utilizing SX as a suction source, cooldown is restricted to 50°F/hr
- With no RCP's running, unit cooldown is restricted to 50°F/hr.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UFSAR, is not increased because the proposed revision to the administrative cooldown rates are still within the established and analyzed cooldown limits. As such, since the procedures still retain the requirement to operate within the established and analyzed cooldown limits, the removal of the admin limits cannot increase the probability of a LOCA beyond which is already evaluated. The proposed changes are within the design of systems and within Tech Spec allowances. Restrictions addressed in the UFSAR are reflected in the proposed changes. Operational limits that protect these systems are not changed by the proposed changes.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created since the revised administrative cooldown rates are still within the established and analyzed cooldown limits. No actual changes are being made to the system/equipment. The possibility of an accident or transient of a different type than previously evaluated is not created.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because the proposed changes allow for increased heatup and cooldown rates to those allowed by Tech Spec 3.4.3. 50°F/hr is not discussed in the bases of this Technical Specification. 50°F/hr is an administrative limit.

Tracking Number: BRW-SESV-2000-1279

PROCEDURE REVISION

BwAR 1-1-C1
BwOP FC-11
BwOP FC-19
1BwOA Refuel-2

DESCRIPTION

The purpose of these Procedure Revisions is to address the Spent Fuel Pool Storage Rack design change IAW DCP 9800045 and previously evaluated in BRW-SE-2000-735. The neutron poison (Boral) used in the Holtec International storage racks will not require soluble boron to control criticality. The result of this reduction in soluble boron will have no adverse effect on the Spent Fuel Pool. Soluble boron will still be required to control criticality in the unlikely event of a misplaced Fuel Assembly in the Spent Fuel Pool; however, the required concentration will be 300 PPM. There is no adverse effect on the operation of the Spent Fuel Pool as a result of maintaining 300 PPM soluble boron.

SAFETY EVALUATION SUMMARY

1. The probability of an occurrence, or the consequences of an accident, or a malfunction of equipment important to safety, as previously evaluated in the UPSAR, is not increased because the consequences of an event remain within the design basis criticality limit of <0.95 k_{eff} assuming a minimum Boron Concentration of 220 PPM in the spent fuel pool water (the minimum soluble Boron Concentration, in conjunction with this design change is 300 PPM for conservatism). This is an administrative change and has no effect on plant equipment.

2. The possibility of an accident or malfunction of a different type than previously evaluated in the UFSAR is not created because. This is an administrative change and has no effect on plant equipment.

3. The margin of safety, as defined in the Bases of the Technical Specifications, is not reduced because all Technical Specification requirements were still met.