CHANGES, TESTS, AND EXPERIMENTS CARRIED OUT WITHOUT PRIOR COMMISSION APPROVAL

Source	Description	USAR Section(s), Table(s), or Figure(s) Revised
USAR 98-059, USQD 98-056	**Description:** The USAR was revised with corrected values for thermal transient water temperatures for the low pressure safety injection (LPSI) and high pressure safety injection (HPSI) pumps. Information describing adjustment of the safety injection tank (SIT) boron concentration and the amount of water required to fill the fuel transfer canal in the Auxiliary Building was also added to the USAR. The remaining changes ensure consistency with the Technical Specifications or are administrative in nature. **Safety Analysis:** No physical changes to plant equipment or operational methods were made. The changes are consistent with existing procedures or analysis and do not adversely affect the ability of the safety injection (SI) system to perform its safety function. Therefore, this activity does not increase the probability of occurrence or consequences of an accident previously evaluated in the USAR. The activity made no changes to plant equipment or operational methods. Therefore, this activity does not increase the probability of occurrence or the consequences of a malfunction of equipment important to safety previously evaluated in the USAR. The use of actual data from the original thermal transient tests for the LPSI and HPSI pumps does not create the possibility of an accident or malfunction of equipment of a different type than any previously evaluated in the USAR. The remaining changes ensure consistency with the Technical Specifications or are administrative in nature. This activity is consistent with Technical Specification 2.3, which covers the SI system and does not reduce any Technical Specification margin of safety.	Sections 6.2 & 6.5

CHANGES, TESTS, AND EXPERIMENTS CARRIED OUT WITHOUT PRIOR COMMISSION APPROVAL

Source	Description	USAR Section(s), Table(s), or Figure(s) Revised
USQD 98-070, MR-FC-97-027	**Description:** The diameter of the raw water (RW) pump impellers was increased from 12.75 inches to 13 inches. Nominal initial impeller lift was changed from 0.025 inches to 0.050 inches. This was done to provide longer service life for the impellers. Larger diameter impellers provide more vane for pumping to offset the effect of increasing the impeller lift (gap between impeller and liner). Increasing lift decreases the impingement velocity of suspended solids in the river water thereby slowing the wear rate on the impellers. **Safety Analysis:** Initiating mechanisms for USAR analyzed accidents are not related to RW pump impellers. Therefore, this activity does not increase the probability of occurrence of an accident previously evaluated in the USAR. The hydraulic performance of the RW pumps is not adversely affected by this change. The pumps still meet the previously defined minimum performance criteria. Since the ability of the RW system to perform its cooling function is not adversely affected, this activity does not increase the consequences of an accident previously evaluated in the USAR. The slightly larger RW pump impeller diameter does not place a significant load on the pump motor nor make a RW pump failure nor any other type of equipment failure more likely. The ability of the RW system to perform its cooling function in the event of an equipment malfunction is not adversely affected by this change. RW pump hydraulic performance meets previously defined minimum performance criteria. Therefore, this activity does not increase the probability of occurrence or consequences of a malfunction of equipment important to safety previously evaluated in the USAR. The use of slightly larger RW pump impellers does not create an initiating mechanism for a different type of accident or create a new equipment failure mechanism. Loading on the RW pump motors was confirmed to be acceptable in regard to loading on the emergency diesel generators. The use of slightly larger RW pump impellers does not reduce the Technical Specification (TS) 2.4 margin of safety related to the RW system. The ability of the RW system to perform its post-design basis accident (DBA) cooling function is not adversely affected. The RW system is capable of providing adequate cooling considering existing TS 2.4 allowances for inoperable components. The margin of safety with respect to TS 2.16 was not reduced because the minimum required submergence of the RW pumps was not changed. Therefore, this activity does not reduce the margin of safety as defined in the basis of any Technical Specification.	None

CHANGES, TESTS, AND EXPERIMENTS CARRIED OUT WITHOUT PRIOR COMMISSION APPROVAL

Source	Description	USAR Section(s), Table(s), or Figure(s) Revised
Facility Change ECN 98-161, USQD 98-073	**Description:** A local pressure gauge and an isolation valve installed under Temporary Modification 97-022 were made permanent by ECN 98-161. The gauge and the isolation valve were installed on the sensing line for the LPSI discharge header pressure transmitter (PT-325). The critical quality element (CQE) isolation valve maintains the CQE pressure boundary. The non-CQE gauge is normally isolated and is administratively controlled when it is placed in service. Calculation FC06721 determined that the installed configuration is seismically adequate and meets the basic design basis stress and seismic requirements in the USAR. **Safety Analysis:** The material properties of the isolation valve (design pressure and temperature) and seismic analysis of the installation ensure that the components do not increase the probability of an accident previously evaluated in the USAR. The installed configuration does not perform an active function and does not interfere with control circuitry actuation. The installation does not affect the consequences of accidents evaluated in the USAR. Administrative controls over the isolation valve position ensure that failure of the non-CQE pressure gauge is not credible. Therefore, this activity does not increase the consequences of an accident previously evaluated in the USAR. Seismic analysis determined that the installed configuration does not increase the probability of a malfunction of the safety injection (SI) system. Since the installed configuration does not perform an active function and does not interfere with control circuitry actuation, the consequences of a malfunction of equipment important to safety are not increased. The pressure integrity of the system is not compromised by the installed configuration and there is no impact on any engineered safeguards feature (ESF) or reactor protective system (RPS) circuitry. Therefore, this activity does not create the possibility of an accident or malfunction of equipment important to safety of a different type than any previously evaluated in the USAR. The installed configuration has no impact on the margin of safety as defined in the basis of any Technical Specification.	None

CHANGES, TESTS, AND EXPERIMENTS CARRIED OUT WITHOUT PRIOR COMMISSION APPROVAL

Source	Description	USAR Section(s), Table(s), or Figure(s) Revised
USQD 98-071, Drawing Change ECN 98-165	**Description:** Drawing 11405-M-97, Sheet 2 was revised for filtered air makeup mode to reflect air flow following a ventilation isolation actuation signal (VIAS). The previous revision of the drawing incorrectly showed air flow through closed valves. **Safety Analysis:** The USAR-referenced drawing change is supported by the existing design basis and has no effect on equipment performance. Therefore, this activity does not increase the probability of occurrence or consequences of an accident previously evaluated in the USAR. This activity does not increase the probability of occurrence or the consequences of a malfunction of equipment important to safety previously evaluated in the USAR. This activity does not increase the probability of occurrence or the consequences of a malfunction of equipment important to safety previously evaluated in the USAR. This activity does not create the possibility of an accident or malfunction of equipment important to safety of a different type than any previously evaluated. This activity does not reduce the margin of safety as defined in the basis of any Technical Specification.	None

CHANGES, TESTS, AND EXPERIMENTS CARRIED OUT WITHOUT PRIOR COMMISSION APPROVAL

Source	Description	USAR Section(s), Table(s), or Figure(s) Revised
USQD 98-074, ECN 98-159	**Description:** This engineering change notice (ECN) made Temporary Modification (TM) 98-004 a permanent installation. TM 98-004 was installed using two 1-inch capped lines in the turbine plant cooling water (TPCW) system. To evaluate the existence of corrosion and/or microbiological activity in the system, side stream flow is routed through a corrosion monitor prior to returning it to the closed loop. To make this a permanent installation, the corrosion monitoring instrumentation was mounted in a fixed position, and quick connect couplings installed with the corrosion coupon plugs. **Safety Analysis:** The ECN does not affect any safety-related systems. The ECN used existing piping and valves, which are part of the system, as well as newly installed fittings of compatible materials. The TPCW system does not perform any accident mitigation functions. Therefore, this activity does not increase the probability of occurrence or consequences of an accident previously evaluated in the USAR. Neither the TPCW system nor the equipment cooled by it are systems that are important to safety. The activity does not change the way the TPCW system operates. Therefore, this activity does not increase the probability of occurrence or the consequences of a malfunction of equipment important to safety previously evaluated in the USAR. The ECN uses a TPCW side stream for the corrosion monitor and returns it to the closed loop. No changes to the operating mode of the plant were made that created the possibility of an accident of a different type than any previously evaluated in the USAR. This ECN does not affect safety-related equipment and therefore, this activity does not create the possibility of a malfunction of equipment important to safety of a different type than any previously evaluated in the USAR. The ECN does not affect any equipment covered by Technical Specifications. Therefore, this activity does not reduce the margin of safety as defined in the basis of any Technical Specification.	None

CHANGES, TESTS, AND EXPERIMENTS CARRIED OUT WITHOUT PRIOR COMMISSION APPROVAL

Source	Description	USAR Section(s), Table(s), or Figure(s) Revised
USQD 98-077 ECN 97-328, DCN 5526	**Description:** Room 105 of the maintenance shop was converted to a lab for the Instrument & Control Department by isolating the supply of compressed air to the room to allow the installation of additional piping, valves, and an air dryer. The air dryer was performance tested and inservice leak testing of the piping was performed. **Safety Analysis:** This activity is supported by the existing design basis and has no affect on equipment performance. The maintenance shop air system has no interaction with any safety-related equipment. Therefore, this activity does not increase the probability of occurrence or consequences of an accident previously evaluated in the USAR. Since the changes are supported by the existing design basis and do not impact equipment performance, this activity does not increase the probability of occurrence or the consequences of a malfunction of equipment important to safety previously evaluated in the USAR. Based on the above, this activity does not create the possibility of an accident or malfunction of equipment important to safety of a different type than any previously evaluated in the USAR. The activity does not reduce the margin of safety as defined in the basis for any Technical Specification.	None
ECN 98-124 USQD 99-006	**Description:** Drawing E-23866-210-120, Sheet 1A was revised to show a test connection between chemical and volume control system (CVCS) valve CH-198 and containment penetration M-3. This drawing is not in the USAR but is referenced in Section 9.2. **Safety Analysis:** The drawing change is supported by the existing design basis and does not effect equipment performance. The operation of the chemical & volume control system was not changed. Therefore, this activity does not increase the probability of occurrence or consequences of an accident previously evaluated in the USAR. Since the change is supported by the existing design basis, this activity does not increase the probability of occurrence or the consequences of a malfunction of equipment important to safety previously evaluated in the USAR. Since the change is supported by the existing design basis, this activity does not create the possibility of an accident or malfunction of equipment important to safety of a different type than any previously evaluated in the USAR. This drawing change does not reduce the margin of safety as defined in the basis of any Technical Specification.	None

CHANGES, TESTS, AND EXPERIMENTS CARRIED OUT WITHOUT PRIOR COMMISSION APPROVAL

Source	Description	USAR Section(s), Table(s), or Figure(s) Revised
DCR 10147, USQD 99-007	**Description:** Drawing 11405-M-7, which is referenced in Section 11 of the USAR, was revised to show waste disposal system tank level gauges LG-562A and LG-562B as two separate level gauges. **Safety Analysis:** The drawing change is supported by the existing design basis and has no effect on equipment performance. The operation of the waste disposal system was not changed. Therefore, this activity does not increase the probability of occurrence or consequences of an accident previously evaluated in the USAR. Since the activity has no effect on equipment performance and is supported by the existing design basis, this activity does not increase the probability of occurrence or the consequences of a malfunction of equipment important to safety previously evaluated in the USAR. Based on the above, this activity does not create the possibility of an accident or malfunction of equipment important to safety of a different type than any previously evaluated in the USAR. There is no reduction in the margin of safety as defined in the basis of any Technical Specification.	None

CHANGES, TESTS, AND EXPERIMENTS CARRIED OUT WITHOUT PRIOR COMMISSION APPROVAL

Source	Description	USAR Section(s), Table(s), or Figure(s) Revised
ECN 98-125 DCN 10027 USQD 99-013	**Description:** Pipe and fittings upstream and downstream of feedwater heater drain system level control valves LCV-1196A/B and LCV-1197A/B were replaced with corrosion resistant materials. The replaced pipe and fittings had eroded/corroded to approximately 50% of the original thickness of the Schedule 80 pipe. Drawing 11405-M-255 is referenced in the USAR and was revised to show this material change in a portion of the heater drain piping. No USAR text was affected. **Safety Analysis:** The USAR-referenced drawing change is supported by the existing design basis and has no impact on equipment performance. There is no change in the piping configuration or operation of the feedwater system. The replacement of heater drain piping has no impact on any of the accidents evaluated in the USAR. Therefore, this activity does not increase the probability of occurrence or the consequences of an accident previously evaluated in the USAR. The drawing change is supported by the existing design basis and does not impact equipment performance. The configuration and operation of the feedwater system was not changed. Therefore, this activity does not increase the probability of occurrence or the consequences of a malfunction of equipment important to safety previously evaluated in the USAR. The drawing change is supported by the existing design basis and does not impact equipment performance. The heater drains are not safety related equipment. Therefore, this activity does not create the possibility of an accident or malfunction of equipment important to safety of a different type than any previously evaluated in the USAR. This was a material change in a non-safety-related system, which does not reduce the margin of safety as defined in the basis of any Technical Specification.	None

CHANGES, TESTS, AND EXPERIMENTS CARRIED OUT WITHOUT PRIOR COMMISSION APPROVAL

Source	Description	USAR Section(s), Table(s), or Figure(s) Revised
USAR 99-012 USQD 99-002 DCR 10202 CR 199801586	**Description:** Drawings and procedures associated with the control room humidifier (VA-34A) were revised to establish uniformity in tag numbers. Tag numbers were added to the potable water isolation valve to VA-34A, the circuit breaker that is internal to VA-34A, the humidistat for the unit, and the fan unit (VA-34B) motor. **Safety Analysis:** The drawing changes and procedure revisions are supported by the existing design basis. There is no change in the plant electrical system configuration, operation of the control room humidifier or equipment performance. Therefore, this activity does not increase the probability of occurrence or consequences of an accident previously evaluated in the USAR. The revisions are supported by the existing design basis and there is no impact on equipment performance. The operation of the plant's electrical system was not changed. Therefore, neither the probability of occurrence nor the consequences of a malfunction of equipment important to safety previously evaluated in the USAR were increased by this activity. As stated above, the revisions are supported by the plant's design basis and equipment performance is not affected. Therefore, this activity does not create the possibility of an accident or malfunction of equipment important to safety of a different type than any previously evaluated in the USAR. This activity does not change any margin of safety or any design value defined in the basis of any Technical Specification.	Figure 7.6-1

CHANGES, TESTS, AND EXPERIMENTS CARRIED OUT WITHOUT PRIOR COMMISSION APPROVAL

Source	Description	USAR Section(s), Table(s), or Figure(s) Revised
USAR 98-058 USQD 98-081 DCR 10172	**Description:** Figure 7.6-1 of the USAR was revised to extend the area designated as "at the controls" area. The revised area covers the control room area bounded by the front of control panels CB-1/2/3, CB-4, CB-10/11, CB-20, AI-66A, AI-66B, AI-65A, AI-65B, AI-43A, AI-43B, AI-30A, AI-30B, AI-31A, AI-31B, AI-31C, AI-31D, AI-31E, AI-33A, AI-33B, and AI-33C. The newly defined "at the controls" area does not affect safe operation of the plant. Operators located in the area have unrestricted access to control panels CB-1/2/3, CB-4, CB-10/11, and CB-20. Conduct of operation remains the same whether an operator is located in the light-colored carpet area immediately adjacent to the above panels, or in the newly defined area. All controls, instrumentation displays, and alarms required for the safe operation, shutdown, and cooldown of the plant are readily available to the operator in the area. **Safety Analysis:** There are no modifications to any plant equipment or procedures. The responsibilities of the operator designated "at the controls" do not change. The newly defined area allows operator movement to other control panels important to safe operation, shutdown, and cooldown of the plant. Operator proximity to essential indications and controls is not significantly affected by this change. Therefore, this change does not increase the probability of occurrence or consequences of an accident previously evaluated in the USAR. The USAR change does not result in changes to plant equipment or operating procedures. It does not alter an operator's ability to operate the plant in normal mode, or shutdown, or cooldown of the plant. Therefore, the change does not increase the probability of occurrence or consequences of a malfunction of equipment important to safety previously evaluated in the USAR. The USAR change does not result in any changes to plant equipment, operating procedures, system lineups, or control room activities. The newly defined "at the controls" area is redefined to be consistent with the requirements of Standing Order O-1. The figure revision does not change operator activities or ability to operate equipment. Therefore, the revision does not create the possibility of an accident or malfunction of equipment important to safety of a different type than any previously evaluated in the USAR. The change does not result in physical modification of plant equipment, operating procedure, calibration procedure, calculation, or setpoint. Therefore, there was no reduction in the margin of safety as defined in the basis of any Technical Specification.	Figure 7.6-1

CHANGES, TESTS, AND EXPERIMENTS CARRIED OUT WITHOUT PRIOR COMMISSION APPROVAL

Source	Description	USAR Section(s), Table(s), or Figure(s) Revised
USAR 99-004, USQD 99-019 CR 199802168	**Description:** The last paragraph of USAR Section 6.2.3.7 states: "The safety injection test and leakage line is provided with relief valve protection. The valve is sized to pass 120 gpm." This is an apparent reference to safety injection system relief valve SI-222. The last sentence was revised to state: "The valve is sized to pass 40 gpm." Design Basis Document SDBD-SI-LP-133, Attachment 20-28, "Requirements and Design of SIT Recirculation Relief Valve SI-222," states that "The maximum flow this valve would experience from a source that could over-pressurize the system is 40 gpm." This statement is referenced to Combustion Engineering Calculation No. O-SEC-34, "Design Requirements for Stored Energy Systems," dated May 28, 1969. Vendor capacity information indicates that the actual valve has a capacity of 67 gpm liquid at a setpoint pressure of 350 psig. This is less than the size listed in the USAR but greater than the maximum flow value documented in SDBD-SI-LP-133 and O-SEC-34. No documented basis for the 120 gpm value in the USAR was located. However, the DBD and O-SEC-34 document and justify that 40 gpm is the maximum flow that SI-222 could experience. **Safety Analysis:** SI-222 and the piping it protects are not associated with USAR accident initiation scenarios. Therefore, changing the specified capacity does not increase the probability of an occurrence of an accident previously evaluated in the USAR. SI-222 is not required to function to shut down the plant, maintain the plant shut down or mitigate an accident, so changing the specified capacity does not affect the postulated consequences of accidents previously evaluated in the USAR. No anticipation of over pressurization requires a capacity greater than 40 gpm for SI-222, so specifying a 40 gpm capacity does not increase the probability of occurrence of a malfunction of equipment important to safety previously evaluated in the USAR. SI-222 is not required to function to shut down the plant, maintain the plant shut down or mitigate an accident. Changing specified capacity to 40 gpm does not increase the consequences of any malfunction of equipment important to safety previously evaluated in the USAR. SDBD-SI-LP-133 and O-SEC-34 document that 40 gpm is the maximum flow rate that SI-222 could experience from a source that could over pressurize the system. Therefore, specifying 40 gpm as the capacity of the valve does not create an initiating mechanism for a different type of accident or malfunction of equipment important to safety than any previously evaluated in the USAR. SI-222 is not required to function to shut down the plant, maintain the plant shut down or mitigate an accident. Changing specified capacity to 40 gpm does not affect the margin of safety as defined in the basis of any Technical Specification.	Section 6.2.3.7

CHANGES, TESTS, AND EXPERIMENTS CARRIED OUT WITHOUT PRIOR COMMISSION APPROVAL

Source	Description	USAR Section(s), Table(s), or Figure(s) Revised
USAR 98-055 USQD 98-028 CR 199700652	**Description:** Section 14.15.7.1 was revised to clarify operability requirements for the emergency core cooling system (ECCS) during shutdown conditions. The change clarifies ECCS equipment requirements necessary to mitigate a LOCA while shutdown. The requirements are based on an evaluation performed by ABB-CE, which establishes the minimum ECCS equipment necessary to meet the ECCS acceptance criteria of 10 CFR 50.46 for a LOCA while shutdown. This was reported in Licensee Event Report (LER)-1998-006. **Safety Analysis:** The USAR revision defines the minimum safety injection (SI) equipment requirements for a LOCA during shutdown to ensure compliance with ECCS acceptance criteria of 10 CFR 50.46. The ABB-CE analysis establishes the minimum SI equipment operability requirements to meet ECCS acceptance criteria for a LOCA during shutdown. These ECCS equipment operability requirements while shutdown were incorporated into the USAR to establish a design basis. The requirements have been proceduralized to ensure compliance. Therefore, this activity does not increase the probability of occurrence or the consequences of an accident previously evaluated in the USAR. The USAR revision is consistent with Fort Calhoun Station Technical Specifications and Operating Instructions. Prior to this change, there were no requirements for equipment operability during lower operating modes. This change is conservative since it requires certain SI equipment to be available during these operating modes. Therefore, this activity does not increase the probability of occurrence or the consequences of a malfunction of equipment important to safety previously evaluated in the USAR. The activity clearly defines ECCS equipment operability requirements for a shutdown LOCA. ECCS equipment requirements for a LOCA when the reactor is critical are currently addressed in the Technical Specifications. This activity ensures the minimum required SI is available during lower operating modes and is not postulated to create the possibility of an accident of a different type than any previously evaluated in the USAR. Equipment and system performance was not changed by this revision and therefore, the possibility of a malfunction of equipment important to safety of a different type than any previously evaluated in the USAR was not created. The availability of the LPSI and HPSI systems as required by TS 2.1.1, 2.3, and 2.15 were not affected by this activity. The guidance provides clarification for minimum SI equipment availability during those operating conditions not addressed in the TS. Therefore, the margin of safety as defined in the basis of any TS was not reduced.	Section 14.15

CHANGES, TESTS, AND EXPERIMENTS CARRIED OUT WITHOUT PRIOR COMMISSION APPROVAL

Source	Description	USAR Section(s), Table(s), or Figure(s) Revised
USAR 99-002 USQD 99-001 CR 199800376	**Description:** A statement in USAR Section 4.3.2 was corrected to reflect the fact that the nitrogen supply line to the pressurizer quench tank is normally isolated and pressure is maintained by manual operation of the nitrogen supply valves. **Safety Analysis:** The purpose of the nitrogen is to inert the contents of the pressurizer quench tank. Operating the nitrogen supply in automatic mode causes waste since fluctuations in containment pressure cause the regulator to cycle excessively. The continuous cycling of the regulator valve also makes it difficult to maintain proper pressurizer quench tank pressure. There are no analyzed accidents associated with the quench tank. Manual operation of the nitrogen supply system is controlled by approved station procedures. Therefore, this activity does not increase the probability of occurrence or the consequences of an accident previously evaluated in the USAR. The pressurizer quench tank has no safety function. Manual operation of this system is governed by approved station procedures. Therefore, this activity does not increase the probability of occurrence or the consequences of a malfunction of equipment important to safety previously evaluated in the USAR. Manual operation of the system using approved procedures greatly reduces the amount of wasted nitrogen and allows better control of quench tank pressure. Therefore, this activity does not create the possibility of an accident or malfunction of equipment important to safety of a different type than any previously evaluated in the USAR. The safety margin as defined in the basis of any TS was not reduced by this change.	Section 4.3.2

CHANGES, TESTS, AND EXPERIMENTS CARRIED OUT WITHOUT PRIOR COMMISSION APPROVAL

Source	Description	USAR Section(s), Table(s), or Figure(s) Revised
USAR 98-056 USQD 98-079 CR 199800290 CR 199800189 CR 199601428	**Description:** The heavy load, hazard elimination statements of USAR Table 14.24-1 for the Concrete Slab Removal Crane and Waste Evaporator Equipment Crane(s) for a postulated load drop of a removable slab on shutdown cooling piping were revised. Investigations associated with CRs 199601428 and 199800189 identified that "repair scenarios" for some postulated load drops described in the USAR Table 14.24-1 hazard elimination statements contain questionable logic and could not be reasonably accomplished in the prescribed timeframes. **Safety Analysis:** The USAR change credits the applicable heavy loads Phase I preventive guideline of "crane/monorail maintenance and inspection" to minimize the possibility of a load drop accident on shutdown cooling piping such that it is a non-credible event. The accident is the drop of a heavy load (removable floor slab) on shutdown cooling piping in the auxiliary building. The loss of shutdown cooling accident has been previously considered in the USAR. The USAR change credits equipment preventive maintenance to render the postulated load drop a non-credible event. Therefore, neither the probability of occurrence nor the consequences of an accident were increased by this change. The USAR change does not make any changes to hardware or equipment nor does it change any load handling procedures associated with the monorail. Therefore, neither the probability of occurrence nor the consequences of a malfunction of equipment important to safety previously evaluated in the USAR was increased by this change. The USAR change credits equipment preventive maintenance to render the postulated load drop(s) a non-credible event. The postulated accident, a heavy load drop on shutdown cooling piping, is unchanged. There were no changes made to any hardware, equipment, or any load handling procedures associated with the monorail. Therefore, the USAR change does not create the possibility of an accident or malfunction of equipment of a different type than any previously evaluated in the USAR. The USAR revision does not reduce the margin of safety as defined in the basis of any Technical Specification since there are no applicable Technical Specifications.	Table 14.24-1

CHANGES, TESTS, AND EXPERIMENTS CARRIED OUT WITHOUT PRIOR COMMISSION APPROVAL

Source	Description	USAR Section(s), Table(s), or Figure(s) Revised
USAR 98-048 USQD 98-078 EA-FC-96-041	**Description:** USAR Section 5.11 was revised to clarify and increase the level of detail regarding the design and performance of Class 1 structures other than the containment building when subjected to a design basis tornado (DBT). An additional reference was added to Section 5.12 for the revised tornado analysis. **Safety Analysis:** The USAR was revised to describe the conclusions of a reanalysis of a design basis tornado. The original design conclusions are supported by the reanalysis. Therefore, this activity does not increase the probability of occurrence or consequences of an accident previously evaluated in the USAR. The original design conclusions remain valid. Therefore, this activity does not increase the probability of occurrence or the consequences of a malfunction of equipment important to safety previously evaluated in the USAR. The original design conclusions remain valid. Therefore, this activity does not create the possibility of an accident or malfunction of equipment important to safety of a different type than any previously evaluated in the USAR. There are no applicable margins of safety defined in the basis for any Technical Specification and the DBT reanalysis did not find any reduction in design or licensing basis margins. Therefore, this activity does not reduce the margin of safety as defined in the basis of any Technical Specification.	Section 5.11 Section 5.12

CHANGES, TESTS, AND EXPERIMENTS CARRIED OUT WITHOUT PRIOR COMMISSION APPROVAL

Source	Description	USAR Section(s), Table(s), or Figure(s) Revised
USAR 99-006 USQD 99-010 CR 199700015	**Description:** The "Injection Phase" NPSH values in USAR Section 6.2.1 were revised for the containment spray (CS) and the high pressure safety injection (HPSI) pumps to reflect the results of calculation FC06734. The last paragraph of the Injection Phase discussion in Section 6.2.1 was revised to address the HPSI and CS pumps only. The "Injection" and "Recirculation" flow, head, and NPSH values for the CS pumps were deleted from USAR Table 6.3-1, and CS pump design point flow and total head at that flow were added. **Safety Analysis:** The revised USAR Section 6.2.1 injection phase NPSH values still show positive NPSH margin, so the ability of the CS and HPSI pumps to perform their respective accident mitigation functions is not impaired by this change. No change was made to post-DBA CS system performance. Therefore, this activity does not increase the probability of occurrence or the consequences of an accident previously evaluated in the USAR. The revised NPSH values still show positive NPSH margin so this change does not make any safety-related equipment failure mechanism more likely. The USAR Table 6.3-1 change incorporates general CS pump data and eliminates information duplicated in Section 6.2.1. The revised NPSH values already reflect failure scenarios in which one train of pumps is lost due to an emergency diesel generator (EDG) failure. The USAR Table 6.3-1 change incorporates general CS pump data and eliminates information duplicated in Section 6.2.1. This does not increase the consequences of a malfunction of equipment important to safety previously evaluated in the USAR because post-DBA CS system performance is not changed. The revised NPSH values still show positive NPSH margin for the HPSI and CS pumps during the injection phase of an accident. The other change incorporates general CS pump data into USAR Table 6.3-1 and deletes information that is already found in USAR Section 6.2.1. Therefore, neither change creates the possibility of an accident or malfunction of equipment important to safety of a different type than any previously evaluated in the USAR. NPSH is not part of the basis for any Technical Specification that covers the HPSI or CS pumps. The change still demonstrates positive NPSH margin for these pumps during the injection phase of an accident. No margin of safety as defined in the basis of any Technical Specification was reduced.	Section 6.2.1, Table 6.3-1

CHANGES, TESTS, AND EXPERIMENTS CARRIED OUT WITHOUT PRIOR COMMISSION APPROVAL

Source	Description	USAR Section(s), Table(s), or Figure(s) Revised
USAR 99-007 USQD 99-015 CR 199700179	**Description:** USAR Section 9.2.1.1, "Design Cyclic Loads," was added to identify the fatigue design basis transients for the chemical and volume control system (CVCS). Section 9.2.1.1 provides the basis for the CVCS transients now being tracked by Standing Order (SO)-O-23, "Systems and Equipment Usage Data." USAR Section 9.2.1.2, "Design Service Life Considerations," was added to provide additional information relative to the fatigue design of the CVCS components and to identify those CVCS components and their applicable design codes for which fatigue limitations apply. Additional references associated with the fatigue design of the CVCS were added to USAR Section 9.2.8. The Table of Contents was updated to reflect the addition of the new sections. **Safety Analysis:** The USAR revision reduces the probability of occurrence of an accident previously evaluated in the USAR by providing information to assist in ensuring that the design fatigue usage limit of 1.0 is not exceeded and that the CVCS system pressure boundary safety margin is maintained. This was an editorial change to the USAR and does not involve any physical change to the facility or the manner in which it is operated. Therefore, the consequences of an accident previously evaluated in the USAR were not increased. The USAR revision is editorial in nature and does not involve physical changes to the facility, equipment, or the manner in which it is operated. Therefore, neither the probability of occurrence nor the consequences of a malfunction of equipment important to safety previously evaluated in the USAR were increased by this change. The USAR revision reduces the possibility of an accident or malfunction of equipment of a different type than any previously evaluated in the USAR by ensuring that the design fatigue usage limit of 1.0 is not exceeded. This ensures that the safety margin of the CVCS system pressure boundary is maintained. The USAR revision maintains the design margin of safety by providing information that will assist in ensuring that the design fatigue usage limit of 1.0 is not exceeded. CVCS fatigue usage is not defined in the basis of any Technical Specification and thus, no TS safety margins were reduced.	Section 9.2

CHANGES, TESTS, AND EXPERIMENTS CARRIED OUT WITHOUT PRIOR COMMISSION APPROVAL

Source	Description	USAR Section(s), Table(s), or Figure(s) Revised
USAR 99-005 USQD 99-028 CR 199701518 CR 199701552	**Description:** USAR Section 9.5 was revised to clarify and correct selected discrepancies identified during the USAR verification project review of spent fuel pool cooling and storage. The changes include: clarification as to the level of gravity drainage out of the spent fuel pool, the design weight of a fuel assembly for rack design, deletion of the pool siphoning discussion, and the availability of demineralized water as an alternate source for pool makeup water etc. These changes are consistent with current plant design, licensing bases, and Technical Specifications. **Safety Analysis:** The USAR changes are in agreement with current design and licensing bases. The changes do not affect the probability of any event initiators pertaining to the identified accidents of turbine generator overspeed, fuel handling accident, or heavy load incident. The radiological consequences of the fuel handling accident remains the bounding accident for the spent fuel pool. Therefore, the changes do not affect the probability of occurrence or the consequences of an accident previously evaluated in the USAR. No changes were made to plant equipment, operating procedures, or any event initiators that could increase the probability of occurrence or consequences of a malfunction of equipment important to safety previously evaluated in the USAR. The USAR changes do not affect the operability of any equipment important to safety. Therefore, the USAR changes do not create the possibility of an accident or malfunction of equipment of a different type than any previously evaluated in the USAR. The USAR changes are in agreement with Technical Specifications and do not reduce the margin of safety as defined in the basis of any Technical Specification.	Section 9.5

CHANGES, TESTS, AND EXPERIMENTS CARRIED OUT WITHOUT PRIOR COMMISSION APPROVAL

Source	Description	USAR Section(s), Table(s), or Figure(s) Revised
MR-FC-97-019, USAR 97-12	**Description:** New oil collection pans, drains, and supports were installed on GE reactor coolant pump (RCP) motors RC-3A/C/D unpressurized lube oil leak points. New drain lines were tied into the existing oil drain header. The existing RCP motor oil lift pump cables/conduits, oil level transmitter, and instruments were rerouted in support of the new oil collection pans. The abandoned-in-place Vibraswitch originally supplied with the GE motors was removed. The existing RC-3B motor upper and lower oil level indicator oil collection pans had the top panel removed, and the side panels were fitted with latches and the height was shortened. **Safety Analysis:** This modification does not introduce any new components that are accident initiators and has no adverse interaction with other plant systems. The Updated Fire Hazard Analysis (UFHA) and Safe Shutdown Analysis conclusions regarding modification MR-FC-97-019 activities remains the same. The system will remain intact during both normal and accident conditions and does not affect RCP motor operation. Therefore, this modification does not increase the probability of occurrence or the consequences of an accident previously evaluated in the USAR. The equipment activities within the scope of MR-FC-97-019 are not safety related. Equipment important to safety such as the structural components, CCW cooling system and flywheel associated with RCP motor, are not affected, and the design basis of the UFHA is maintained. The activities associated with MR-FC-97-019 do not impact equipment important to safety. Radiological consequences are not increased. Therefore, neither the probability of occurrence nor the consequences of a malfunction of equipment important to safety previously evaluated in the USAR were increased by this modification. No new failure modes were introduced; the design basis fire as described in the UFHA was not altered by MR-FC-97-019. Therefore, the possibility of an accident or malfunction of equipment important to safety of a different type than any previously evaluated in the USAR was not created. The existing UFHA design basis fire event continues to bound the RCP lube oil fire, and therefore, the modification does not reduce the margin of safety as defined in the basis of any Technical Specification.	Figure 4.3-6A Section 4.3 [Section 4.3 was previously revised and is in compliance with this modification.]

CHANGES, TESTS, AND EXPERIMENTS CARRIED OUT WITHOUT PRIOR COMMISSION APPROVAL

Source	Description	USAR Section(s), Table(s), or Figure(s) Revised
ECN 97-358, DCN 5541, USQD 99-011	**Description:** The existing hydrogen analyzer YIA-628 and oxygen analyzer YIA-627 were replaced in control panel AI-110. The oxygen sensor YE-627 and the hydrogen sensor YE-628 were also replaced. The alarm system for the analyzers was removed. Flow indicators FIC-4035 and FIC-4036 were replaced with indicators that have a lower range to accommodate the lower flow requirements of the replacement analyzers. Changes to the station nitrogen system needed to support the ECN were documented on drawing 11405-M-98, which is referenced in USAR Appendix N. **Safety Analysis:** The waste gas decay tank (WGDT) rupture accident (USAR Section 14.19) was reviewed since it directly relates to the activities of this ECN. The ECN is designed to maintain the existing gas sampling piping standard B31.1. This ensures that there is no increase in the probability of occurrence of a WGDT rupture accident due to failure of the sampling lines. A failure within the WGDT sampling system is bounded by the WGDT rupture analysis. Therefore, this activity does not increase the consequences of an accident previously evaluated in the USAR. The ECN does not introduce any new interactions with the WGDT and therefore, does not increase the probability of occurrence of a malfunction of equipment important to safety previously evaluated in the USAR. The proposed activity meets existing piping standards and does not affect the consequences of a piping failure. The existing electrical protection devices will be maintained and the consequences of an electrical fault were not increased. Therefore, this activity does not increase the consequences of a malfunction of equipment important to safety previously evaluated in the USAR. The isolation devices in the input power supply mitigate an electrical accident. The WGDT is currently analyzed for a rupture accident and therefore, this activity does not create the possibility of an accident of a different type than any previously evaluated in the USAR. This activity does not change the interface with any equipment important to safety and therefore, the possibility of a malfunction of equipment important to safety of a different type than previously evaluated in the USAR was not created. The hydrogen and oxygen analyzers were taken out of service during installation and testing. Technical Specification 2.9 allows the analyzers to be inoperable indefinitely provided grab samples are taken during waste gas transfers as stipulated in Technical Specification 2.9(2)a & b. Therefore, this activity does not reduce the margin of safety as defined in the basis of any Technical Specification.	None

CHANGES, TESTS, AND EXPERIMENTS CARRIED OUT WITHOUT PRIOR COMMISSION APPROVAL

Source	Description	USAR Section(s), Table(s), or Figure(s) Revised
USAR 99-018 ECN 98-205 USQD 99-008	**Description:** USAR Figure 7.2-2 was updated to remove the center tap and change the control element drive mechanism (CEDM) clutch power supply transformer tap setting from 120/53V to notes that indicate the tap settings are as given in drawing 136B3721, Sheets 2 and 3. **Safety Analysis:** The change to Figure 7.2-2 reflects the plant as-built configuration since 1975. The tap change made in 1975 reduces rod drive clutch failures and the associated dropped rod incidents. Therefore, this activity does not increase the probability of occurrence or the consequences of an accident previously evaluated in the USAR. The revision to Figure 7.2-2 to reflect the as-built configuration since 1975 does not increase the probability of occurrence or the consequences of a malfunction of equipment important to safety. The USAR figure change (that reflects the tap change to the reactor protective system (RPS) clutch power supply transformers) does not create the possibility of an accident or malfunction of equipment important to safety of a different type than any previously analyzed in the USAR. The dropped rod accident remains as analyzed. The rod drive clutch power trip generated by the RPS has the same level of redundancy and independence that is assumed in the USAR analysis. Thus the margin of safety as defined in the basis of any Technical Specification was not reduced by this activity.	Figure 7.2-2

CHANGES, TESTS, AND EXPERIMENTS CARRIED OUT WITHOUT PRIOR COMMISSION APPROVAL

Source	Description	USAR Section(s), Table(s), or Figure(s) Revised
USAR 99-013 USQD 98-069 MR-FC-98-003	**Description:** The toxic gas monitors YIT-6286A/B and YIT-6288A/B and internals, associated cabling, wires, fuses, sample valves, relays, switches, and annunciators were removed from the control room and/or revised to incorporate Amendment 183. Sample tubing/lines were abandoned in place in the control room up to the auxiliary building roof junction boxes JB-396A and JB-397A. The sample tubing/lines were abandoned in place because the requirement for sampling chlorine and other acid gases no longer exists. Hydrazine monitors YIS-6287A/B were revised to directly detect ammonia since hydrazine detection is no longer required while Amendment 183 requires ammonia detection capability. **Safety Analysis:** This modification removed the chlorine and acid toxic gas monitors (TGM) from the control room with the unit on-line. During the installation of this modification, only one channel of the toxic gas monitoring system was out of service at a time. The Fort Calhoun Station Toxic Gas Analysis (EA-FC-94-012) recalculated the toxic gas hazards associated with Fort Calhoun Station and justified removal of the TGMs. Amendment 183 removed these requirements from the Technical Specifications. Ammonia detection capability was retained by YIS-6287A/B. Therefore, this activity does not increase the probability of occurrence or the consequences of an accident previously evaluated in the USAR. No new failure modes were introduced by this modification. The modification does not increase the release of radioactivity because it does not change the basic release parameters, equipment processing radioactive materials, or potential release paths to the environment. Therefore, this activity does not increase the probability of occurrence or the consequences of a malfunction of equipment important to safety previously evaluated in the USAR. The modification incorporated Amendment No. 183 and its associated NRC Safety Evaluation Report. Ammonia detection capability is retained for defense-in-depth protection due to a potential toxic gas release. Calculation FC 06694 and EA-FC-94-012 justify removal of the TGMs. Therefore, this activity does not create the possibility of an accident or malfunction of equipment important to safety of a different type than any previously evaluated in the USAR. The threat of toxic gases affecting the control room operators is no longer present for the accidents associated with these monitors. The requirement for detecting toxic gas during a toxic gas accident is for ammonia with a 300 ppm toxicity limit. This requirement is maintained via TGMs YIS-6287A/B. Therefore, the margin of safety, as defined in the basis of any Technical Specification was not reduced.	Section 9.10 Section 14.23, Figure 7.6-1

CHANGES, TESTS, AND EXPERIMENTS CARRIED OUT WITHOUT PRIOR COMMISSION APPROVAL

Source	Description	USAR Section(s), Table(s), or Figure(s) Revised
CR 199900158 USQD 99-014	**Description:** Normally locked open valve HCV-208 was closed to provide isolation of leakage through relief valve CH-208. This condition required a safety evaluation to justify the valve's currently closed position. CH-208 seat leakage was the principal contributor to the excessive reactor coolant system (RCS) leak rate (> 0.3 gpm) that prompted Operations to close HCV-208 to reduce RCS leakage. Drawing E-23866-210-120, Sheet 1A, which is referenced in the USAR was revised accordingly. **Safety Analysis:** Isolation of reactor coolant pump (RCP) seal controlled bleedoff (CBO) flow is not postulated to increase the possibility of a small break LOCA because the resultant RCS leakage past the RCP vapor seal would be well within charging pump capacity. This level of RCS leakage is not considered to be a LOCA. The CBO piping is qualified to RCS design pressure and reactor coolant pump (RCP) seals are designed to be able to withstand full RCS differential pressure of 2500 psi for a limited duration. Operators would be alerted to this condition with alarms that direct them to the annunciator response procedure (ARP). Guidance in the ARP directs the operator to open HCV-208 if either containment isolation valve is closed. The USAR evaluation for a LOCA (Section 14.15) analyzes for RCS leak rates well in excess of the possible leak rates that could occur as a result of RCP seal failure. The failure of one or two RCP seal stages would result in leak rates well within the capacity of the charging system. Therefore, this activity does not increase the probability of occurrence or consequences of an accident previously evaluated in the USAR. The probability of RCP seal failure is not increased with the actuation of a containment isolation actuation signal (CIAS) or other loss of normal CBO to the volume control tank. The RCPs are not credited as safe shutdown equipment and therefore, failure of the seals and subsequent challenges to the RCPs will not increase the probability of malfunction of equipment credited for safe shutdown. This activity does not result in increased consequences of a RCP seal failure since most of the RCP vapor seal leakoff would be directed to the reactor coolant drain tank. Therefore, this activity does not increase the consequences of a malfunction of equipment important to safety previously evaluated in the USAR. USAR Section 14.15 already bounds any anticipated seal leakage resulting from seal degradation. Therefore, this activity does not create the possibility of an accident of a different type than any previously evaluated in the USAR. The only postulated failure is a LOCA due to seal degradation, which is currently analyzed in USAR Section 14.15. RCS safety relief valves RC-141/142 prevent overpressurization of the CBO piping in question. CH-208 is considered a bypass valve and is not intended to provide overpressure protection. Therefore, this activity does not create the possibility of a malfunction of equipment important to safety of a different type than any previously evaluated in the USAR. The CBO piping and RCP seals are qualified for RCS design pressure and the RCS safety valve setpoints ensure that the Reactor Coolant System pressure safety limit is not exceeded. Therefore, the activity does not reduce the margin of safety as defined in the basis of any TS.	None

CHANGES, TESTS, AND EXPERIMENTS CARRIED OUT WITHOUT PRIOR COMMISSION APPROVAL

Source	Description	USAR Section(s), Table(s), or Figure(s) Revised
USAR 99-011 CR 199801976 USQD 99-023	**Description:** USAR Section 9.6 was revised to correct spent fuel pool "time to boil" information. A vendor (Holtec International) discovered an error in a calculation for a modification installed in 1994, which expanded the storage capacity of the spent fuel pool. **Safety Analysis:** The decrease in the worst case spent fuel pool "time to boil" determination, assuming loss of cooling, from 9.9 hours to 7.2 hours, has no effect on the probability of occurrence of any accidents pertinent to the spent fuel pool described in the USAR. Boil off rate is not the basis of any assumption of any of the accidents evaluated in the USAR. The decrease in spent fuel pool "time to boil" does not affect the consequences of any spent fuel pool related accident evaluated in the USAR. Sufficient time is available to adequately address a loss of cooling event for the spent fuel pool using established compensatory measures. Therefore, this activity does not increase the probability of occurrence or the consequences of an accident previously evaluated in the USAR. Decreasing the worst case spent fuel pool "time to boil" determination does not change any plant equipment, operating procedures, or any event initiators. Therefore, this activity does not increase the probability of occurrence or the consequences of a malfunction of equipment important to safety previously evaluated in the USAR. Since there were no changes to plant equipment, operating procedures, or any event initiators, this activity does not create the possibility of an accident or malfunction of equipment of a different type than any previously evaluated in the USAR. The margin of safety as defined in the basis for TS 3.2, Table 3-5 (20) (Spent Fuel Pool Level) and TS 4.4.2 (Spent Fuel Pool Storage) was not reduced by this activity.	Section 9.6

USAR CHANGES OTHER THAN THOSE RESULTING FROM 10 CFR 50.59

Source	Description	USAR Section(s), Table(s), or Figure(s) Revised
USAR 98-057 CR 199800063	This was a trivial administrative change to remove a reference to Figure 11405-Mech-2 in Section 9.1, which was superseded by Figure 11405-Mech-1.	Section 9.1
USAR 96-055	The USAR change was reported in OPPD letter LIC-97-0070 dated May 23, 1997, however, the enclosed figures were inadvertently left out of the update package. Section 4.3 was revised to reference Figure 4.3-6A.	Figures 4.3-6B, 4.3-12, 4.3-13, 4.3-14, and Section 4.3
USAR 99-014	USAR Section 5.9.5 was revised to correct a change introduced by a previous USAR revision (96-54) that was not entirely supported by the accompanying 10 CFR 50.59 Safety Analysis.	Section 5.9.5
USAR 99-003 USAR 99-016 Amendment 188	USAR Sections 9.3, 9.5, and 9.10 were revised to reflect the receipt of Amendment 188.	Section 9.3, 9.5, 9.10
USAR 99-015 Amendment 190	The USAR was revised to reflect the receipt of Amendment 190, which revised the title of the "Shift Supervisor" to "Shift Manager."	Sections 9.3 & 9.11

QUALITY ASSURANCE PLAN CHANGES (USAR APPENDIX A) IN ACCORDANCE WITH 10 CFR 50.54

REVISION TO QA PROGRAM	REASON WHY CHANGE IS NOT A REDUCTION IN COMMITMENT
USAR 99-010	Appendix A was revised to update the organization description and responsibilities, reflect the fact that diesel generator fuel oil is now classified as critical quality element (CQE) rather than limited critical quality element (LCQE), and eliminate the requirement for procedures associated with the trending of nonconformances to be established in the QA Manual. No responsibilities associated with the QA program were eliminated, and there was no reduction in any commitments.

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