REVISION SUMMARY

Revision 43—09/27/07

Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
KWI, 6.1, 6.2.1.1.1, 6.2.1.1.1.1, 6.2.1.1.1.2, 6.2.1.1.1.3, 6.2.1.3.1, 6.2.1.3.1.1, 6.2.1.3.1.2, 6.2.1.3.1.2.1, 6.2.1.3.1.2.2, 6.2.1.3.1.3, 6.2.2.1, 6.2.2.2, 6.2.2.3.1, 6.2.2.3.2, 6.2.2.3.2.1, 6.2.2.3.2.2, 6.2.2.3.2.3, 6.2.2.3.2.4, 6.2.2.3.2.5, 6.2.2.3.2.6, 6.2.2.3.3, 6.2.3.1.1, 6.2.3.2, 6.2.3.3, 6.2.6.3, 6.2 Refs, Tables 6.2-1, 6.2-2, 6.2-3, 6.2-4, 6.2-11, 6.2-12, 6.2-13, 6.2-14, 6.2-15, 6.2-16, 6.2-17, 6.2-18, 6.2-19, 6.2-40, 6.2-46, 6.2-47, 6.2-48, 6.2-49, 6.2-58, 6.2-62, & 6.2-63, Figures 6.2-6, 6.2-7, 6.2-8, 6.2-51, 6.2-63, 6.2-64, 6.2-65, 6.2-66, 6.2-67, 6.2-68, 6.2-69, 6.2-70, 6.2-71, 6.2-72, 6.2-73, 6.2-74, 6.2-75, 6.2-76, 6.2-77, 6.2-78, 6.2-79, 6.2-80, 6.2-81, 6.2-96, & 6.2-97, 6.3.2.2.2, 6.3.2.2.6, 6.3.3.12, 6.3 Refs, Table 6.3-9, Figures 6.3-7, 6.3-8, 6.3-9, 6.3-10, 6.3-11, 6.3-12, & 6.3-13, 15.4.1.7, 15.4.1.8, 15.4.1.8.1, 15.4.1.8.2, 15.4.1.8.3, 15.4.1.8.4, 15.4.1.8.5, 15.4.1.8.6, 15.4.1.8.7, 15.4.1.8.8, 15.4.5.2, 15.4 Refs, Table 15.4-6, 15.4-7, 15.4-14, & 15.4-37, Figures 15.4-110 & 15.4-111	Performed containment analyses and LOCA alternate source term analyses to support GSI 191 modifications.

Revision 43—09/27/07 (continued)

Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
Table 3.2-1, 4.1, Figure 6.1-1, 6.2.2.2, 6.2.2.3, 6.2.2.4.3, 6.2.2.4.4, 6.2.3.3, 6.2 Refs, Tables 6.2-40 & 6.2-42, Figures 6.2-57, 6.2-58, 6.2-59, 6.2-60, 6.2-61, 6.2-62, & 6.2-80, 6.3.2.2.3, 6.3.3.12, 6.3.3.13, Table 6.3-1, 6.3-8, & 15.4-2	Completed partial installation of Unit 2 containment sump strainers to support GSI 191 modifications.
3.8.2.1.4.2, 3.8.2.1.4.5	Increased the temperature limitation for containment penetrations from 150°F to 200°F.
3.8.2.1.4.2, Figures 3.8-11 & 3.8-15	Removed the outside cooler on hot pipe containment penetrations (except installed spares).
3.8.2.1.4.2, Figures 3.8-11, & 3.8-15, 9.2.2.1.1, 9.2.2.3.1	Updated the description of the hot pipe containment penetration coolers.
4.1, 4.4.1.6, 4.5.2.1.2, 4.5.3.2.1, 4.5.4.1.6, 4.5 Refs, Tables 4.5-1, 4.5-2, 4.5-3, 15.4.1.9, 15.4 Refs	Updated the reconstitution methodology for AREVA Advanced Mark-BW fuel.
Table 4.1-2, 4.5.4.1.1, 4.5.4.1.5, 4.5.4.2.1, 4.5.4.2.3.1, 4.5.4.2.3.4.2, 4.5.4.2.3.4.3, 4.5.4.2.5, 4.5.4.2.6, 4.5.4.2.8.1, 4.5.4.2.8.3, 4.5.4.2.10.4, 4.5.4.2.10.5, 4.5.4.3.1.3, 4.5.4.3.4.1, 4.5.4.3.4.1.3, 4.5 Refs, Table 4.5-3, 7.2.2.1.2.1, 15.1.9.8, Table 15.1-2, 15.3.4.2.1, 15.4.4.2.1, 15.4.4.2.2	Incorporated use of the VIPRE-D/BWU computer code to perform thermal-hydraulic evaluations of AREVA Advanced Mark-BW fuel. [10 CFR 50.90 License Amendment]
Table 5.2-22	Updated the description of the pressurizer closure bolting material.
6.2.1.3.2.3, 6.2.2.2, 6.2.2.3.2.6, 12.1.2.1, Table 12.1-2, Figure 12.1-8	Added the Unit 2 incore sump room drain to support GSI 191 containment sump modifications.
6.2.2.2	Corrected the description of debris generation and transport evaluation for the Unit 2 containment sump strainer design.

Revision 43—09/27/07 (continued)

Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
7.3.1.3.2, 7.3.1.3.2.2, 7.3.2.11, 7.3 Ref Dwgs, Table 7.3-2	Modified the Unit 2 refueling water storage tank engineered safety features actuation system to support GSI 191 containment sump modifications.
8.1.2, 9.2.1.1, 9.2.1.2.2, 9.2.1.3.1, 9.2.2.3, 9.3.1.2, 9.3.2.1.3, 9.3.2.2.3, 9.3.4.2.1, 9.3.4.3.1, 9.5.1.2.3, 9.5.1.3.4, 9.5.1.4.2, 9.5.1.6, 9.5.1.6.1, 9.5.1.6.2, 9.5.2.1.1, 9.5.6.2, 10.3.4, 10.4.1.4, 10.4.7.4, 11.4.5, 12.1.4.1	Modified the terminology associated with determinations of operability and functionality in accordance with Regulatory Issue Summary 2005-20.
9.2.1.2.2	Reduced the frequency of monitoring the service water reservoir sludge depth from annually to once per five years.
9.2.2.5.1	Clarified the description of system operation following a reactor coolant pump thermal barrier coil leak.
Table 9.2-4	Replaced auxiliary service water pump, 1-SW-P-4.
9.5.1.2.2.2, 9.5.1.2.3	Replaced heat and smoke detectors in the Training Center records vault.
15.3.1.6, 15.3 Refs, Table 15.3-4	Incorporated the peak clad temperature penalties and benefits for the Westinghouse SBLOCA. [10 CFR 50.46]
15.3.1.13, 15.3 Refs, Table 15.3-4, 15.4.1.17, 15.4 Refs, Table 15.4-26	Incorporated the peak clad temperature penalties and benefits for the Westinghouse SBLOCA and AREVA RLBLOCA. [10 CFR 50.46]
15.4.2.1.3.2, 15.4.3.4.2, 15.4.4.3.2	Revised the description of steam generator leakage. [10 CFR 50.90 License Amendment]
18.2.6, 18.2.19, Table 18-1	Reflected the completion of License Renewal Commitment Item Nos. 16, 18, and 28.

Revision 42—09/29/06

Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
KWI, 1.2.9, 2.1.3.4, 2.3.4.1, 2.3.4.2, Table 2.3-18, 3.1.15.1, 3.1.15.2, 3.6.1, 3.7.3.2, 6.2.1.3.1, 6.2.2.1, 6.2.3.1, 6.2.3.1.1, 6.2.3.2, 6.2.3.3, Table 6.2-41, 6.3.3.6, Table 6.3-6, 6.4.1.1, 6.4.1.2, 6.4.1.3, 6.4.1.3.1, 7.7.1.12.1, 9.4.1.3, 9.4.5.3, Table 10.4-3, 11.1.1.1, 12.1.1, 12.1.2.8, 12.1.2.10, Figure 12.1-10, 15.1.7.1, 15.2.13.3, 15.4, 15.4.1.7, 15.4.1.7.1, 15.4.1.7.2, 15.4.1.7.3, 15.4.1.7.4, 15.4.1.7.5, 15.4.1.7.6, 15.4.1.7.7, 15.4.1.7.8, 15.4.1.8.3, 15.4.2.1.3, 15.4.2.1.3.1, 15.4.2.1.3.2, 15.4.2.1.3.3, 15.4.2.1.3.4, 15.4.2.1.3.5, 15.4.3.2.1, 15.4.3.2.3, 15.4.3.3, 15.4.3.4, 15.4.3.4.1, 15.4.3.4.2, 15.4.3.4.3, 15.4.3.4.4, 15.4.3.4.5, 15.4.4.2.2, 15.4.4.3, 15.4.4.3.1, 15.4.4.3.2, 15.4.4.3.3, 15.4.4.3.4, 15.4.4.3.5, 15.4.5, 15.4.5.1, 15.4.5.2, 15.4.5.3, 15.4.5.4, 15.4.7.1, 15.4.7.2, 15.4.7.2.1, 15.4.7.2.2, 15.4.7.2.3, 15.4.7.2.4, 15.4.7.2.4.1, 15.4.7.2.4.2, 15.4.7.2.4.3, 15.4.7.2.4.4, 15.4 Refs, Tables 15.4-6, 15.4-7, 15.4-12, 15.4-13, 15.4-14, 15.4-15, 15.4-17, 15.4-18, 15.4-29, 15.4-30, 15.4-31, 15.4-32, 15.4-33, 15.4-34, 15.4-35, 15.4-36, & 15.4-37, Figures 15.4-74 & 15.4-110	Implemented an alternate source term from NUREG-1465 as the design basis source term. [10 CFR 50.90 License Amendment]
3.8.2.1.4.2, Figures 3.8-11 & 3.8-15	Isolated ten Unit 2 containment penetrations' outer cooler component cooling supply and return by seal plate or plug.
3.8.2.1.4.2, Figures 3.8-11 & 3.8-143	Isolated ten Unit 1 containment penetrations' outer cooler component cooling supply and return by seal plate or plug.

Revision 42—09/29/06 (continued)

Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
Table 3F-8	Revised the emergency diesel generator rooms maximum temperature.
4.4.3.2.1, 4.4 Refs, 4.5.4.2.2.6	Provided a generic formula for nuclear enthalpy rise hot channel factor, $F^N_{\Delta H}$, and referred to the Core operating Limits Report for current values of $F^N_{\Delta H}$ and the total heat flux hot-channel factor, F_Q.
4.5.3.2.2.6.4	Modified the discussion of Unit 1 peaking factor uncertainty.
4.5.3.2.2.6.4	Modified the discussion of Unit 2 peaking factor uncertainty.
Table 4.5-3	Reflected the increase in core pressure drop due to use of the Advanced Mark-BW one-quarter turn quick disconnect top nozzle.
Tables 5.1-1 & 5.5-17	Corrected the description of pressurizer spray flow rate.
5.2.2.2, 5.2 Refs, Tables 5.2-20 and 5.2-21, 5.4.1.2, 5.4 Refs	Revised the reactor coolant system pressure-temperature limits, LTOPS setpoints, LTOPS T_{enable} values, and administrative cooldown rate limit. [10 CFR 50.90 License Amendment]
5.2.3.3.1, 5.2 Refs, 5.4.3.6, 5.4 Refs, Tables 5.4-2 & 5.4-3	Updated the surveillance capsule withdrawal schedules to incorporate the renewed operating licenses for both units. [10 CFR 50, Appendix H]
5.2 Refs, 18.2.12	Removed specific interval and ASME XI edition and addenda references to allow required periodic update.
Table 5.2-3	Clarified that the narrow range RTD thermowells and RVLIS pipe connections on the reactor coolant hot leg piping are designed in accordance with ASME Section III - 1980 Edition.
6.2.2.2.3, Table 6.2-42	Updated the description of the design code for the RWST cooling subsystem.
6.2.2.3	Clarified the description of the layup condition of the recirculation spray heat exchangers.
6.4.1.3, 7.7.1.13, 9.4.1.3	Installed Unit 1 and Unit 2 carbon dioxide monitors in the control rooms.

Revision 42—09/29/06 (continued)

Section	**Changes** Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
8.1.1, 8.2.2, Figures 8.2-1 & 8.2-2	Replaced feeder cables to reserve station service transformers A, B, & C, and installed an additional 500 kVA transformer.
8.2.3.1, Figure 8.2-1	Relocated and replaced switchyard breakers.
Figure 8.2-1, 8.3.1.1.2.3, 8.3.1.2.1, 8.3.1.2.2.4, Table 8.3-8	Replaced vital bus inverters 2-III & 2-IV and added an additional bypass transformer.
Figure 8.2-1, 8.3.1.1.2.3, 8.3.1.2.1, 8.3.1.2.2.4, Table 8.3-8	Replaced vital bus inverters 1-III & 1-IV and added a new bypass switch.
9.1.3.1, 9.1.3.3.1, Table 9.1-2	Provided for offload of fuel from the reactor vessel to the spent fuel pool as early as 100 hours after shutdown.
Figure 9.1-8	Removed an electrical cable reel from the fuel handling bridge crane.
9.2.3.1, Table 9.2-10	Replaced domestic water Well No. 3 with Well No. 7.
9.3.3.2, 10.4.2.3	Installed backflow preventers in the floor drains of the Unit 1 & 2 air conditioning rooms.
Table 9.3-2, 10.4.7.2, Table 10.4-2	Increased the design flow for the Unit 1 isolated phase bus duct air coolers and abandoned in place certain flash evaporator system components.
Tables 9.3-2 & 10.4-2	Corrected the description of Unit 1 flash evaporator system components previously abandoned in place.
Table 9.3-7	Corrected the description of boron recovery system equipment.
9.4.6.3	Updated the description of the safeguards supply fans noting that the high speed function is disabled.
9.4.9.3	Updated the description of containment isolation during refueling to include the hi-hi radiation signal from the manipulator crane radiation monitor.
9.5.1.2.3, 9.5.1.3.4	Replaced the heat detectors on the Unit 2 main transformers.
10.2, 10.2.1.1.2, 10.2 Refs	Reduced the frequency of main turbine and governor valves surveillance testing from once per three months to once every six months.

Revision 42—09/29/06 (continued)

Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
10.3.1	Clarified the description of the steam generator PORVs' design function and control cables.
10.4.2.3	Reanalyzed the maximum flooding elevation of the Turbine Building due to a failure of a condenser outlet expansion joint.
10.4.7.1	Replaced the bearing cooling tower chemical addition system.
11.4.2.1, 12.1.4.1	Updated the description of radiation monitor recorders.
12.4.3, Chapter 17 (all)	Replaced Chapter 17 in its entirety with a brief description of and reference to the recently implemented Topical Report DOM-QA-1. The Dominion Nuclear Facility Quality Assurance Program Description is based on ANSI/ASME NQA-1-1994 and will be maintained as a separate, single document for Dominion facilities. [10 CFR 50.54(a)]

Revision 41—09/30/05

Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
2.4.11.1, 2.4.11.2, 2.4.11.3, 2.4.11.5, 2.4.11.6, 2.4.14, Table 2.4-6	Corrected the extreme low water level value and clarified its basis. Provided revised values for the auxiliary service water pumps' and the reverse osmosis water pump's minimum operating level, required submergence, and actual submergence.
3.1.37.2, 3.11.2.5, Table 3.11-2, 3A.7, 6.1, 6.2.5.1, 6.2.5.2, 6.2.5.3, 6.2 Refs, Table 6.2-55 & 6.2-62, Figures 6.2-91, 6.2-92, 6.2-96, 6.2-97, 6.2-98, & 6.2-99	Incorporated license amendments on elimination of requirements for hydrogen recombiners and hydrogen monitors using the Consolidated Line Item Improvement Process. [10 CFR 50.44]
Table 3.5-5, 9.2.3.2.1	Reflected the removal of the use of hydrogen, the hydrogen storage facility, and the de-oxygenation trailer for the reverse osmosis system.
3.8.1.4.7, 3.8 Refs	Provided clarification to the description of masonry block walls.

Revision 41—09/30/05 (continued)

Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
4.4.2.3.4.2, 4.4 Refs, 4.5.3.2.2.6.4	Described the overall peaking factor uncertainty associated with the Framatome ANP Advanced Mark BW fuel product. [10 CFR 50.90 License Amendment]
5.2	Updated the code description of the pressurizer safety valves.
5.2.5, 5.2.5.1, 7.3.1.2, Tables 15.4-16, 15.4-23, & 15.4-26	Incorporated editorial corrections to improve readability, corrected spelling, and incorporated changes omitted from previously implemented UFSAR changes.
5.5.10.4, 6.2.2.4.2, Table 6.3-1	Changed the ASME Code reference for inservice testing activities from Section XI to a general reference to the ASME Code.
Tables 6.2-44, 6.2-45, & 6.2-46, 6.3.2.2.6, 6.3.4.4	Revised the safety analysis flow rate for maximum low head safety injection recirculation mode flow rate for the LHSI pump net positive suction head analysis.
6.3.2.1.4.2	Allowed that check valves 1-CH-240 and 2-CH-155 can be fitted with or without a spring.
6.4.1.2, Tables 11.4-1 & 12.1-4	Reflected consistent mark number format for the radiation monitoring system.
6.4.1.3.3, Table 6.4-1	Updated the concentration of ethanolamine up to 85%.
Tables 7.2-2, 7.5-1, 7.5-2, & 7.5-3	Updated the indicated accuracy for the containment pressure (narrow range), pressurizer water level, low reactor coolant flow, primary coolant flow, pressurizer pressure, steamline pressure, main feedwater flow, and steam flow.
Tables 7.2-2, 7.5-1, 7.5-2, & 7.5-3	Updated the indicated accuracy for the steam generator water level.
Tables 7.2-2 & 7.5-3	Updated the indicated accuracy for overtemperature ΔT and overpower ΔT.
7.3.1.3.5, 8.3.1.1.2.3, Table 8.3-8, 9.2.1.1, 9.2.1.2.2, 9.2.1.2.5	Modified the Unit 1 service water spray array motor-operated valve safety injection signal actuation cross-tie.
Table 7.5-2	Updated the indicated accuracy for the refueling water storage tank water level.

Revision 41—09/30/05 (continued)

Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
8.3.1.1.1, Table 8.3-1, Figures 8.2-1 & 8.2-2	Removed the 34.5-kV shunt reactor banks from the switchyard.
9.1.4.4.5, Figures 9.1-8 & 9.1-12	Modified the fuel handling bridge crane controls with a programmable logic controller and adjustable speed drives.
9.2.1.1	Incorporated editorial changes to cross-reference and be consistent with the Section 9.2.1.2.5 description of service water pump auto start.
9.2.1.6	Provided for the continued use of corrosion rate test specimens instead of the probe monitoring system in the service water system.
Table 9.2-10	Incorporated Well No. 6 into the domestic water supply component design data.
9.3.2.1.2, 9.3.2.1.5, Figure 9.3-2	Corrected the description of the sampling system.
9.5.1.1, 9.5.1.2.1, Figure 9.5-1, Table 10.4-6	Replaced the cooling tower for the bearing cooling system.
9.5.1.2.3	Replaced the heat detectors on the Unit 1 main transformers.
9.5.1.6.2	Reduced the time allowed to establish a backup fire suppression water system from 24 hours to immediately.
9.5.5.2, 9.5.7.2, Figures 9.5-6 & 9.5-8	Replaced the 2J emergency diesel generator lube oil and jacket coolant temperature switches with a temperature converter system.
10.4.3, 15.4.1.5.1	Incorporated editorial spelling correction and corrected typographical error in reference document number.
Table 11.4-2	Updated the isotopic response factors for Kr-85 and Xe-133 for the condenser air ejector radiation monitors.
15.1 Refs, 15.2 Refs, 15.3 Refs, 15.4 Refs	Updated the RETRAN Topical Report references.
15.3.1,8, 15.3.1.13, 15.3 Refs, Table 15.3-24	Incorporated the peak clad temperature penalties and benefits for the small break LOCA for Framatome ANP Advanced Mark BW fuel. [10 CFR 50.46]

Revision 41—09/30/05 (continued)

Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
18.2.1, 18.2.6, 18.2.9, 18.2.19, Table 18-1	Reflected the completion of License Renewal Commitment Item Nos. 3, 4, 5, 7, 8, 15, and 29.

Revision 40—09/30/04

Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
Table 2.4-6	Provided revised values for bearing lubricating water pump 1-BL-P-1B minimum operating level, required submergence, and actual submergence.
Table 2.4-6	Modified the minimum operating level and actual submergence of one safety-related circulating water screen wash pump.
Table 2.4-6	Provided revised (1-BL-P-1A) and corrected (1-BL-P-1B) values for bearing lubricating water pumps minimum operating level, required submergence, and actual submergence.
3.8.1.1.13, 3.8.1.1.14, 9.2.1.2.4.2	Replaced metal expansion joints with rubber expansion joints in the service water valve house and tie-in vault.
3.8.1.1.14, 3.8.4.5.4.7, 9.2.1.2.4.2	Deleted the description of pressure balanced expansion joints associated with replacement of metal expansion joints with rubber expansion joints in the service water valve house and tie-in vault. Incorporated v-cone flow measurement devices in the tie-in vault.
3A.58	Clarified non-destructive test personnel compliance with Regulatory Guide 1.58.
3C.1.1, 3C.2.7, 3C.2.7.9, 3C.5.1.2.2, 3C.5.1.8.2, 3C.5.2.2.2, 3C.5.2.8.2, Table 3C-1	Replaced the main steam and feedwater line leak detection system function with daily operator inspections in the mechanical equipment rooms.
Table 3C-3, 8.3.1.1.2.3, Table 8.3-8	Incorporated editorial corrections to vital bus panel board mark numbers.

Revision 40—09/30/04 (continued)

Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
4.1, 4.1 Refs, Table 4.1-2, 4.5 All, 5.1.2.1.2, 6.3.3.12, 6.3.3.13, 6.3 Refs, 7.2.1, 11A.1.1, 11A Refs, 15, 15.1.2.2, 15.1.9.7, 15.1 Refs, Tables 15.1-2 & 15.1-3, 15.3.1, 15.3.1.8, 15.3.1.9, 15.3.1.10, 15.3.1.11, 15.3.1.12, 15.3.1.12.1, 15.3.1.12.2, 15.3.1.13, 15.3.4.2.1, 15.3.4.2.2, 15.3.4.2.3, 15.3.4.2.5, 15.3.4.2.6, 15.3.4.3, 15.3 Refs, Tables 15.3-5 through 15.3-23, Figures 15.3-33 through 15.3-163, 15.4.1, 15.4.1.9, 15.4.1.10, 15.4.1.11, 15.4.1.12, 15.4.1.13, 15.4.1.14, 15.4.1.14.1, 15.4.1.14.2, 15.4.1.14.3, 15.4.1.15, 15.4.1.16, 15.4.1.16.1, 15.4.1.16.2, 15.4.1.16.3, 15.4.1.16.4, 15.4.1.17, 15.4.1.18, 15.4.4.1, 15.4.4.2.1, 15.4.4.2.2, 15.4.4.2.3, 15.4.4.3, 15.4.6.1.2, 15.4.6.2.1, 15.4.6.2.1.2, 15.4.6.2.2.2, 15.4.6.2.2.3, 15.4.6.2.3.1, 15.4.6.2.3.2, 15.4.6.2.3.3, 15.4.6.2.3.4, 15.4 Refs, Table 15.4-16 & 15.4-19 through 15.4-28, Figures 15.4-75 through 15.4-109	Added the description of the Framatome ANP Advanced Mark BW fuel product. [10 CFR 50.90 License Amendment]
Table 4.1-2, 4.3.2.2.6, 4.3.2.3.1, 4.3.3, 4.3.4, 4.3.4.1, 4.3.4.2, 4.3.4.2.1, 4.3.4.3, 4.3 Refs, Tables 4.3-6 & 4.3-10, 15.1 Refs, 15.3 Refs	Added the description of the Studsvik Core Management System computational model for reactor physics analyses.
4.2.1.4.2, 4.2.3.4.1	Updated the feed fuel and burnable poison rod vendor specifications to no longer require ultrasonic or x-ray testing on these components.
Tables 5.1-1 & 5.5-17	Corrected the description of pressurizer spray flow rate.
5.2.3.4	Corrected typographical and grammatical errors.

Revision 40—09/30/04 (continued)

Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
Table 5.2-22, 18.2.3	Corrected the description of reactor lower head instrumentation material. Clarified criteria for maintenance and corrective action due to evidence of borated water leakage.
Tables 5.2-22	Provided for another type of material for pressurizer safety valve forgings.
5.5.1.3.11	Incorporated a filter size range for the reactor coolant pump shaft seal-water injection filters.
6.2.1.2.19, Table 6.2-62	Added storage boxes for scaffolding materials in the annulus area of containment.
6.3 Refs, 15.4.1.14.1, Table 15.4-22, 15.4-23, 15.4-24, 15.4-28, Figures 15.4-86, 15.4-87, 15.4-88, 15.4-89, 15.4-90, 15.4-91, 15.4-92, 15.4-93, 15.4-94, 15.4-95, 15.4-96, 15.4-97	Incorporated a change to the Unit 1 summary of peak clad temperature penalties and benefits for the large break LOCA. [10 CFR 50.46]
Table 6.4-1	Removed chemical storage tank 1-WT-TK-18.
Table 6.4-1	Replaced the bearing cooling biocide product name with the generic chemical compound.
Table 7.2-4, 15.4.2.2.2.1, 15.4 Refs	Provided analysis results that smaller feedline breaks are protected by the high pressurizer pressure trip.
7.3.1.3.5, 8.3.1.1.2.3, Table 8.3-8, 9.2.1.1, 9.2.1.2.2	Modified the Unit 2 service water spray array motor-operated valve safety injection signal actuation cross-tie.
8.2.2	Clarified the requirements for switchyard stability.
8.2.2	Replaced switchyard protective relays.
8.3.1.1.2.6, 8.3 Refs	Provided for the use of UL 910 fire propagation testing for non-safety related and non-Appendix R applications.
8.3.1.2.1	Introduced compensatory measures that will be implemented when an instrument bus inverter is unavailable. [10 CFR 50.90 License Amendment]

Revision 40—09/30/04 (continued)

Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
9.2.1.2.1, 9.2.1.2.2, 9.2.1.3.2	Established the requirement that the service water spray array supply valves be secured in the accident position (open) with power removed from the operators in order to change the number of spray arrays required for loop operability from three to two.
9.2.2.2.2, 9.2.2.3.2, Table 9.2-6	Converted the mechanical chilled water unit refrigerant from R-12 to R-134a.
Table 9.2-4	Replaced auxiliary service water pump, 2-SW-P-4.
9.3.4.2.4.21	Provided a new packing configuration for charging system modulating valves that have no leakoff line.
9.4.1.2, Table 9.4-2	Corrected the description of the control and relay room air supply and exhaust flow rates.
9.5.5.2, 9.5.7.2, Figures 9.5-6 & 9.5-8	Replaced the 1H emergency diesel generator lube oil and jacket coolant temperature switches with a temperature converter system.
9.5.5.2, 9.5.7.2, Figures 9.5-6 & 9.5-8	Replaced the 2H emergency diesel generator lube oil and jacket coolant temperature switches with a temperature converter system.
10.4.8.5	Modified the conductivity monitoring function for the condensate polishing system.
Table 10.4-2	Incorporated editorial correction to properly locate the flash evaporator duty and shell design pressure data.
Figure 11.3-1, 11.4.3, 11.4.3.2, Table 11.4-4, 12.2.4	Replaced the Process Vent, Vent A, and Vent B radiation monitors.
12.2.2.1, 12.2 Ref Dwgs	Restored the 12.2 Reference Drawings section.
15.2.4.2.2	Corrected the description of valves required to be locked in order to provide isolation of primary grade makeup water from the reactor coolant system.
15.2.4.2.3	Corrected typographical error in reference document number.

Revision 40—09/30/04 (continued)

Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
15.4.1, 15.4.1.1, 15.4.1.4, 15.4.1.5.2, 15.4.1.5.6, 15.4 Refs, Table 15.4-1, 15.4-2, 15.4-3, 15.4-4, & 15.4-5, Figures 15.4-1, 15.4-2, 15.4-3, 15.4-4, 15.4-5, 15.4-6, 15.4-7, 15.4-8, 15.4-9, 15.4-10, 15.4-11, 15.4-12, 15.4-13, 15.4-14, 15.4-15, 15.4-16, 15.4-17, 15.4-18, 15.4-19, 15.4-20, 15.4-21, 15.4-22, 15.4-23, 15.4-24, 15.4-25, 15.4-26, 15.4-27, 15.4-28, 15.4-29, 15.4-30, 15.4-31, 15.4-32, 15.4-33, 15.4-34, 15.4-35, 15.4-36, 15.4-37, 15.4-38, 15.4-39, 15.4-40, 15.4-41, 15.4-42, 15.4-43, 15.4-44, 15.4-45, 15.4-46, 15.4-47, 15.4-48, 15.4-49, 15.4-50, 15.4-51, 15.4-52, 15.4-53, 15.4-54, 15.4-55, & 15.4-56	Revised the large break loss of coolant accident analyses.
15.4.1.14.2, Table 15.4-25, 15.4-26, 15.4-27, & 15.4-28, Figures 15.4-98, 15.4-99, 15.4-100, 15.4-101, 15.4-102, 15.4-103, 15.4-104, 15.4-105, 15.4-106, 15.4-107, 15.4-108, 15.4-109	Incorporated a change to the Unit 2 summary of peak clad temperature penalties and benefits for the large break LOCA. [10 CFR 50.46]
17.2.1.2.D.3.c, Figure 17.2.1-3	Deleted the Manager Nuclear Engineering's responsibility for development of Improved Technical Specifications. Updated the title of and line of reporting for Supervisor Nuclear Records. [10 CFR 50.54(a)(3)]
17.2.2.8	Updated terminology to the current naming convention for inservice inspection personnel. [10 CFR 50.54(a)(3)]
17.2.10	Updated the description of qualification requirements for personnel performing non-destructive examinations. [10 CFR 50.54(a)(3)]
18.3.2.4, 18 Refs, Table 18-1	Completed evaluation of and eliminated enhanced inspections for safety injection accumulator nozzles' and charging line nozzles' environmentally-assisted fatigue.

Revision 39—09/30/03

Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
KWI, 3.6.2.4, Table 3.7-3, 3.11.2.9, 3A.46.1, 5.2.2.4, 6.2 Refs, 13.2.1	Incorporated editorial corrections of a key word index reference, misspelled words, and a table footnote.
1.1, 2.1.3.1, Table 3.8-7, 3.11.2.2, 3E.3.4, 4.0, 4.2.3.1.4, 5.1, Tables 5.1-1, 5.2-20, 5.2-21, 5.4-2, & 5.4-3, 5.5.2.3.4, 6.1, 7.1, 8.1, 9.1, 10.1, 11.0, 18.0, 18.1, 18.1.1, 18.1.2, 18.1.3, 18.1.4, 18.2, 18.2.1, 18.2.2, 18.2.3, 18.2.4, 18.2.5, 18.2.6, 18.2.7, 18.2.8, 18.2.9, 18.2.10, 18.2.11, 18.2.12, 18.2.13, 18.2.14, 18.2.15, 18.2.16, 18.2.17, 18.2.18, 18.2.19, 18.2.20, 18.3, 18.3.1, 18.3.1.1, 18.3.1.2, 18.3.1.3, 18.3.2, 18.3.2.1, 18.3.2.2, 18.3.2.3, 18.3.2.4, 18.3.3, 18.3.4, 18.3.5, 18.3.5.1, 18.3.5.2, 18.3.5.3, 18.3.5.4, 18.3.5.5, 18.3.5.6, 18.3.6, 18.4, 18.4.1, 18.4.2, 18.5, Table 18-1	Reflected the increased operating life basis from 40 to 60 years and added Chapter 18 [10 CFR 54.21] to describe the programs and activities that manage the effects of aging materials during the extended operation period associated with license renewal.
2.3.3.2.5.1, 2.3.4.3, Tables 2.3-15 & 2.3-16, Table 7.5-2, 7.7.1.10	Replaced the emergency response facilities computer systems.
Table 2.4-6	Modified the submergence of one auxiliary flash evaporator pump and three screen wash pumps.
3.1.36.2, 6.2.2.3, 6.2.2.4.1	Revised the frequency of inspection for the quench spray and recirculation spray nozzles. [10 CFR 50.90 License Amendment]
3.1.53.1, 6.2.2.2, 6.2.3.1.1, Table 6.2-40, 6.3.3.4, Tables 6.3-1 & 6.3-5, 9.1.4.5, 9.3.4.2.4.8, 15.2.13.2.2	Revised the boron concentration limits for the refueling water storage tank, casing cooling tank, safety injection accumulators, and the spent fuel pool in accordance with the Technical Specifications. [10 CFR 50.90 License Amendment]

Revision 39—09/30/03 (continued)

Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
Table 3.2-1, 6.4.1.3	Accurately reflected control room dose limits, auxiliary shutdown panel plant status, and refueling procedures. Deleted reference to the guide tube cover handling tool. Changed air conditioning chiller room fans from "supply" to "exhaust."
3.7.2.7.3, 3.7.2.7.3.1, 3.7.2.7.3.2, 3.7.2.7.3.3, 3.7.2.7.3.4, 3.7.2.7.3.5, 3.7.3.1.3.7, 3.7 Refs, 4.2.3.2.2, Table 5.1-1, 5.2.3.1, 5.2.3.1.1, 5.2.3.3.1, 5.2 Refs, Tables 5.2-2, 5.2-3, 5.2-16, 5.2-22, & 5.2-27, 5.4.1.1, 5.4.4.2, 5.4.4.3, Tables 5.4-1, 5.4-4, & 5.4-5, Figures 5.4-1 & 5.4-2, 6.2.1.1.1.3, 7.7.1.9.1, Table 9.6-1	Replaced the Unit 2 reactor vessel closure head.
3.7.2.7.3, 3.7.2.7.3.1, 3.7.3.1.4, 4.1, 4.2.3.2.2, Table 5.1-1, 5.2.3.1, 5.2.3.1.1, 5.2.3.3.1, 5.2 Refs, Tables 5.2-2, 5.2-3, 5.2-22, 5.2-26, & 5.2-27, 5.4.1.1, 5.4.2, 5.4.4.2, Tables 5.4-1, 5.4-4, 5.4-5, Figures 5.4-1 & 5.4-2, 6.2.1.1.1.3, 7.7.1.9.1, Table 9.6-1	Replaced the Unit 1 reactor vessel closure head.
3.8.1.5.1, 3.8.1.5.2, 3.8.1.5.2.1, 3.8.1.5.3, 3.8.2, 3.8.2.1.2.3, 3.8.2.1.2.4, 3.8.2.3, 3.8.2.7, 3.8.2.7.1, 3.8.2.7.2, 3.8.2.7.3, 3.8.2.9, 3.8.2.9.1, 3.8.2.9.2, 3.8.2.9.3, 3.8.2.9.4, 3.8.2.9.5, 3.8 Refs, 3A.10, 3A.15, 3A.18, 3A.19	Completed the restoration of construction opening in the containment structure for the Unit 2 reactor pressure vessel head replacement.
3.8.1.5.3.1, Table 17.2-0	Provided for the repair and testing of a temporary opening in the containment due to reactor vessel head replacement. [10 CFR 50.54(a)(3)]
3.8.2.9, 3.8.2.9.2, 3.8.2.9.4, 3.8.2.9.5	Completed the restoration of construction opening in the containment structure for the Unit 1 reactor pressure vessel head replacement.

Revision 39—09/30/03 (continued)

Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
3.8.4.5.4.2, 3.8.4.5.4.5, Figures 3.8-41 & 3.8-43	Replaced service water discharge piping mechanical (metal) expansion joints with rubber expansion joints.
Figure 3.8-4, 5.1.1.9	Corrected spelling and typographical errors.
4.2.1.1.2, 4.2 Refs	Included description of the consideration of corrosion of zirconium-based fuel assembly structural components.
4.2.1.2, 4.2.1.2.1, 4.2.1.2.2, 4.2.3.3.1, Table 4.2-2	Incorporated small dimensional changes for fuel assemblies and accurately reflected burnable poison assembly design.
4.2.3.4.2	Eliminated the seismic allowance in the control rod drop time surveillance requirement.
Figure 4.4-21, 7.9.2.1, Table 7.9-1	Described that Unit 2 incore instrumentation thermocouple 2-RC-TC-T9 was abandoned in place at core location F5.
5.1.1.9, 5.2.3.4, 5.2 Refs, 6.2.1.2.15, Table 6.3-8, 9.1.4.4.2, Figures 9.1-5 & 9.1-6, 9.6.4.4, Table 9.6-1	Modified the service structure, cooling air shroud and shroud support, insulation, and intermediate lift ring for the Unit 2 reactor vessel head replacement.
5.1.1.9, 5.2.3.4, 5.2 Refs, 6.2.1.2.15, Table 6.3-8, 9.1.4.4.2, Figures 9.1-5 & 9.1-6, 9.6.4.4, 9.6 Refs, Table 9.6-1	Modified the service structure, cooling air shroud and shroud support, insulation, and intermediate lift ring for the Unit 1 reactor vessel head replacement.
5.2.2.2	Reflected Low Temperature Overpressure Protection System (LTOPS) bistable settings that were changed to preserve LTOPS setpoints.
5.5.3.2.1, Table 5.5-6	Removed a thermal sleeve from the Unit 1 accumulator safety injection line to reactor coolant loop 2.

Revision 39—09/30/03 (continued)

Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
Unit 2 only: 6.1, 6.2.1.1.1.1, 6.2.1.1.1.2, 6.2.1.1.1.3, 6.2.1.3.1, 6.2.1.3.1.1, 6.2.2.2, 6.2.2.3.2.1, 6.2.2.3.2.2, 6.2.2.3.2.4, 6.2.2.3.2.6, 6.2.2.3.3, 6.2.6.3, Tables 6.2-1, 6.2-2, 6.2-4, 6.2-11, 6.2-12, 6.2-13, 6.2-38, 6.2-44, 6.2-45, & 6.2-56, Figures 6.2-61, 6.2-62, 6.2-63, 6.2-64, 6.2-65, 6.2-66, & 6.2-82, 6.3.2.2.2, 6.3.2.2.6, Table 6.3-9, Figures 6.3-7, 6.3-8, 6.3-9, 6.3-10, 6.3-11, 6.3-12, & 6.3-13	Implemented the Unit 2 revised LOCA containment integrity analysis. [10 CFR 50.90 License Amendment]
6.1, 6.2.1.1.1.1, 6.2.1.1.1.2, 6.2.1.1.1.3, 6.2.1.3.1, 6.2.1.3.1.1, 6.2.2.2, 6.2.2.3.2.1, 6.2.2.3.2.2, 6.2.2.3.2.4, 6.2.2.3.2.6, 6.2.2.3.3, 6.2.6.3, Tables 6.2-1, 6.2-2, 6.2-4, 6.2-11, 6.2-12, 6.2-13, 6.2-38, 6.2-44, 6.2-45, & 6.2-56, Figures 6.2-61, 6.2-62, 6.2-63, 6.2-64, 6.2-65, 6.2-66, & 6.2-82, 6.3.2.2.2, 6.3.2.2.6, Table 6.3-9, Figures 6.3-7, 6.3-8, 6.3-9, 6.3-10, 6.3-11, 6.3-12, & 6.3-13	Implemented the Unit 1 revised LOCA containment integrity analysis. [10 CFR 50.90 License Amendment]
6.2.1.4.4, Table 6.2-37 & 6.2-53	Removed water-filled penetrations from the 10 CFR 50, Appendix J Type C Program.
6.4.1.2, 6.4.1.3, 6.4 Ref Dwgs, 9.4.1.1, 9.4.1.2, 9.4.1.3, 9.4.1.5, Table 9.4-2	Installed two new control room bottled air trains to provide a total of four trains supplying breathing air and pressurization.
7.2.1.1.2, Figure 7.2-4	Reformatted the equations describing overtemperature delta T and overpower delta T setpoints.
8.1.2	Eliminated the battery charger for the spillway gate supervisory control system batteries.
8.2.1, Figures 8.2-1 & 8.2-2	Installed an additional 500/230 kV transformer and rearranged the 230 kV bus in the switchyard.

Revision 39—09/30/03 (continued)

Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
Figure 8.2-1	Replaced vital bus inverters 2-I & 2-II and added an additional bypass transformer for each unit.
8.3.1.1.2.3, 8.3.1.2.1, 8.3.1.2.2.4, Table 8.3-8	Replaced vital bus inverters 1-I & 1-II.
8.3.1.1.2.3, 8.3.1.4.1.4, 8.3.1.2.2.4, Table 8.3-8	Installed replacement vital bus inverters 2-I and 2-II.
9.1.4.9.1, 9.1.4.9.2, 9A.2, 9B.2, 9B.3, 15A.1	Placed a cask pedestal in the cask loading area of the spent fuel storage pool.
9.2.3.1, Table 9.2-10	Refurbished Well 4 of the domestic water system.
9.3.1.3.2	Provided cross-reference to UFSAR Section 3.1.19.2.
9.3.4.2.4.20, Table 9.3-5, 12.1.6.2	Corrected the description of the operation of the primary ion exchangers.
9.5.1.3.1.3	Corrected the description of the auxiliary feedwater pump rooms as 10 CFR 50 Appendix R areas.
9.5.2.1.1	Allowed the public address system to be powered from either vital bus 1-II or 2-II.
9.5.5.2, 9.5.7.2, Figures 9.5-6 & 9.5-8	Replaced the 1J emergency diesel generator lube oil and jacket coolant temperature switches with a temperature converter system.
10.2	Clarified the operating pressure limit for high pressure turbine gland steam header pressure.
10.4.2.2	Provided a clarified description of the function of the circulating water vacuum priming system to remove noncondensable gases.
10.4.8.2, 10.4.8.4, 10.4.8.5	Upgraded the Unit 1 and Unit 2 condensate polishing systems with programmable logic controllers.
11.4.2.1, 11.4.2.2, 11.4.2.3, 11.4.2.4, 11.4.2.5, 11.4.3, 11.4.3.1.1, 11.4.3.1.2, 11.4.3.1.3, 11.4.3.2, 11.4.5, Table 11.4-1 & 11.4-2	Replaced the Process Vent, Vent A, and Vent B radiation monitors.

Revision 39—09/30/03 (continued)

Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
15.1.2.3	Provided an enhanced text description of rod cluster control assembly bank operability consistent with the Technical Specifications.
15.4 Refs, Table 15.4-5	Incorporated a change to the summary of peak clad temperature penalties and benefits for the large break LOCA. [10 CFR 50.46]
17.2.0.2, Table 17.2-0, 17.2.2.1, 17.2.2.5, 17.2.2.6, 17.2.10, 17.2.17	Made editorial corrections to correctly refer to Table 17.2-0.
17.2.1.1.A, 17.2.1.2.B, 17.2.1.2.B.1, 17.2.1.2.B.1.b.1.1, 17.2.1.2.C.1, 17.2.16.2.B.2, 17.2.16.2.C, 17.2.1.16.2.D, Figures 17.2.1-1 & 17.2.1-2, Table 17.2-0, App C A.8.e, B.6.e, B.6.i, B.7.c, & B.8	Revised organizational titles of the Senior Vice President Nuclear Operations, Shift Manager, and Unit Supervisor. [10 CFR 50.54(a)(3)]
17.2.1.2	Assigned responsibility for maintenance of plant equipment history to the Manager Nuclear Maintenance. [10 CFR 50.54(a)(3)]
17.2.1.2.A.2, Figure 17.2.1-1	Deleted the description of and reference to the Nuclear Oversight Board. [10 CFR 50.54(a)(4)]

Revision 38—09/03/02

Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
KWI	Deleted “Hypochlorite Treatment” from the Key Word Index listing for the domestic water system.
Figure 1.2-1	Added the Independent Spent Fuel Storage Installation to the Site Plan.

Revision 38—09/03/02 (continued)

Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
2.4.3, 2.4.14, 2A.4, 2A.5, 3.1.7.2, 3.8.4.5.2, 3.8.4.5.3, 3.8.4.6, 3.8.4.8, Table 3.8-15, 3A.13, 3A.16, 4.3.1.3, 4.3.1.5, 4.3.2.2.6, 4.3.2.4, 4.3.2.5.2, 4.3.2.5.6, 4.4.5.3, 5.1.3.1, 5.2.1.2, 5.2.4.1.1, 5.2.4.2, Table 5.2-4, 5.5.4.4, 5.5.7.3, 5.5.9.2.2, 6.2.1.4.5, 6.2.2.4.1, 6.2.4.4, 6.2.7.5, Tables 6.2-50, 6.2-58, & 6.2-59, 6.3.2.1.4.5, 6.3.2.1.4.7, 6.4.1.2, 6.4.1.3.1, 6.4.1.4, 7.1.1, 7.2.1, 7.2.1.1, 7.2.1.10, 7.2.2.1.1, 7.2.2.1.2, 7.2.2.2.1.7, 7.2.3.1, 7.2.3.2, Table 7.2-5, 7.3.1.1.1, 7.3.2.1.5.9, Table 7.3-2, 7.7.1.3.3, 7.7.1.13.1, 7.7.2.2, Table 7.7-2, 9.1.2, 9.1.4.6.1.1, 9.2.1.5, 9.2.2.6, 9.2.2.7, 9.2.5.4, 9.3.4.2.5.2, 9.3.4.3.1, 9.3.4.4, 9.4.1.1, 9.4.1.3, 9.4.1.4, 9.4.5.3, 9.4.5.4, 9.4.6.4, 9.4.8.5, 9.5.4.2, 9.5.4.4, 9.6.3, 10.3.2, 11.3.3.2, 11.4.2, 11.4.2.14.2, 11.4.3.1.1, 11.4.3.1.2, 11.4.3.1.3, 11.4.5, 11.5, 11C cover, 12.0, 12.1.4.1, 12.2.4, 12.3.1, 13.4, 13.5, 13.5 Refs, 14A, 15.1.2.3, 15.2.3.1, 15.2.6.3.1, 15.2.10.1, 15.3.1.4, 15.4.1.2, 15.4.1.4, 15.4.1.7, 15.4.5.2.1, 15.4.5.2.3, 15.4.7.2.1, 15.4.7.2.4.1, 15.4.7.2.4.4, 16.1, 16.2	Implemented the conversion to Improved Technical Specifications including the relocation of requirements to the UFSAR. [10 CFR 50.90 License Amendment]
2.4.10, 2.5.5, 2A.3, 2A.4, Table 3.2-1, 3.8.6, 3.8.6.1, 3.8.6.2, Figure 3.8-61	Provided description of the flood protection dike.
2.4.11.4	Included reservoir discharge flow reductions for drought conditions in accordance with the Lake Level Contingency Plan.

Revision 38—09/03/02 (continued)

Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
3.1.53.2, 4.3.1.1, 4.3.1.5, 4.3.2.1, 4.3.2.7, 4.3 Refs, 9.1.2, Table 15.3-1	Established spent fuel pool soluble boron concentration and fuel assembly loading restrictions based on burnup and enrichment. Increased maximum fuel enrichment from 4.3 to 4.6 weight percent U-235. [10 CFR 50.90 License Amendment]
3.1.53.2, 6.2.2.2, 6.2.3.1.1, 6.2.3.3, Table 6.2-40, Figures 6.2-76 & 6.2-77, 6.3.3.4, Tables 6.3-1 & 6.3-5, 9.1.4.5, 9.3.4.2.4.8, 15.2.13.2.2, Table 15.2-1	Increased the boron concentration in the spent fuel pool and Unit 1 refueling water storage tank, casing cooling storage tank, and safety injection accumulators. [10 CFR 50.90 License Amendment]
3.8.2.1.4.1, 4.3.2.7, Table 5.5-17, 15.4.5.3	Corrected typographical and editorial errors.
3C.3.3, 3C.5.4.6.2, & 10.4.6.5	Provided discussion of the auxiliary building ambient temperature monitoring system for detection of a high energy line break and associated automatic/manual actions.
4.2.1.3.1, 4.2 Refs, 4.4.2.8.1, 4.4.3.4.2, 4.4 Refs, 15.4 Refs	Supplemented the fuel rod design criteria references to new fuel performance models.
5.2.5.1, 5.2 Refs	Updated references to the current inservice inspection interval.
6.2.2.1, 7.1.3.2.4, Table 7.5-3, 8.3.2.1, 9.5.1.3.1.4	Incorporated technical and editorial corrections and clarifications related to containment depressurization systems, environmental requirements of the reactor trip system, control room indicators, and dc power system.
6.2.2.3.2.1	Updated the containment analysis NPSH available for the recirculation spray pumps.
6.2.3.2, Table 6.2-50, 9.4.2.3, 9.4.6.3, 9.4.8.2	Indicated that the maximum relative humidity of the auxiliary building charcoal filter inlet air will be below 70%. Clarified the design description of the primary ventilation system.
6.2.5.3, 6.2 Refs, Tables 6.2-54 & 6.2-59, Figures 6.2-80, 6.2-81, 6.2-82, 6.2-86, 6.2-87, 6.2-88, 6.2-89, 6.2-90, & 6.2-91	Reanalyzed hydrogen concentration in containment following a LOCA.

Revision 38—09/03/02 (continued)

Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
6.2 Refs, 6.4.1.3.3, Table 6.4-1	Corrected a typographical error and incorporated changes omitted from a previously implemented UFSAR change.
Tables 6.2-44 & 6.2-45, 6.3.2.2.6, 6.3.4.4	Revised the safety analysis flow rate for maximum low head safety injection recirculation mode flow rate NPSH analysis. Clarified the safety injection pump test description.
Table 6.2-50, 9.4.8.1, 9.4.8.4	Clarified that auxiliary building central exhaust is manually aligned to the filters rather than automatically.
6.4.1.3.3, Table 6.4-1	Deleted the product name for zinc chloride and revised its storage tank capacity.
6.4.1.3.3, Table 6.4-1	Updated the description of potentially hazardous chemicals stored on the plant site to add sodium hydroxide, hydrochloric acid, and hydrogen peroxide. Eliminated references to specific products and methods.
Figures 7.7-6 & 7.7-7	Updated the figure representations of the pressurizer pressure and level control and pressurizer heater control systems to agree with the text description.
Figure 8.2-1	Corrected a minor error in the figure representation of the 34.5 kV system in the switchyard.
8.3.1.1.2.3, 9.5.1.1, 17.2.1.2, 17.2.5	Removed terminology associated with the former 10 CFR 50.59 regulation and incorporated wording from the current rule.
9.2.1.2.1, 9.2.1.4.1	Clarified the two-valve isolation from the service water header provided by the manual isolation valve and the single check valve. Added stainless steel service water piping and Hastelloy C276 valves.
9.2.1.2.1, Figure 9.2-1	Reconfigured the service water supply and return headers for the instrument air compressors and the charging pump lube oil and gear coolers.
9.2.1.2.4, Table 9.2-4	Replaced the service water air system compressor, dryer, and receiver tank.
9.2.2.3.1	Clarified the component cooling system thermal relief requirements.

Revision 38—09/03/02 (continued)

Section	**Changes** Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
9.3.2.1.2, 9.3.2.1.3, Figure 9.3-2	Corrected the description of the steam generator on-line chemistry monitoring system.
9.3.2.2, 9.3 Refs	Clarified the status of the High Radiation Sampling System — Post-Accident. [10 CFR 50.90 License Amendment]
9.5.1	Clarified the description of the low pressure carbon dioxide system zone isolation.
9.5.1.1	Identified fire protection systems that are not required to satisfy regulatory requirements. [10 CFR 50.48]
9.5.1.1	Identified fire protection systems that are not required to satisfy regulatory requirements. [10 CFR 50.48]
Figure 15.2-44, 15.4.6.2.3.4	Corrected a typographical error and incorporated a change omitted from a previously implemented UFSAR change.
15.4.2.2.2.2, 15.4 Refs	Incorporated the evaluation of steam generator mid-deck plate pressure differential on safety analysis transients.
17.2.1.1, 17.2.1.2, 17.2.10, Figures 17.2.1-1, 17.2.1-2, & 17.2.1-3	Modified organizational titles and realigned certain reporting relationships within the Nuclear Business Unit. [10 CFR 50.54(a)(3)]
17.2.1.2, Figures 17.2.1-1 & 17.2.1-3	Relocated the Records Management Program organization from General Services to Nuclear Engineering. [10 CFR 50.54(a)(3)]
17.2.1.2, 17.2.3, 17.2.5, 17.2.6, 17.2.11, 17.2.15, 17.2.16, 17.2.18, 17.2 Refs, Table 17.2-0, Appendix C	Relocated North Anna Power Station current technical specification requirements for the Management Safety Review Committee, Station Nuclear Safety and Operating Committee, and Station Nuclear Safety to the QA Topical Report. [10 CFR 50.90 License Amendment]
17.2.7	Updated the description of the organizational structure to reflect the responsibilities of the Vice President Nuclear Engineering and Vice President Nuclear Support Services with respect to procurement, vendor surveillance, and document reviews. [10 CFR 50.54(a)(3)]

Revision 37—09/04/01

Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
1.1, 1.2.3, 1.3.2, 1.5, 1.5.1, 1.5.1.1, 1.5.1.2, 1.5.1.3, 1.5.1.4, 1.5.1.5, 1.5.1.6, 1.5.2, 1.5.2.1, 1.5.2.2.1, 1.5.2.2.2, 1.5.2.2.3, 1.5.2.2.4, 1.5.2.2.5, 1.5.2.3, 1.5.3, 1.5.3.1, 1.5.3.2, 1.5.3.2.1, 1.5.3.2.2, 1.5.3.2.3, 1.5.3.2.4, 1.5.3.2.5, 1.5.3.2.6. 1.5.3.2.7, 1.5.3.2.8, 1.5.3.2.9, 1.5.3.2.10, 1.5.3.2.11, 1.5.3.2.12, 1.5.3.2.13, 1.5.3.2.14, 1.5.3.2.15, 1.5 Refs, 3.1.23.2, 3.1.53.2, 3.9.1.2.9, 3.9.3.1.4, 3.9 Refs, 3A.19, 3A.80, 5.5.1.1, Figure 6.2-2, 7.7.1.3.3, 7.9.2.1, 7.9.2.2, 9.3.4.2.5.2, 9.3.4.3.1, 11A.1.3, 11A.3, 11A Refs, Table 11A-1, & Table 14.1-1	Incorporated technical and editorial corrections and clarifications related to miscellaneous portions of the reactor design.
2.1.3.3, 3.9.1.2.3, Table 6.4-1, 9.1.4.5	Corrected typographical, administrative, and format errors.
2A, 3.8 Refs	Corrected typographical and editorial errors.
Table 3.5-5, 9.5.1.2.1, 9.5.1.2.4.4, 9.5.1.3.1.2, 9.5.1.4.1.2	Updated the description of fire protection and fire fighting equipment.
3.7.2.5, 3.7.3, 3.7.3.2, 3.7.3.2.2.3, 3.7.3.2.2.4, 3.7.3.3.5, 3.7 Refs, 3.9.1.3, 3.10.1, 3.10.2, 3.10.3, 3.10 Refs	Incorporated the criteria and methodology of the generic implementation procedure for seismic design and equipment verification. [Unresolved Safety Issue A-46]
3.8.1.1.6, 9.1.4.4.12, 9.5.9.1, 9.5.9.2	Installed Helium and Vacuum Drying System equipment that supports loading of Independent Spent Fuel Storage Installation casks. Updated the cask trolley description.
Figure 3.8-31	Deleted pump house gate and fence symbols and labels from the service water reservoir figure representation.
3A.46.1, 6.2.2.1, 12.1.4.2, 12.2.6, 15.2.4.2.2	Corrected typographical spelling errors and electronic scanning discrepancies, and incorporated a phrase omitted from a previously implemented UFSAR change.

Revision 37—09/04/01 (continued)

Section	**Changes** Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
Table 3C-2	Revised operating pressure and temperature, line size, seismic class, and quality class parameters for specific high-energy lines outside containment.
4.2.1.2, Table 4.2-2, 4.3.2.6, Figures 4.3-38 & 4.3-39, 6.2.1.3.1.1, 6.2.1.3.1.3, 6.2 Refs, 6.3.2.2.1, Figures 6.4-2 & 6.4-3, 7.2.2.1.2.1, 7.6.3.2, 11.1.1.2, Table 11.1-11, 15, 15 Refs, 15.1, 15.1.2.1, 15.1.2.2, 15.1.2.3, 15.1.3, 15.1.5, 15.1.6, 15.1.7.2, 15.1.8.1, 15.1.8.2, 15.1.9.2, 15.1.9.4, 15.1 Refs, Tables 15.1-2, 15.1-3, 15.1-4, 15.1-7, & 15.1-8, Figure 15.1-2, 15.2, 15.2.1.2.1, 15.2.1.2.2, 15.2.2.1, 15.2.2.2.1, 15.2.2.3, 15.2.3.2, 15.2.4.2.2, 15.2.6.1, 15.2.6.1.1, 15.2.6.1.2, 15.2.6.2.1.1, 15.2.6.2.2.1, 15.2.6.2.3.1, 15.2.6.2.3.2, 15.2.7.2.1, 15.2.7.2.2, 15.2.10.3.2, 15.2.10.3.3, 15.2.13.2.1, 15.2.13.2.2, 15.2.13.3, 15.2.14.1, 15.2.14.2.1, 15.2 Refs, Table 15.2-1, Figures 15.2-19, 15.2-20, 15.2-21, 15.2-22, 15.2-23, 15.2-24, 15.2-25, 15.2-26, 15.2-27, 15.2-28, 15.2-29, 15.2-30, & 15.2-31, 15.3.1.3, 15.3.1.4, 15.3.1.5.2, 15.3.1.6, 15.3.3.1, 15.3.3.3, 15.3.4.1, 15.3.5.2, 15.3.7.1, 15.3.7.2, Figure 15.3-29, 15.4.1.5.4, 15.4.1.8.1, 15.4.2.1.2.2, 15.4.2.2.2.1, 15.4.3.4.1, 15.4.3.4.2, 15.4.5.1, 15.4.5.2.3, 15.4.5.2.4, 15.4.6.2.1, 15.4.6.2.1.2, 15.4.6.2.2.5, 15.4.6.2.3.6, 15.4.7.2.4.2, 15.4 Refs, & Table 15.4-15	Incorporated technical and editorial corrections and clarifications related to plant safety analyses.

Revision 37—09/04/01 (continued)

Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
4.2.1.2.2	Changed the material of the fuel assembly hold-down spring bolts that attach the springs to the top nozzle.
4.3.1.1, 4.3.1.3, 4.3.1.5, 4.3.2.1, 4.3.2.2, 4.3.2.2.3, 4.3.2.2.4, 4.3.2.2.5, 4.3.2.2.6, 4.3.2.2.7, 4.3.2.3.1, 4.2.3.2.3, 4.3.2.3.4, 4.3.2.4, 4.3.2.4.2, 4.3.2.4.6, 4.3.2.4.8, 4.3.2.4.9, 4.3.2.5.1, 4.3.2.5.3, 4.3.2.5.4, 4.3.2.5.6, 4.3.2.6, 4.3.2.7, 4.3.2.8.4, 4.3.2.8.5, 4.3.2.9, 4.3.3, 4.3.3.1, 4.3.3.2, 4.3.3.2.1, 4.3.3.2.2, 4.3.3.2.3, 4.3.3.2.4, 4.3.3.2.5, 4.3.3.3, 4.3 Refs, Tables 4.3-1, 4.3-3, 4.3-6, 4.3-7, 4.3-8, 4.3-9, 4.3-10, & 4.3-11, Figures 4.3-4, 4.3-14, 4.3-15, 4.3-16, 4.3-17, 4.3-18, 4.3-19, 4.3-20, 4.3-23, 4.3-37, 4.3-40, 4.3-43, 4.3-44, 4.3-45, & 4.3-46	Incorporated technical and editorial corrections and clarifications related to reactor design nuclear.
4.4.1.1, 4.4.1.5, 4.4.2.1, 4.4.2.2, 4.4.2.2.1, 4.4.2.2.2, 4.4.2.2.3, 4.4.2.2.5, 4.4.2.2.6, 4.4.2.3, 4.4.2.3.1, 4.4.2.3.2.1, 4.4.2.3.2.2, 4.4.2.3.3, 4.4.2.3.4, 4.4.2.3.4.1, 4.4.2.3.4.2, 4.4.2.5, 4.4.2.6, 4.4.2.7.1, 4.4.2.7.2, 4.4.2.8.1, 4.4.2.8.2, 4.4.2.8.3, 4.4.2.10.1, 4.4.2.10.2, 4.4.2.10.4, 4.4.2.10.5, 4.4.2.10.6, 4.4.2.10.7, 4.4.2.10.8, 4.4.2.11, 4.4.3.1.1, 4.4.3.1.2, 4.4.3.1.3, 4.4.3.2.1, 4.4.3.2.2, 4.4.3.3., 4.4.3.4.1, 4.4.3.4.2, 4.4.3.6, 4.4.3.7, 4.4.3.10, 4.4.4.1, 4.4.4.2, 4.4 Refs, Tables 4.4-1 & 4.4-2, Figures 4.4-1, 4.4-2, 4.4-3, 4.4-7, 4.4-8, & 4.4-15	Incorporated technical and editorial corrections and clarifications related to thermal-hydraulic reactor design.
5.2.2.2	Updated the calculation of the LTOPS enabling temperature.

Revision 37—09/04/01 (continued)

Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
5.2.2.2, 5.2.3.3.1, 5.2 Refs, Tables 5.2-20 & 5.2-21, 5.4.3.6, 5.4.3.6.1, 5.4.3.6.3.2, 5.4 Refs, Tables 5.4-2 & 5.4-3	Revised the analysis basis for reactor coolant system pressure/temperature operating limits, LTOPS setpoints, and LTOPS enable temperatures. [10 CFR 50.90 License Amendment]
5.2 Refs, & Table 5.2-21	Revised the Pressurized Thermal Shock screening calculation result for Unit 2 vessel weld 05A. [10 CFR 50.61]
6.2.4.1, 6.2 Refs	Documented the evaluation of isolated water-filled containment penetrations potentially susceptible to over-pressurization during a DBA. [Generic Letter 96-06]
6.2.4.2, Table 6.2-33, 9.1.4.3.2, 9.1.4.6.3	Provided additional description of the fuel transfer tube design, the function of its isolation valve, and associated test requirements.
6.2.5.3, Table 6.2-59	Updated the description of the containment hydrogen generation analysis.
Table 6.2-51, 9.4.8.1	Clarified the description of testing of the safety-related charcoal filters installed in the auxiliary building and control room ventilation exhaust systems. [Generic Letter 99-02 and 10 CFR 50.90 License Amendment]
Table 6.2-53	Corrected a typographical error.
6.3.3.10, 6.3 Refs	Incorporated the revised cold-to-hot leg recirculation switchover time associated with increased boron concentration. [10 CFR 50.90 License Amendment]
Table 6.3-3, Table 9.3-53	Revised the description of the charging/high head safety injection pumps' material construction.
Table 6.4-1	Changed the bearing cooling tower biocide to Isothiazolin.
8.3.1.1.1	Provided discussion allowing the reserve station service load shed circuit to be defeated for short periods to support maintenance activities.
9.1.3.3.1, Table 9.1-2	Updated the maximum spent fuel pit heat load analysis results for various refueling scenarios.

Revision 37—09/04/01 (continued)

Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
9.2.1.2.1, 9.2.1.2.2, 9.2.1.3.1, 9.2.1.2.3	Clearly defined the number of service water system reservoir spray arrays that are required to be operable to meet minimum design basis requirements.
9.2.1.2.2, Figure 9.2-1	Implemented periodic blowdown of the service water reservoir to reduce concentration of chlorides and other contaminants.
9.6.4.1	Deleted the requirement for Station Nuclear Safety and Operating Committee review and approval of safe load path and exclusion area procedure changes prior to use.
9.6.4.4	Listed the reactor vessel head stud racks and the reactor cavity seal ring flip rig as NUREG-0612 special lifting devices.
12.3.1, 12.4.3, 13.2.2.3, 17.2.1.1, 17.2.1.2, 17.2.2.1, 17.2.2.5, 17.2.3, 17.2.7, 17.2.10, 17.2.15, 17.2.16.2, 17.2.17, 17.2.18, Figures 17.2.1-1, 17.2.1-2, & 17.2.1-3, Table 17.2-0	Modified organizational titles and reporting relationships associated with the entire Nuclear Business Unit. [10 CFR 50.54(a)(3)]
15.2.6, 15.2.6.1, 15.2.6.1.1, 15.2.6.1.2, 15.2.6.2, 15.2.6.2.1, 15.2.6.2.1.2, 15.2.6.2.2, 15.2.6.2.2.2, 15.2.6.2.3, 15.2.6.2.3.2, 15.2.6.3, 15.2.6.3.1, 15.2.6.3.2, 15.2.6.4	Reflected the current design bases that credit Technical Specification controls with precluding the preconditions for significant and uncontrolled reactivity insertion during the startup of an inactive loop. Incorporated conservative analysis of reactivity effects of the isolated loop recirculation activity required by Technical Specifications.
15.2.7.2.1, Table 15.2-1, Figures 15.2-20, 15.2-21, 15.2-22, 15.2-23, 15.2-24, 15.2-25, 15.2-26, 15.2-27, 15.2-28, 15.2-29, 15.2-30, & 15.2-31	Updated the analysis of the Loss of External Electric Load and/or Turbine Trip transient.
17.2.17, Table 17.2-0	Updated the Quality Assurance Topical Report description of the retention of quality assurance records in electronic media. [10 CFR 50.54(a)(4)]
Table 17.2-0	Clarified the provision for substitution of experience for a bachelor's degree. [10 CFR 50.54(a)(3)]

Revision 37—09/04/01 (continued)

Section	**Changes** Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
Tables 17.2-0, 17.2-2, & 17.2-3	Reduced records retention requirements consistent with ANSI N45.2.9 or applicable regulations. [10 CFR 50.54(a)(4)]

Revision 36—09/01/00

Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
KWI, 1.2.2, 1.2 RefDwgs, Ch 2, Tbl 2.1-2, 2.3.4.1, 2.4.1.2, 2.4.2.2, 2.4.3, 2.4.3.1, 2.4.3.2, 2.4.3.3, 2.4.3.4, 2.4.3.5, 2.4.3.6, 2.4.8, Tbl 2.4-6, Figs 2.4-4 & 2.4-7 thru 2.4-15, 2.5.4.3, 2.5.5, Fig 2.5-3, 2A.2.1, 2A.2.4.1.1, 2A.2.4.1.2, 2A.2.5.3, 2A.2.7, 2A.2.8, 3.2.2, Tbl 3.2-1, 3.3.2, 3.5.3, 3.5.4, 3.5.5, Tbl 3.5-5, 3.7.1, 3.7.2, 3.7.2.1, 3.7.2.3, 3.7.2.5, 3.7.2.6, 3.7.2.7, 3.7.2.7.1.7, 3.7.3.1.1, 3.7.3.1.2.2, 3.7.3.1.2.4, 3.7.3.2.2.2, 3.7.5, 3.7 Refs, Tbls 3.7-3 thru 3.7-8, 3.8.1.1.1, 3.8.1.1.5, 3.8.1.1.6, 3.8.1.2, 3.8.1.2.1, 3.8.1.4.7, 3.8.2.1.4.1, 3.8.2.1.4.4, 3.8.2.5, 3.8.2.7.6.1.2, 3.8.2.7.6.1.2.1, 3.8.2.7.6.1.2.2, 3.8.2.7.6.1.2.3, 3.8.2.7.6.1.2.4, 3.8.2.7.6.1.2.5, 3.8.2.7.6.2, 3.8.2.7.6.2.1, 3.8.2.7.6.2.2, 3.8.2.7.6.2.3, 3.8.2.8.1.8, 3.8.3.5, 3.8.4.5.3, 3.8.4.6, 3.8.4.7.5, 3.8.4.7.7, 3.8.4.8, 3.8.5.4, 3.8 Refs, 3.8 RefDwgs, Tbls 3.8-1 thru 3.8-6, 3.8-12, 3.8-15, 3.8-16, & 3.8-19, Figs 3.8-1, 3.8-4, 3.8-12, 3.8-20, 3.8-21, 3.8-23 thru 3.8-25, 3.8-30, 3.8-31, 3.8-35, 3.8-38, 3.8-39, 3.8-42, & 3.8-52 thru 3.8-59, 3.9.1.2.4, 3.9.1.2.4.1, 3.9.1.2.4.2, 3.9.1.2.6, 3.9.2.2, 3.9.3.3.1, 3.9.3.3.2, Fig 3.9-1, 3.10.1, 3.10.2, 3.10 Refs, Tbl 3.10-1, 3.11 Refs, Tbl 3.11-4, App. 3E, Tbl 3E-8, App. 3E Att. 2, App. 3E Att. 4, App. 3E Att. 5 Fig. 8, 11, & 12, App. 3E Att. 6, 5.2.1.2, 5.2.3.3.2, 5.5.1.4.1, 5.5.1.4.2, 5.5.1.4.2.1, 5.5.1.4.2.2, 5.5.1.4.2.3, 5.5.1.4.2.4, 5.5.1.4.3, 5.5.3.1, 5.5.9.2.2, 5.5.9.3.3, 7.9.1, Tbl 9.6-1, 9B.4.1	Incorporated technical and editorial corrections and clarifications related to civil, structural, and seismic topics.

Revision 36—09/01/00 (continued)

Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
KWI, 2.3.3.1.2, Table 3.2-1, 3.7.2.1, 3.7.2.6.1.7, 3.7.3.1.1, 3.7.3.1.2.3, 3.7.3.1.2.4, 3.7.3.1.2.5.1, 3.7.3.1.3.2, 3.7.3.2.2.2, 3.8.5, Figure 3.8-32, 4.3.2.2.6, 4.3.2.8.2, 5.5.9.3.3, 5A Att. 1 Table 1, 6.2.1.3.2.5, Table 6.2-52, Tables 6.2-52 & 6.2-54, 6.4.1.5, Table 6A-1, 9.2.2.1, Table 9.2-5, 9.3.3.1, 9.5.1.1, Table 11.5-1	Corrected cross-references, typographical and editorial errors, and electronic scanning discrepancies and standardized equation and footnote notations.
1.1, 1.2.7, 1.2.11, 1.4, 1.4.1, 1.4.2, 1.4.3, 1.4.3.1, 1.4.3.2, 1.4.4, 1.4.4.1, 1.4.4.2, Table 1.4-1, 3.2.2, 3.9.2.1, Table 3.11-3, 3A, 3A.20, Table 3A-1, 9.1.3.2, 9.1.3.3.1, 9.1.3.3.3, Table 9.1-2, Figures 9.1-1 & 9.1-3, 9.2.2.1.2, 9.2.2.1.3, 9.2 RefDwgs, Figures 9.2-3 & 9.2-4, 10.2.1.2, 10.2.1.7, Figures 10.2-1 & 10.2-2, 10.4.7.2, Figure 10.4-9	Incorporated technical and editorial corrections and clarifications related to the bearing cooling and condensate systems.
1.2.5, 2.1.1.3, 2.1.2.1, 3.1.51.2, 6.3.3.5, 9.3.5.1, 9.3.5.2, Tables 9.3-7 & 9.3-8, Figure 9.3-6, Chapter 11, 11.2.1, 11.2.2, 11.2.2.2, 11.2.3, 11.2.5, 11.2.5.1, Table 11.2-1, Figures 11.2-1 through 11.2-4, 11.4.4.1, 11.5, 11.5.2.1, 11.5.2.4, 11.5.3, 11.5.3.1, 11.5.3.2, 11.5.3.3, 11.5.4, 11.5.5, Tables 11.5-1 & 11.5-2, Figure 11.5-3, 11.6.3	Incorporated technical and editorial corrections and clarifications related to boron recovery and waste disposal systems.
1.2.8, 8.1.1, 8.1.2, 8.2.1, 8.2.2, 8.2 RefDwgs, Table 8.2-1, Figures 8.2-1 through 8.2-15, 8.3, 8.3.1.1.1, 8.3.1.1.2.3, 8.3.1.2, 8.3.1.2.1, 8.3.1.2.2.3	Incorporated technical and editorial corrections and clarifications related to vital bus and station service systems.

Revision 36—09/01/00 (continued)

Section	**Changes** Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
1.2.11, Tables 3.2-1 & 3.9-2, 3.11.1.1, Tables 3.11-1 & 3C-3, 5.2.3.2, Table 5.2-19, 6.3.2.1.2, 9.3.4.1, 9.3.4.1.2, 9.3.4.2.1, 9.3.4.2.2.1, 9.3.4.2.2.3, 9.3.4.2.2.4, 9.3.4.2.4, 9.3.4.2.4.1, 9.3.4.2.4.2, 9.3.4.2.4.5, 9.3.4.2.4.8, 9.3.4.2.4.9, 9.3.4.2.4.13, 9.3.4.2.4.16, 9.3.4.2.4.22, 9.3.4.2.4.23, 9.3.4.2.5.1, 9.3.4.3.1, 9.3.5.2, Tables 9.3-5 & 9.3-6, Figure 9.3-5, 12.1.2.7, 15.2.4.1	Incorporated technical and editorial corrections and clarifications related to chemical and volume control system.
Figure 1.2-2, 9.1.4.4.12	Added the Fuel Building trolley enclosure.
2.3.2.2.1.3, 2.3.3.2.1, 2.3.3.2.2, 2.3.3.2.4, 2.3.3.2.5.1, Table 2.3-15, 3.11.2.10, 7.7.1.4	Incorporated technical and editorial corrections and clarifications related to the electrical instrumentation system.
2.4	Update the description of the service water reservoir spray array freeze protection.

Revision 36—09/01/00 (continued)

Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
3.1.15.2, 3.11.1.2, 3A.13, 3A.97, Table 3C-3, 6.2.2.3, 6.2.3.2, Tables 6.2-48, 6.2-49, & 6.2-51, 6.3.2.1.4.1, 6.4.1.1, 6.4.1.2, 6.4.1.3, 6.4.1.3.1, 6.4.1.3.3, 6.4.1.4, 7.7.1.12.1, 7.7.1.13, 9.2.3.1, 9.4.1.1, 9.4.1.2, 9.4.1.3, 9.4.1.4, 9.4.1.5, 9.4.1.6, 9.4.2.1, 9.4.2.2, 9.4.2.3, 9.4.3.1, 9.4.3.2, 9.4.3.3, 9.4.3.4, 9.4.4.3, 9.4.5.1, 9.4.5.2, 9.4.5.3, 9.4.5.6, 9.4.5.7, 9.4.6.1, 9.4.6.2, 9.4.6.3, 9.4.6.4, 9.4.6.5, 9.4.7.1, 9.4.7.2, 9.4.7.3, 9.4.7.4, 9.4.7.5, 9.4.8, 9.4.8.1, 9.4.8.2, 9.4.8.3, 9.4.8.5, 9.4.9.1, 9.4.9.2, 9.4.9.3, 9.4.9.4, Tables 9.4-2 & 9.4-4, Figures 9.4-1 through 9.4-6, 9.5.1.2.2.1, 9.5.9.2, 9.5.10.3, Table 9.5-5, 11.3.5.7, 11.3.5.8, 12.1.2.10, 12.2.1, 12.2.2, 12.2.2.4, 12.2.4, 12.2.5.2, 15.4.5.2.3	Incorporated technical and editorial corrections and clarifications related to the ventilation system.
3.1.42.2, Table 3.9-1, 9.2.2.1.3, 9.2.2.2.1, 9.2.2.2.4, 9.2.2.3.1, 9.2.2.3.3, 9.2.2.5.1, Tables 9.2-5, 9.2-8, & 9.2-9, Figures 9.2-2 & 9.2-3	Incorporated technical and editorial corrections and clarifications related to component cooling water system.

Revision 36—09/01/00 (continued)

Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
3.1.46.2, 3.1.47.2, 3.1.48.2, 3.11.2.3, 5.2.4.1.1, 6.1, 6.2.1.1.1.1, 6.2.1.2.6, 6.2.1.2.9, 6.2.1.2.13, 6.2.1.3.1.1, 6.2.1.3.2.1, 6.2.1.3.2.3, 6.2.1.3.2.4, 6.2.1.3.2.5, 6.2.1.3.2.6, 6.2.1.4.2, 6.2.1.4.3, 6.2.1.4.4, 6.2.2.1, 6.2.2.2, 6.2.2.3, 6.2.2.3.2.4, 6.2.2.3.2.7, 6.2.2.3.3, 6.2.4.4, 6.2.6.2, 6.2.6.3, 6.2.7, 6.2.7.2, 6.2.7.3, 6.2.7.4, 6.2.7.5, 6.2 Refs, Tables 6.2-22 through 6.2-28, 6.2-30, 6.2-34 through 6.2-37, 6.2-39, & 6.2-58, Figures 6.2-11, 6.2-13, 6.2-15 through 6.2-18, 6.2-27, 6.2-28, 6.2-46, 6.2-84, & 6.2-85, 6.3.3.12, Table 6.3-8	Incorporated technical and editorial corrections and clarifications related to containment systems.
3.1.53.2, 4.2.1.4.1, 4.2.1.4.2, 6.2.2.2, 9.1.1, 9.1.2, 9.1.4.2, 9.1.4.3.1, 9.1.4.4.1, 9.1.4.4.4, 9.1.4.4.6, 9.1.4.4.8, 9.1.4.4.10, 9.1.4.4.12, 9.1.4.5, 9.1.4.6.6.1, 9.1.4.7, Figure 9.1-4	Incorporated technical and editorial corrections and clarifications related to the fuel handling system.
3.6.2.3	Revised the list of piping runs subject to augmented inservice inspection. [10 CFR 50, Appendix A, GDC 4]

Revision 36—09/01/00 (continued)

Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
3.6.2.3, 3.6.2.4, 3.6.2.5.3, 3.6.3.2.1, 3.6.3.2.2, 3.6.3.3, 3.6 Refs, 3C.1.1, 3C.1.2, 3C.1.3, 3C.2.7, 3C.2.7.1, 3C.2.7.2, 3C.2.7.3, 3C.2.7.9, 3C.4.3, 3C.5.1.1, 3C.5.1.1.1, 3C.5.1.1.2, 3C.5.1.1.3, 3C.5.1.2.2, 3C.5.1.8.1, 3C.5.2.1, 3C.5.4.1, 3C.5.4.6.2, 3C.5.4.9, 3C RefDwgs, Tables 3C-1 through 3C-4, & 3C-7, Figures 3C-3, 3C-12, 3C-13, 3C-22 through 3C-24, & 3C-26, 3F.1, 3F.3, 3F.4, 3F Refs, Tables 3F-1, 3F-3 through 3F-7, Figures 3F-1, 3F-4, 3F-6, 3F-7, 3F-12, App 5A Att.1 Table 1, 9.3.4.2.5.2	Incorporated technical and editorial corrections and clarifications related to the high energy line break report.
3.8.2.1.4	Incorporated a description of the containment liner repair procedure for through-wall defects.
3.8.2.1.4.1, 5.5.4.3.1, 5.6.2.1, 6.4.1.3.2, 7.2.2.3.2, 7.2.2.3.4, 8.3.1.1.2.6, Table 9.2-10, 9.3.3.2, 9.4.8.5, 9.5.1, 9.5.1.1, 9.5.1.2.2.1, 9.5.1.2.2.2, 9.5.1.2.3, 9.5.1.2.4.4, 9.5.1.3.1.1, 9.5.1.3.1.3, 9.5.1.3.1.8, 9.5.1.3.1.10, 9.5.1.3.1.11, 9.5.1.3.5, 9.5.1.3.6, 9.5.1.3.8, 9.5.1.4.1.2, 9.5.1.5, 9.5.1.6.2, Tables 9.5-1 & 9.5-7, Figures 9.5-1 through 9.5-3, 12.2.5, 12.2 Refs, 12.2 RefDwgs	Incorporated technical and editorial corrections and clarifications related to the fire protection system.
3.8.4.8	Updated description of the methodology of calculating service water reservoir losses.
Table 3.8-17, Figure 3.8-33	Reincorporated individual piezometer designation numbers. [10 CFR 50.90 License Amendment]

Revision 36—09/01/00 (continued)

Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
3.9, 6.2.2.2, 7.7.1.14, 9.1.3.3.3, Tables 9.2-6, 10.2-7, & 10.2-8, 15.2.10.3.2, Tables 15.4-5 & 15.4-6	Incorporated editorial changes consisting of grammatical enhancement, correction of typographical errors and cross-references, and consistent use of terminology, capitalization, and punctuation.
3.9.2.1, 10.3.1	Clarified the design code for the main steam safety system valves.
Table 3.9-1, 5.5.2.2, 9.2.3.2, 9.2.3.2.2, 10.1, 10.4.3.2, 10.4.4.3, 10.4.6.2, 10.4.6.3, 10.4.6.5, 10.4.8.2, 10.4 Refs, Tables 10.4-2 & 10.4-4, Figure 10.4-4	Incorporated technical and editorial corrections and clarifications related to feedwater, condensate, steam generator blowdown, and condensate polishing systems.
3.11.1.3.1, 3.11.1.3.2, 3.11.1.3.3, 3.11.2.2, 4.2.3.5, 5.5.1.3.9, 7.2.2.3.2, 7.5.1, 7.5.2, Tables 7.5-1 through 7.5-3, 7.7.1.3.3, 7.7.1.4.2, 7.7.1.8.2, 7.7.2.2, 7.7.2.6, Table 7.7-1, Figures 7.7-1, 7.7-3, 7.7-5, 7.7-9, 7.7-10, & 7.7-12	Incorporated technical and editorial corrections and clarifications related to nuclear control system.
Table 3.11-2, 6.1, 6.2.5.2	Incorporated technical and editorial corrections and clarifications related to containment atmosphere cleanup system.
3C.5.1.6.1, 3C.5.1.6.2	Added a description of the environmental effects of a high energy line break in the turbine building on the adjacent safety-related equipment located in the control room envelope and emergency diesel generator rooms.
Table 3C-3, 15.4.2.1.2.1	Incorporated technical and editorial corrections and clarifications related to main steam line break feedwater isolation.

Revision 36—09/01/00 (continued)

Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
Chapter 4, 4.1, 4.4 Refs, Tables 4.1-1 & 4.1-2, 4.2.1.1.1, 4.2.1.1.2, 4.2.1.2, 4.2.1.2.1, 4.2.1.2.2, 4.2.1.3.1, 4.2.1.3.2, 4.2.1.4.2, 4.2.1.4.4, 4.2.2.1, 4.2.3.1.1, 4.2.3.1.3, 4.2.3.2, 4.2.3.2.1, 4.2.3.2.2, 4.2.3.3.1, 4.2.3.3.2, 4.2 Refs, Figures 4.2-6 through 4.2-8, 4.2-10, 4.2-11, & 4.2-16 through 4.2-27	Incorporated technical and editorial corrections and clarifications related to the reactor design (mechanical).
4.2.1.4.3	Updated the new fuel and insert component inspection requirements to apply to either preshipment or postshipment inspections.
4.2.3.4.2	Incorporated a discussion of the allowance, taken to account for seismic activity, in the control rod drop time test criteria.
5.1.3.5, 5.1 Refs, 5.5.4.1, 5.5.4.2.1.1, 5.5.4.2.1.3, 5.5.4.2.2.1, 5.5.4.2.2.3, 5.5.7.2, 5.6.1, 7.6.2.1	Incorporated technical and editorial corrections and clarifications related to residual heat removal system.
Tables 5.4-2 & 5.4-2	Updated the surveillance capsule withdrawal schedules for both units. [10 CFR 50, Appendix H]
5.5.1.2, 5.5 Refs	Updated the design description of the reactor coolant pump thermal barrier heat exchanger.
5.5.10.2, 5.5.10.3	Modified the reactor head vent line to provide clearance for reactor cavity seal ring installation and removal.
6.2.1.2.5	Corrected the description of the structural integrity of the neutron shield surge tank.
6.2.1.3.2.5, 6.2.2.2	Corrected the description of materials used in containment subcompartment blowout panels, reactor cavity drain, and containment sump screen.
Table 6.2-51	Corrected typographical, administrative, and format errors.

Revision 36—09/01/00 (continued)

Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
6.4.1.3.3, Table 6.4-1	Updated the description of potentially hazardous chemicals stored on the plant site to add Calgon H-940 and to include the additional amount of sodium hypochlorite used in the activated bromine system.
7.7.1.10	Revised the description of the plant computer system in accordance with approved plant modifications.
8.3.1.1.2.3, 8.3.1.1.2.5, 8.3 Refs, Table 8.3-8, 9.5.2.1.2, 9.5.2.1.3, 9.5.2.1.4, 9.5.2.2.1, 9.5.2.2.2, 9.5.2.2.3, 9.5.2.2.4, 10.2	Incorporated technical and editorial corrections and clarifications related to the electrical and communication systems.
9.1.3.2, Table 9.1-1, 9.3.4.2.2.3, Table 9.3-5	Added descriptions of the administrative controls applied to the filters for the chemical volume and control system and refueling purification system.
9.2.2.1.1, 9.3.2.1.1, 9.3.2.1.3, Table 9.3-2, 10. 4.7.2	Incorporated modifications to the on-line chemistry monitoring system.
9.2.2.1.2, 9.2.2.2.2, 9.2.2.3.1, 9.2.2.3.2	Added notes reflecting that some steam generator sampling coolers have been abandoned in place.
9.2.2.1.2, 9.2.2.2.2, 9.2.2.3.2, 10.4.7.2	Incorporated a plant modification that allows the Unit 1 isolated phase bus duct air cooler to be supplied by chilled water as an alternative to bearing cooling.
Table 9.2-5	Revised the design code and tube material for the component cooling water heat exchangers to reflect a design modification.
9.3.1.2, 9.3.1.3, 9.3.1.3.1, 9.3.1.3.2, Table 9.3-1, Figure 9.3-1, 9.5.10.3, 10.3.2	Incorporated technical and editorial corrections and clarifications related to instrument air system.
9.3.2.1.1, 9.3.2.1.2, 9.3.2.2.3, 9.3.3.2, Tables 9.3-3 & 9.3-10, Figures 9.3-2 & 9.3-3, 10.4.8.4	Incorporated technical and editorial corrections and clarifications related to feedwater, condensate, steam generator blowdown, and condensate polishing systems.
9.3.2.1.2	Add a discussion of the on-line chemistry monitoring system.
9.3.2.1.5	Clarified the use of the on-line chemistry monitoring system panel.

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Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
9.3.4.2.4.7	Augmented the description of purging gases from the volume control tank.
9.4.1.4	Corrected a typographical error.
9.5.1.2.2.2, 9.5 Refs	Adds a description of the design basis for the emergency switchgear room halon system.
Table 10.4-1	Revised an existing description of the Unit 1 auxiliary feedwater system design basis to reflect the bases for both Units 1 & 2.
Table 10.4-2	Revised design data to reflect the replacement moisture separator-reaheaters on Units 1 and 2.
Table 10.4-4, 15.2.8.1, 15.2.8.2.1, 15.2.8.2.2, 15.2.8.3, 15.2.9.1, 15.2.9.2.1, 15.2.9.2.2, Table 15.2-1, Figures 15.2-28 through 15.2-35	Incorporated changes resulting from the revised loss of normal feedwater accident analysis.
13.2.1, 16.1	Corrected reference from Environmental Technical Specifications to Environmental Protection Plan.
13.4	Updated the name of the subcommittee responsible for Management Safety Review Committee independent reviews.
15.2.10.1	Corrected the description of feedwater pump discharge valve closure due to associated pump trip and provided a closure signal directly to each discharge valve.
15.3.1.6, 15.3.1.7, 15.3 Refs, Table 15.3-4, 15.4.1.5.3, 15.4 Refs, Table 15.4-5	Incorporates a summary of the peak clad temperature penalties and benefits for the small and large break LOCA which are reported per 10 CFR 50.46 requirements.
15.3.5.2	Corrected the values of total activity assumed to be released by a waste gas decay tank rupture. [10 CFR 50.90 License Amendment]
17.2.1.2, 17.2.2.1, 17.2.17, Figure 17.2.1-1	Modified organizational titles and reporting relationships associated with information technology.
17.2.1.2, 17.2.2.6, Figure 17.2.2-1	Updated organizational description to reflect Supply Chain Management (Generation) titles.

Revision 36—09/01/00 (continued)

Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
17.2.1.2, Figure 17.2.1-2	Modified organizational titles and reporting relationships associated with records management.
17.2.1.2, Figure 17.2.1-2	Modified organizational titles and reporting relationships associated with the radwaste facility.

Revision 35—09/01/99

Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
KWI, 1.2.12, 2.1.1.1, 2.1.1.2, 2.1.2.1, 2.1.2.2, 2.1.3.3, Table 2.1-2, 2.2.1.3, 2.2.1.5, 2.3.2.2.1, 2.3.2.4, 2.4.1.1, 2.4.1.2, 2.4.2.2, 2.4.3, 2.4.4, 2.4.8, 2.4.10, 2.4.11.1, 2.4.11.4, 2.4.11.5, 2.4.11.6, Table 2.4-2, 2.5.4.1, 2.5.4.2, 2.5.5, Table 2.5-1, 2A.2.2, 2A.2.3.1, 2A.2.4.1.1, 2A.2.4.1.2, 2A.2.4.1.3, 2A.2.5.1, 2A.2.5.2, 3.4, 3.8.1.1.7, 3,8.1.1.9, 3.8.2.1.3, 3.8.3.1, 3.8.3.2, 3.8.4.1, 3.8.4.5.2, 3.8.4.5.4.7, 3.8.4.5.4.8, 3.8.4.6, 3.8.4.7.5, 3.8.4.8, Table 3.9.1, 3.11.2.6, 3.11.2.7, 3.11.2.8, 3.11.2.9, 3.11.2.10, Table 3.11-2, 3A.27, 3E.2.1, 9.2.1.1, 9.2.1.2.1, 9.2.1.2.2, 9.2.1.2.3, 9.2.1.2.4, 9.2.1.2.4.1, 9.2.1.2.5, 9.2.1.3, 9.2.1.3.1, 9.2.1.3.2, 9.2.1.4.1, 9.2.1.6, 9.2.2.2.4, 9.2.3.2.2, 9.2.5, 9.2.5.1, 9.2.5.2, 9.2.5.3, 9.2 Refs, 9.2 Ref Dwgs, Tables 9.2-1, 9.2-3, & 9.2-4, Figure 9.2-1, 9.4.1.2, 9.4.10.2, 9.5.1.2.1, 9.5.1.3.2, 10.1, 10.4.2.2, 11.2.3, 11.2.5.1, 11.2.8, Tables 11.2-16 & 11.2-19, 11.4.2.1, 11.4.2.10, Table 11.4-2, 11.6.3.6, 11B.1, 11B.2.1, 11B.2.2, 11B.4, 11B.4.1.1, 11B.4.1.4, 11B.4.2.2, Tables 11B-4, 11B-6, 11B-7, & 11B-9, 15	Incorporated technical and editorial corrections and clarifications related to the service water system.

Revision 35—09/01/99 (continued)

Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
KWI, 1.2.3, 4.2.3.5, 5.5.2.3.5, 6.2.4.1, 6.2.4.2, 7.3.1.3.5.4, Table 7.5-3, 7.7.1.8, 7.7.1.8.1, 10.1, Figures 10.1-1 and 10.1-2, 10.2, 10.3.1, 10.3.2, 10.3.3, 10.3.3.2, 10.3.4, 10.3 RefDwg, Tables 10.3-1 through 10.3-4, Figures 10.3-1 and 10.3-3, 10.4.1.2, 10.4 RefDwg, 15.4.2.1.1	Incorporated technical and editorial corrections and clarifications related to the main steam system.
KWI, 2.3.5.1, 2.4.11.5, Table 3.2-1, 3.4, 3.7.2.4, 3.7.3.1.1, & Tables 3.7-4, 6.2-45, 9.6-1, & 15.4-10	Corrected references, spelling, and format.
KWI, Ref Dwgs: 1.2, 2.4, 2.5, 3.6, 3.8, 3C, 5.1, 5.5, 5.6, 6.2, 6.3, 6.4, 7.1, 7.3, 7.7, 8.1, 8.2, 8.3, 9.1, 9.2, 9.3, 9.4, 9.5, 9A, 10.2, 10.3, 10.4, 11.2, 11.3, 11.4, 11.5, 11C, 12.1, 12.2, 12.3, 14.1, 15, 15.4; Sections 2.4.2.2, 2.4.11.5, 2.4.13.1, 5.1.5.1, 5.5.4.2, 6.2.1.2.18, 6.3.2, 8.1.2, 8.3.1, 8.3.1.1, 8.3.1.1.1, 8.3.2.1, 9.2.1.2.4, 9.2.1.2.4.1, 9.2.1.2.4.2, 9.4.9.1, 9.4.10.2, 10.4.3.2, 10.4.4.3, 10.4.5.2, 10.4.6.2, 10.4.7.2, 10.4.8; Tables 2.4-8, 2.4-9, 5.5-6, 9.4-4	Corrected a Key Word Index reference, supplemented the reference drawings lists, and corrected text citations of reference drawings.
KWI, Table 3.5-1, Table 6.2-46, 6.3.2.1.1, 6.3.2.1.4.6, 6.3.3.12, 6.3.5.3.2, 7.1, 7.1.3.1, 7.2.2.2.2, 7.2.2.2.3, 7.2.2.2.4, 7.2.2.2.5, 7.2.2.2.6, 7.2.2.2.8, 7.2.2.2.9, 7.3.2.1, 7.5.2, 7.6.2.2, 7.6.3.2, 7.6.5, 7.6 Refs, 7.9.1, 7.9 Refs, 9.2.3.2.1, Table 9.2-3, 11.3.5.4, Table 12.1-4, 12.2.6, 15.2.6.2.2.2, 15.2.13.2.2, Table 15.4-5, Table 15.4-6.	Corrected cross-references, typographical errors, and electronic scanning discrepancies; improved consistency of exponent, numerical, and Greek letter notation; improved consistency of abbreviations; and incorporated two tables omitted from a previous UFSAR change.

Revision 35—09/01/99 (continued)

Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
1.2.10, 2.4.11.5, 2.4.11.6, Table 2.4-7, 10.4.2.3, Figures 10.4-1 and 10.4-2	Incorporated technical and editorial corrections and clarifications related to the circulating water system.
Ref Dwgs: 1.2, 2.4, 2.5, 3.6, 3.8, 3C, 5.1, 5.5, 5.6, 6.2, 6.3, 6.4, 7.1, 7.3, 7.7, 8.1, 8.2, 8.3, 9.1, 9.2, 9.3, 9.4, 9.5, 9A, 10.2, 10.3, 10.4, 11.2, 11.3, 11.4, 11.5, 11C, 12.1, 12.2, 12.3, 14.1, 15, 15.4	Clarified the reference drawings lists by spelling out words abbreviated in the titles and using consistent punctuation.
1.3, 1.3.1.1, 1.3.1.2, 1.3.1.3, 1.3.1.4, 1.3.1.4.1, 1.3.1.4.2, 1.3.1.5, 1.3.1.6, 1.3.2, Tables 1.3-1 through 1.3-13, 7.7.1.13.2, 8.1.2, 8.1 RefDwg, 8.3.1.1.1, 8.3.1.1.2.2, 8.3 RefDwg	Incorporated technical and editorial corrections and clarifications related to the emergency power system.
Table 1.3-1, 3.8.4.1, Tables 3.9-1 & 3, 3.11.2.2, Figure 4.3-6, 5.1.2.1.3, Figure 5.1-2, 5.2.3.3.1, 5.2.5.1, Tables 5.2-12, 22, & 28, Figures 5.2-5, 6, 9, & 10, 5.4.3.6.1, 5.4.3.6.2, 5.4 Refs, 5.6.2.3, Figure 6.2-66, 7.7.1.5, 11.4.3.1.1, 15.4.1.7.2, 15.4.1.7.3	Corrected cross-references, typographical errors, and electronic scanning discrepancies; improved consistency of upper and lower case and listing notation; improved superscript and subscript notation; and incorporated a list omitted from a previous UFSAR change.
Table 1.3-2, 3.1.33.2, Tables 3.9-2 & 3.11-1, 3A.1.2, 6.3.2.1.1, 6.3.2.1.4.1, 6.3.2.1.4.2, 6.3.2.1.4.4, 6.3.2.1.4.5, 6.3.2.1.4.6, 6.3.2.1.5, 6.3.2.2.5, 6.3.3.5, 6.3.3.8.1, 6.3.3.10, 6.3.3.12, 6.3.4, 6.3.4.1, 6.3.4.2, 6.3.4.3, 6.3.4.4, 6.3.4.5, 6.3.5.2.1, 6.3 Refs, Tables 6.3-1, 6.3-2, and 6.3-4, through 6.3-6, Figures 6.3-1, 6.3-16, and 6.3-17, 6A.1, 9.5.10.2, 14.1, 14.1.1, 14.1.2, 14.1.2.1, 14.1.2.2, 14.1.2.3, 14.1.2.4, 14.1.3, 14.1.4, 14.1 Refs, Tables 14.1-1 through 14.1-5, Figures 14.1-1 through 14.1-3	Incorporated technical and editorial corrections and clarifications related to the safety injection system.

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Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
Table 1.3-2, 3.1.36.2, Table 3.9-1, 3.11.22, 3A.1.2, 6.2.2.2, 6.2.2.2.2, 6.2.2.2.3, 6.2.2.2.4, 6.2.2.3.2.1, 6.2.2.3.2.6, 6.2.2.4.2, 6.2.3.1.1, 6.2.3.3, Tables 6.2-4 & 6.2-42, Figures 6.2-50 & 6.2-68, 9.3.3.2	Incorporated technical and editorial corrections and clarifications related to the recirculation spray system.
Tables 1.3-8, 1.3-9, & 1.3-10, 3.1.55.2, 5.2.4.2, 7.7.1.12.2, 9.3.2.1.3, 11.2.3, 11.4.1, 11.4.2, 11.4.2.1, 11.4.2.13, 11.4.2.14, 11.4.2.14.1, 11.4.2.14.2, 11.4.2.15, 11.4.3, 11.4.3.1.1, 11.4.3.1.2, 11.4.3.1.3, 11.4.3.2, 11.4.4.1, 11.4.4.2, Tables 11.4-1 through 11.4-4, 12.1.4.1, 12.1.4.2, 12.1 RefDwg, Table 12.1-4, 12.2.4, 15.4.7.2.4.1, 14.4.7.2.4.2	Incorporated technical and editorial corrections and clarifications related to the radiation monitoring system.
Table 1.3-12, 11.3.5.1, Table 11.3-1, 11C.4.1.5	Revised the catalytic hydrogen recombiner description to reflect that it is no longer used.
2.1.3.4, 2.4.13.4, 3.1.52.2, 3A.4, 3A.21, 3A.111, 3A.113, 11.1, 11.1.1.3, 11.1.1.4, Tables 11.1-7, 11.1-9, 11.1-11, & 11.1-12, 11.2.8, Table 11.2-4, 11.3.5, 11.3.5.1, 11B.4.1.1, 11.B.4.1.2, 11B.4.2, 11B.4.2.1, 11B.5, Table 11B-9, Figure 11B-1, 11C, 11C.1, 11C.2, 11C.3, 11C.4, 11C.4.1, 11C.4.1.2, 11C.4.1.3, 11C.4.1.4, 11C.4.1.5, 11C.4.1.6, 11C.4.1.7, 11C.4.2, 11C.4.3, 11C.4.4, 11C.4.5, 11C.5, 11C References, Tables 11C-1 through 11C-18, Figure 11C-1, 12.1.2.2, 12.1.2.5, 12.1.2.11, 12.1.3, 12.1.6.1, 12.1.6.2, 12.1.7.2, Table 12.1-3, 12.2.6, Table 12.2-1	Incorporated technical and editorial corrections and clarifications related to the radiation protection system.
Table 2.2-3, 6.4.1.3.3, Table 6.4-1	Updated the descriptions and of potentially hazardous chemicals found on-site

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Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
2.3.1.1, 2.3.2.1, Figure 2.3-23, 3.10.1, 3.11.2.8, 3A.32, 3A TOC, 3F.4, Table 3F-8, 5.6.2.1, 6.2.2.2, Figure 6.2-65, 7.9 References, Tables 8.3-6 & 7, Table 9.2-3, 11.1.1.3, 15.1.2.3, 17.2.16.2	Corrected cross-references, typographical errors, and electronic scanning discrepancies; improved consistency of upper and lower case and listing notation; and incorporated a title change.
2.3.5.1, 3.1.3.2, Table 3C-3, Figure 5.2-13, 9.5.10.3, 11.3.2, 11.3.3, 11.3.3.2, 11.3.5.2, 11.3.5.3, 11.3.5.6, 11.3.5.10, Table 11.3-1, Figure 11.3-1, 11.4.4.2, Table 11.4-1, 12.2.4, 15.4.7.2.4.2	Incorporated technical and editorial corrections and clarifications related to the gaseous waste system.
2A.2.3.1, 2A.2.3.2, 2A.2.3.3, 2A.2.4.1.1, 2A.2.4.1.3, 2A.2.5.1, 2A.2.8	Corrected text cross-references.

Revision 35—09/01/99 (continued)

Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
3.1, 3.1.11.2, 3.1.16.2, 3.1.17.2, 3.1.20.2, Table 3.11-2, 4.3.1.7, 7.1.1, 7.1.3.2.3, 7.1.3.3.1.2, 7.1.3.3.3, 7.1.4, 7.1 Refs, 7.1 RefDwgs, 7.2.1, 7.2.1.1.1, 7.2.1.1.4, 7.2.1.1.5, 7.2.1.1.6, 7.2.1.3.1, 7.2.1.3.2, 7.2.1.8, 7.2.2.1.2.2, 7.2.2.2.1, 7.2.2.2.1.5, 7.2.2.2.1.7, 7.2.2.3.2, 7.2.2.3.3, 7.2.2.3.4, 7.2.2.3.5, 7.2.3.2, 7.2 Refs, Tables 7.2-1 through 7.2-4, Figures 7.2-1, 7.2-2, 7.2-3, 7.2-5 through 7.2-10, 7.2-12, & 7.2-13, 7.3.1.2, 7.3.1.31., 7.3.1.3.2, 7.3.1.3.2.1, 7.3.1.3.3.2, 7.3.1.3.5, 7.3.1.3.5.1, 7.3.2.1.4, 7.3.2.1.5.2, 7.3.2.1.5.6, 7.3.2.1.5.8, 7.3.2.1.5.11, 7.3.2.1.5.12, 7.3.2.2, 7.3.2.3, 7.3.2.4, 7.3.2.5, 7.3.2.6, 7.3.2.7, 7.3.2.8, 7.3.2.10, 7.3 Refs, Tables 7.3-1 through 7.3-4, Figures 7.3-2, 7.3-4, 7.3-5, 7.3-8, 7.3-10, & 7.3-11, Tables 7.5-1 through 7.5-3, 7.7.1.13.1, 7.7.2.1, 10.3.2	Incorporated technical and editorial corrections and clarifications related to the reactor protection system.
3.1.9.2, 3.1.26.2, 3A.2, 5.1, 5.1.1.9, 5.1.2.1, 5.1.2.1.1, 5.1.2.1.2, 5.1.2.1.3, 5.1.2.2, 5.1.2.3, 5.1.2.4, 5.1.3.1, 5.1.3.3, 5.1 Ref Dwgs, Figures 5.1-1 & 5.1-2, 5.5.4.2.2.3, 5.6.2.2, 5.6.2.3, 5.6 Refs Dwgs, Figure 5.6-1, 7.2.2.3.3, 7.2.2.3.4, 7.7.1.5, 7.7.1.6	Incorporated technical and editorial corrections and clarifications related to the Reactor Coolant System.
3.1.53.2, 9.1.1, 9.1 Refs	Added clarification that criticality monitors are not required in the new fuel storage area and added a reference to the exemption from this requirement. [10 CFR 70.24 Exemption]

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Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
Table 3.7-7, 3.8.2.1.2.4, 3.8.2.1.3, 3.8.2.1.4.2, App. 3E Att. 4, App. 3E Att. 5, 5.5.9.3.1, 5.5.9.3.2, 9.2.1.4.1, Table 9.3-7, Table 10.4-2.	Corrected errors associated with table formatting, text cross-references, typographical entries, implementation of a previous update, and punctuation.
3.8.2.7.6.2.4, Table 3.8-11	Clarified the description of unqualified coatings in containment.
3.8.4.7.7, 3.8.4.8, 3.8 Refs, Table 3.8-17, Figures 3.8-32, 3.8-33, and 3.8-61	Incorporated new piezometers locations and editorial corrections.
Table 3.8-12, Figure 3.8-24	Updated the locations of piezometers at the main dam.
Table 3.8-14	Corrected the factors of safety applicable to the service water reservoir dikes.
Table 3.11-2, 6.2.2.3, Table 6.2-37, 6.3.3.12, 6.4.1.3.3, Table 6.4-1, 7.2.2.1.2, 7.2.2.1.2.1, Table 11.1-11, 11.2.8, 11B.2.1, 11B.2.2, 11B.4, 11B.4.1.1, 11B.4.1.4, 11B.4.2.2, Tables 11B-4, 11B-6, & 11B-7, 12.1.2.11	Corrected spelling and typographical errors, eliminated duplicate phrases, updated text figure references, corrected punctuation, spelled out a non-standard acronym, standardized a system title, and capitalized the titles of computer codes.
3A, 7.4, 8.1, 8.3, 9.5, 14.1	Incorporated technical and editorial corrections and clarifications related to the Emergency Diesel Generator System.
3A.22, 4.4.5.1, 4.4.5.2, Figures 4.4-20 and 4.4-21, 7.1, 7.2.3.4, Figure 7.2-5, 7.3.2.1.5.10, Figure 7.3-9	Incorporated technical and editorial corrections and clarifications related to the nuclear instrumentation system.
3C.1.1, 3C.2.7, 3C.2.7.1, 3C.5.1.2.2, 3C.5.1.8.2, 3C.5.2.8.2, 3C Refs	Reduced the number of weld inspections required to be performed on high energy piping outside containment. [NRC Safety Evaluation Report]
4.1, Table 4.1-1, 4.2.3.2.2, 5.2.3.1.1, 5.4.2	Incorporated changes to reflect removal of the Unit 2 part-length control rod drive mechanisms.

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Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
4.3.2.2.6, 4.3.2.7, 4.3 Refs	Reflected changes to reload design calculations, corrected a reference, and correctly stated initial fuel enrichment.
Figures 4.4-20 and 4.4-21	Modified the figure description of the incore thermocouples.
5.2.1.1, 5.2.1.2, 5.2.2.1, 5.2.2.2, 5.2.2.4, 5.2.3.1, 5.2.3.1.1, 5.2.3.1.2, 5.2.3.1.3, 5.2.3.1.4, 5.2.3.1.5, 5.2.3.1.6, 5.2.3.1.7, 5.2.3.1.8, 5.2.3.1.9, 5.2.3.1.10, 5.2.3.1.11, 5.2.3.1.12, 5.2.3.3.1, 5.2.4.1.1, 5.2.4.1.2, 5.2.5.1, 5.2.5.3, 5.2 References, Figures 5.2-4 thru 5.2-10, 5.3	Incorporated technical and editorial corrections and clarifications related to the Reactor Coolant System.
5.4.2, 5.4.3.6, 5.4.3.6.1, 5.4.3.6.2, 5.4.3.6.3.1, 5.4.3.6.3.2, 5.4.3.7, 5.4 References, Table 5.4-1, Figure 5.4-4, 5.5.1.3.1, 5.5.1.3.3, 5.5.1.3.10, 5.5.2.3.4, 5.5.2.3.5, 5.5.2.4, 5.5.3.2, 5.5.3.2.1, 5.5.3.3.1, 5.5.3.3.3, 5.5.4.3.4, 5.5.5.1.1, 5.5.5.3.2, 5.5.7.2, 5.5.8.2, 5.5.10.2, 5.5.10.3, 5.5 Ref Dwgs, Tables 5.5-1, 5, 6, & 12	Incorporated technical and editorial corrections and clarifications related to the Reactor Coolant System.
5.5.1.3.4	Clarified reactor coolant pump bearing integrity discussion by deleting oil level shutdown of the pump and adding high bearing temperature shutdown of the pump.
5.5.7.2, 7.6.2.2	Removed the description of automatic closure of RHR MOVs.
5.5.8.2, 5.5.8.3	Added a description of the surveillance criteria and function of the nitrogen reserve tanks for the pressurizer power-operated relief valves. [10 CFR 50.90 License Amendment]
5.5.8.2	Revised the description of the function of the pressurizer power-operated relief valve nitrogen reserve tanks.

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Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
5.5.9.3.3, Figures 5.5-16, 5.5-17, & 5.5-18	Removed vendor specific information from the description of snubbers.
6.2.1.4.3	Revised the description of the Type B test equipment, deleted a reference to Type C penetrations, and incorporated editorial changes.
6.2.2.2.5, Table 9.2-3	Revised the chloride concentration in the Service Water Reservoir and corrected a reference in the text.
6.2.2.2	Clarified encapsulation of insulation inside containment.
6.2.4.2	Corrected the description of the hydrogen recombiner suction piping connection.
6.2.6.3	Reverted the description of containment vacuum pumps to wording from the original FSAR.
Table 6.2-54	Revised the description of the outside recirculation spray containment penetrations.
6.3.2.1.1	Added clarification on the applicability of the minimum boron concentration requirement to the SI piping.
6.3.2.1.1, Table 6.3-4	Incorporated changes to the safety injection accumulator test lines, level control descriptions, and sampling methods.
6.3.2.1.3.2, 6.3.3.1, 6.3.4.2, Figure 6.3-5	Incorporated revised ECCS analyses.
6.3.2.1.4.1, 6.3 Refs	Added a description of design features that prevent valve-bonnet pressure locking of containment sump isolation valves and added a reference to Generic Letter 95-07.
6.3.3.1.4	Incorporated clarification to the effect of LHSI valve misfunction on ECCS flow discussion.
6.3.4.4	Reverted description of routine periodic testing of ECCS components to that which preceded the present wording supported by an inadequate safety evaluation.
6.3.5.2.3	Added description of pressure taps for checking proper seating of the Unit 1 accumulator check valves.

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Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
6.3.5.2.3	Changed the description of provisions for testing accumulator check valve seating to pressure taps from pressure indicators.
Tables 6.3-1 & 5	Reverted description of accumulator minimum pressure to that which preceded the present value supported by an inadequate safety evaluation.
Table 6.3-5, 8.3.1.1.1	Updated to reflect new charging pump interlocks.
6.4.1.2	Added requirements if the fuel pit bridge radiation monitor is out of service.
6A.3.2, 12.1.2.10, 15.4.1.7, 15.4.1.7.2, Table 15.4-7	Revised the control whole body dose resulting from a LOCA.
7.1, 7.2.1, 7.2 Refs, 7.3.1.3.2, 7.3.1.3.5, 7.3.1.3.5.4, 7.3 Refs	Incorporated clarifications and editorial corrections and added a reference to the instrumentation section.
Table 7.2-2	Corrected the reactor trip system over temperature delta T range description.
8.1.2, 8.3.2.1, 8.3.2.2.4	Revised the description of the role of the station battery swing chargers.
8.3.1.1.2.1	Revised the description of the emergency diesel generator operation during transients or disconnection. [10 CFR 50.90 License Amendment]
8.3.1.1.2.6	Added a description of the long term tests results on Dow Corning foam and eliminated the required testing of penetrations sealed with this foam.
8.3.2.1, 8.3.2.2.2, 8.3.2.2.3	Incorporated technical and editorial corrections and clarifications related to the 125V dc (emergency diesel) system.
9.1.1	Revised the description of new fuel container unloading to clarify that the containers are not unloaded from trucks in the new fuel enclosure.
9.1.2, 9.6.3, 9.6.4.1	Provided for moving the spent fuel pool gates over irradiated fuel in accordance with Technical Specifications. [10 CFR 50.90 License Amendment]

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Section	**Changes** Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
9.1.3.1	Clarified the seismic classification and associated contingency actions for refueling purification piping and equipment.
9.1.3.2	Added a description of the administrative controls for isolation of the non-seismic portions of the refueling purification system.
9.1.4.4.4	Added a description of the manipulator crane in-mast sipping system.
Figure 9.1-9	Changed the fuel transfer system drive to cable from an air motor.
9.2.1.2.2	Added an analysis of the impact of accumulation of organic matter in the Service Water Reservoir.
9.2.1.2.4, 9.2.1.3, Table 9.2-4	Added the performance specifications for new service water pumps and clarified NPSH requirements.
9.2.1.3.1	Clarified the description of isolation of service water flow to the containment recirculation air cooling coils in the event of loss of instrument air.
9.2.1.5	Revised the description of the corrosion coupons in the service water piping.
9.2.2.5.1	Revised the description of how the component cooling system may be aligned to supply cooling loads.
9.2.3.2, 9.2.3.2.1, 9.2.3.2.2, 10.4.7.2	Revised the description of the water treatment system to say that the flash evaporator is obsolete and no longer used.
Table 9.2-5	Revised the component cooling heat exchanger tube material description.
9.3.1.2	Enhanced the description of the operation of the instrument air compressors regarding in-service and standby lineups and staggered setpoints.
9.3.2.2.1, 9.3.2.2.2.6	Added a description of high radiation sampling system, post-accident required sample times.
9.3.2.2.2	Revised the description of the high radiation sampling system containment sump pump.

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Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
9.3.4.1.3, 9.3.4.1.4, 9.3.4.2.2.3, 9.3.4.2.4.10, 9.3.4.3.2	Added descriptions of hydrogen peroxide user during refueling shutdown, clarified the potential effects of demineralizer overheating, and incorporated editorial changes.
9.3.4.2.4.11	Added a description of hydrogen-form cation resin use in mixed-bed demineralizers.
9.3.4.2.4.21.6	Revised the description of the capacity of the seal-water return line relief valve.
9.4.4.2	Allowed blocking Turbine Building grating ventilation path provided compensatory actions are in place to monitor temperature.
9.4.5.1, 9.4.5.5	Added a description of when the Fuel Building ventilation system can be secured.
9.5.1.2.3	Corrected the heat detector temperature rating for the main and station service transformers.
10.2	Revised the throttle and governor valve stem freedom test frequency in accordance with Tech Spec Amend 210/191. [10 CFR 50.90 License Amendment]
10.3.2, 10.3.3, 10.3.4, 15.4.3.2.2	Added descriptions of atmospheric steam dump valve use during steam generator tube rupture events and revised the valve description.
10.3.2	Revised the normal relieving pressure of the atmospheric steam dump valves.
10.4.3.3.1	Removed the auxiliary feedwater system from the list of systems analyzed for steam-hammer and water-hammer occasional mechanical loading.
11.1.1.5, Tables 11.1-5 & 11.1-12, 15.3.6.2	Revised the volume control tank analysis of effects and consequences.
11.3.2, 11.3.3, 11.3.3.2, 11.3.5.2	Revised the gaseous waste system description to reflect that the catalytic hydrogen recombiner and waste disposal evaporator are no longer used, to include the ion exchange filtration system, and to describe other operational changes.

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Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
11.3.5.8	Corrected errors introduced in a previously implemented change package.
11.4.3.1.1	Corrected the calibration sources used for effluent gas monitors.
15.1.6, Table 15.1-2, Figure 15.1-3	Updated the Doppler reactivity coefficients to be consistent with the accident analysis basis.
15.1.6, Table 15.1-2, 15.2.2.1, 15.2.2.2.1, 15.2.2.2.2, 15.2.2.4, Table 15.2-1, Figures 15.2-6 through 15.2-13	Updated the results for the transient analysis of the uncontrolled rod cluster control assembly withdrawal at power (RWAP) accident.
15.1.2.3, Table 15.1-3	Added current trip setpoint and response time values to Table 15.1-3 and removed a reference to Figure 15.1-1 for these values.
15.2.1.1, 15.2.1.2.1, 15.2.1.2.2, 15.2.1.3, 15.2.4.1, 15.2.4.2.1, 15.2.4.2.2, 15.2.4.2.3, Table 15.2-1, Figures 15.2-1 through 15.2-5	Revised the description of the uncontrolled rod withdrawal from subcritical and uncontrolled boron dilution transients to reflect current analyses of record. [10 CFR 50.90 License Amendment]
15.2.1.1	Revised the description of the setpoint for the intermediate range high neutron flux reactor trip.
15.2.6.1.2	Modified the description of the loop stop valve interlocks to reflect the elimination of the cold leg differential temperature and 90-minute pump run interlocks. [10 CFR 50.90 License Amendment]
15.4.1.7.3, 15.4 Refs	Incorporated the results of a sensitivity analysis of acceptable quantities of ECCS leakage in conjunction with potentially unfiltered exhaust from the Auxiliary Building.
15.4.7.2.4.1, 15.4.7.2.4.2, 15.4.7.2.4.3, 15.4.7.2.4.4, Tables 15.4-16 thru 15.4.18	Reflected the current analysis of record for a fuel handling accident inside containment regarding containment purge, exhaust valve closure times, and radiation detector response times.
17.2.2.5	Clarified the qualification requirements of key Nuclear Oversight personnel.

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Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
Table 17.2-0	Revised the description to indicate the both Innsbrook record vaults meet ANSI requirements.

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Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
KWI, 1.5.2.1, 1.6, 2.5.2.5, 3.1.37.2, 3.1.43.2, 3.8.2.1.4.1, Figures 3E-18 thru 3E-24, 4.3.2.7, 6.1, 6.2.1.2, 6.2.1.3.1, 6.2.1.3.1.1, 6.2.7.1, 6.3.2, 6.3.2.1.2, 6.3.2.1.5, 7.7.1.1, 9.3.4.2.2.4, 9.3.4.2.4.8, 9.3.5.1, 9.5.4.2, 11.3.3.2, 11B.3.3.3, 11C.4.1.1, 15.4.1.7, 15.4.1.7.2	Corrected references and typographical errors, and clarified word spelling and illegible text.
1.2.6, 9.1, App. 9B & App. 15A	Updated descriptions of cask loading and unloading operations; added an evaluation of the TN-32 cask; revised commitments for cask hook orientation, cask lift heights, and use of cask loading area gate; added offsite dose estimate for TN-32 cask drop.
1.3.1 & Table 1.3-7	Added statements to clarify applicability of turbine-driven AFW pump auto-start data.
Figure 2.1-3	Added ISFSI to site boundary and unrestricted areas map.
Table 2.4-7, 9.2.3.2.1, 10.4.2.2	Added raw lake water pumping system that supplies the upgraded Reverse Osmosis System.
3.1.34.1, 3.1.35.1, 3.1.36.1, 3.1.37.1, 3.1.39.1, 3.11.2.1, 3.11 Refs, Table 3C-3, 6.2.2.2, 6.2.2.3.2.1, 6.2.2.4.1, 6.2.2.5.1, 6.2.3.4, Tables 6.2-40 & 6.2-42, Figure 6.3-8	Incorporated technical and editorial corrections and clarifications related to the Quench Spray System.
3.1.40.2, 3.1.42.1, & 3.1.42.2	Added AFW system to GDC 44, 45, and 46 applicability discussions.

Revision 34 (continued)

Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
3.8.2.2, 6.2.1.1.1.2, 6.2.1.3.1.1, 6.2.2.1, 6.2.2.2, 6.2.2.3.2, 6.2.2.3.2.1, 6.2.2.3.2.6, 6.2.2.3.2.8, 6.2.2.3.3, Tables 6.2-2, 6.2-11, 6.2-14, & 6.2-38, Figures 6.2-7 thru 6.2-9, 6.2-64 thru 6.2-80, & 6.2-82 thru 6.2-86, 6.3.2.2.6	Updated containment analysis to reflect revised flowrates for QS, IRS, ORS, and SW.
3.8.4.5.4.6	Updated service water pump tilt measurement methodology.
3.11.3	Clarified description of the cathodic protection system for underground piping.
3.C.5.3, Table 3C-2, 9.2.3.2.2, 10.4.6.2, Figures 11.2-3 & 11.2-4, 11.3.5.9, Table 11.4-1, 15.4.3.1	Added high-capacity steam generator blowdown system.
6.2.1.3.1.2, 6.2.2.2, 6.2.3.3, 6.2.3.1.1, Tables 6.2-44 & 6.3-9	Revised quench spray start times and annotated derivative information.
6.2.1.3.1.2, Table 6.2-18, & Table 10.4-4	Clarified AFW pump flow sensitivity analysis.
6.2.3.1, 6.2.3.1.1, 6.2.3.3, 6.2 References 27-41, Tables 6.2-47, 48 & 53 thru 62, 15.4.1.7, 15.4.1.8, 15.4.1.9.3, 15.4 References 59-67, Tables 15.4-5 thru 7, Figures 15.4-38 thru 41	Incorporated updated LOCA dose calculations.
6.2.3.1.1	Revised post-LOCA containment sump pH.
6.2.4.2, 6.2 References, Table 6.2-37	Provided for partial draining of several containment penetrations which are isolated during normal power operation.
6.2.5.3, 6.2 Refs, Tables 6.2-66 & 6.2-71, Figures 6.2-98 thru 6.2-111	Revised calculation of post-LOCA containment hydrogen concentration.
7.2.1.1.5, 7.2.1.1.6, 7.2.2.3.5, 7.7.1.14, 7.7 Refs	Clarified design and licensing basis for AMSAC C-20 arming setpoint.

Revision 34 (continued)

Section	**Changes** Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
7.2.2.2.1.7	Revised testing sequence for reactor trip breakers and reactor trip bypass breakers. [10 CFR 50.90 License Amendment]
7.2.2.3.4, Figure 7.2-11	Updated description of pressurizer water level measurement system.
7.3 & 10.4	Reformatted mark numbers throughout to conform with standard format (system-component-id).
7.3.1.3.5.3	Expanded discussion about motor-driven AFW pump interlocks and turbine-driven AFW pump interlocks. Changed AFW MOV “pushbutton” to “switch.”
7.3.1.3.5.3	Rewrote description of AFW autostart interlocks. Rewrote description of Control Room AFW flow indication qualifications.
7.6.7	Clarified pressurizer relief valve flow indication environmental and seismic qualification.
8.3.1.1.1	Corrected typographical errors.
9.1.3.1 & 9.1.3.3	Added case for full core offload, demonstrating spent fuel pit water temperature remains below limits for normal or planned offloads. Updated back-to-back refueling and abnormal offload cases.
9.2.1	Deleted references to the charging pump seal coolers that were removed from the Service Water system.
9.2.1.4.1	Incorporated provision for the use of high corrosion resistant alloy steel in Service Water piping of ten-inch diameter and smaller.
9.2.2.3	Updated component cooling chemistry specifications for chromate concentration and pH.
9.3.4.2.4.1	Deleted description that charging pump seals have leakoffs to collect seal leakage before it can leak to the atmosphere.
9.3.4.2.5.2	Clarified acceptable methods for adding boron to the reactor coolant system.

Revision 34 (continued)

Section	**Changes** Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
9.5.1.2	Added reference to fire protection system connections in description of feedwater system.
9.6	Included the Fuel Building Trolley in the NUREG-0612 Heavy Loads Program.
10.2.1.1.2	Added new section on the effect of extending turbine throttle and governor valve test interval. [10 CFR 50.90 License Amendment]
10.4.3.1	Updated referenced BTP to Auxiliary System Branch (ASB). Deleted statement specifying Terry Turbine nominal speed.
10.4.3.2	Clarified discussion of SG water level management when there is a leaky SG tube. Corrected description of SOV redundant power source. Corrected reference to PCV air line/air storage descriptions. Corrected mark numbers and clarified that discussion applies to normal lineup. Rewrote to explain intent behind design of time delays.
10.4.3.3	Clarified coincidence and actuations of high-high level function description. Deleted reference to a turbine trip on low-low water level and revised to clarify that a single turbine-driven AFW pump will start. Revised maximum temperature of emergency condensate storage tank water. Deleted statement that AFW suction piping is redundantly heat traced. Clarified suction line pressure transmitter function. Clarified statement regarding conditions addressed in Chapter 15 loss of normal feedwater analyses. Deleted inappropriate reference to Section 5.1.3.3. Corrected condensate storage tank inventory loss following feedwater line break event.
10.4.3.4	Deleted discussion of vital bus diversity.
Table 10.4-3	Clarified peak reactor coolant system pressure criterion.
Table 10.4-4	Corrected initial SG inventories. Corrected main steam line break reference for decay heat. Added clarification footnote to main steam line break reference for AFW pump design pressure.
Table 12.1-4	Changed an area radiation monitor location and range.

Revision 34 (continued)

Section	Changes Made under the provisions of 10 CFR 50.59 except where indicated in brackets.
13.1.1.2.1, 17.2, & KWI	Updated Station Manager title to Site Vice President and Assistant Station Managers titles to Manager-Station O&M and Manager-Station S&L. [10 CFR 50.90 License Amendment]
15.1.2.2	Reflected revised safety analyses that support an increased Reactor Coolant System total flow rate. [10 CFR 50.90 License Amendment]
15.1.4 & Table 15.1-4	Clarified the assumed calorimetric error in core thermal power determination from secondary plant measurements.
15.2.8.1	Deleted parenthetical statement of turbine-driven AFW pump capacity. Deleted outdated statement related to AFW pump capacity determination.
15.2.10	Updated feedwater temperature reduction event description.
15A, TOC	Clarified spent fuel cask lift height restrictions.
16.2	Included the Technical Requirements Manual (TRM) in the UFSAR by listing the technical requirements.
17.2.1.2.B.1	Identified the Site Vice President as the station position fulfilling the Plant Manager position identified in the ISFSI Technical Specifications.
17.2.3	Revised to reflect replacement of A/E Instruction Manual with an Engineering Standard.

Revision 33

Section	Changes
17.2, 17.2.1.2, 17.2.2.1, 17.2.3, 17.2.4, 17.2.5, Figure 17.2.1-1, & Table 17.2-0	Deleted reference to the Nuclear Operations Department Standards and replace with Nuclear Business Unit Standard. Added position of Project Manager (Configuration Management).
17.2.1.1 and 17.2.1.2	Clarified organizational position descriptions by noting responsibilities for the ISFSI as they already exist.

Revision 33 (continued)

Section	Changes
17.2.1.2, Figures 17.2.1-2 & 17.2.1-3	Deleted the position of Supervisor Administrative Services in the Nuclear Management organization and assigned duties and responsibilities to other positions.
17.2.2.6 and 17.2.2.8	Provided clarification of Quality Inspection Coordinator qualifications.
17.2.17, Tables 17.2-2 & 17.2-3	Added Generic Letter 88-18 commitment regarding storage of quality assurance records on optical disk media.
Table 17.2.0	Added provision for storage of quality assurance records in an approved offsite facility.
Table 17.2-0	Provided an additional alternative to ANSI/ANS 3.1.
Tables 17.2-2 & 17.2-3	Clarified the description of onsite and offsite nuclear safety review committees.

Revision 32

Section	Changes
Foreword	Updated to reflect recent NRC initiatives regarding UFSAR submittal requirements, and adequacy and consistency of design basis information; and to note Virginia Power's adoption of electronic methods to enhance UFSAR maintenance, and UFSAR distribution in both hardcopy and electronic media.
Tables 3.9-1 & 3.9-2	Updated to reflect current plant configuration.
3.10.2 & 3.10.3	Deleted references to Virginia Power Engineering standards STD-CEN-0020, STD-CEN-0026, and STD-GN-0038
4.1	Revised to indicate that fuel assemblies may be used that differ from those described in the UFSAR—with an NRC-approved exemption or license condition.
4.2.3	Revised to reflect removal of secondary neutron sources starting with the Unit 1 Cycle 13 reload core; secondary source replacement in future reloads is optional.
5.2.4.1.1	Eliminated seismic qualification requirements for the Containment Gaseous and Particulate Radiation Monitoring System. Added procedural requirements for system operability verification after a seismic event.

Revision 32 (continued)

Section	Changes
6.2.1.2.18	New section to describe lead blanket shielding storage boxes, explain why they are not designated Seismic Category I, and provide references to drawings that depict storage box locations.
7.2.2.2.1.7	Revised reactor trip breaker test procedure.
7.2.2.3.5	Added discussion of IEEE-279 control and protection interaction criteria as they apply to steam generator low level/high steam-feed flow mismatch trip channels.
8.3.1.1	Clarified the “C” containment air recirculation cooler fans operating description.
9.3.4.2.2.3	Clarified that the mixed-bed demineralizer may be removed from service if primary coolant activity is within normal limits.
9.5.3	Added High Pressure Sodium among types of non-containment normal lighting.
9.5.4.2	Revised duration of full-load operation with minimum allowed day tank inventory.
13.7	Deleted references to Regulatory Guide 1.17 and Section 2.790. Added references to 10 CFR 73, Sections 21, 55, 56, 57, and Appendices B & C.
15.2.12	Revised to reflect reanalysis to support Virginia Power’s Accident Analysis Design Basis Document project.
15.2.14	Revised to reflect the results of an extended Virginia Power evaluation of the “Spurious Operation of the Safety Injection System at Power” event.
15.4.3.1	Deleted paragraphs that referred to the configuration of steam generators just before the repair project that included replacement of the tube bundles.
Table 17.2.0	Deleted reference to the Surry Training Center records vault.
Tables 17.2-2 & 17.2-3	Corrected typos. Clarified record retention requirements.

Revision 32 (continued)

Section	Changes
All (no change bars)	• Consolidated 17 volumes to 8 volumes • Referenced Station Drawings previously included in UFSAR; inserted simplified diagrams • Removed notations associated with previously deleted material and renumbered sequentially • Renumbered previously inserted items that had suffixes (e.g., 4A, 4B) • Applied consistent typeface and page layouts • Improved consistency of measurement notation (e.g., time, mass, velocity), including abbreviations

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FOREWORD

In the May 9, 1980, edition of the Federal Register (45 FR 30614), the NRC published a Final Rule requiring all licensed reactors to periodically update their Final Safety Analysis Reports. The purpose of the Rule was to establish baseline reference documents to be used in recurring safety analyses by licensees, the NRC, or other interested parties.

The "Supplementary Information" section of the Final Rule notice stated that submittal of an updated FSAR does not constitute a licensing action, but is only intended to provide information. The NRC Staff may review the material submitted, but does not intend to formally approve it. The NRC intends to use the updated FSAR in the future for appropriate applications such as reporting of deviations from conditions stated in the UFSAR.

The Rule became effective July 22, 1980, and established the following basic requirements for Vepco's nuclear power stations:

- A complete Updated FSAR (UFSAR) was required as the initial submittal.
- The UFSAR was to reflect information and analyses submitted to the NRC by Vepco, or prepared by Vepco pursuant to NRC requirements, since submission of the original FSAR (or, as appropriate, the last UFSAR).

Note: The "Supplementary Information" section of the Final Rule notice clarifies this requirement by stating that no analyses other than those already prepared or submitted pursuant to NRC requirements are required because of the Rule: however, FSAR analyses that are known to be nonconservative based on new analyses must be updated. Other new analyses not previously included in the FSAR may be incorporated in the UFSAR at the option of the licensee. Furthermore, specialized studies provided in the original FSAR (e.g., seismology, meteorology) should include the latest information developed in response to NRC requirements when these studies are transferred to the UFSAR, and program type material referenced by the UFSAR (e.g., security plan, emergency plan, QA Program) should be referenced accurately. In addition, the level of detail in the UFSAR should be at least the same as but not necessarily greater than that provided in the original FSAR. Information on design changes should not be included until the changes are approved for use and operable.

- The initial UFSAR was due no later than July 22, 1982.
- The initial UFSAR was required to be up-to-date as of a maximum of six months prior to the date of filing (January 31, 1982, was chosen by Vepco as the cutoff date).
- Subsequent updates are required at least annually and must reflect changes made up to a maximum of six months prior to the date of filing.

- One original and 12 copies of the initial UFSAR and subsequent updates are required to be submitted to the NRC.
- The updates are required to be certified by a duly authorized officer of Vepco.
- The initial UFSAR should be a clean document without change bars and revision numbers. The subsequent annual revisions should include change indicators and page change identification.

In response to the foregoing FSAR update requirements, Vepco and NUS Corporation executed an Agreement for FSAR update services in April 1981, and NUS began work on the project immediately. The project was accomplished in four basic phases:

1. Document Retrieval
2. Change Package Development
3. FSAR Revision
4. Printing

- During the initial document retrieval phase in the Spring of 1981, NUS engineers researched the licensing correspondence files at Vepco offices in Richmond and the design change files at the plant sites. All documents potentially affecting the FSAR were copied and taken to the NUS home office.

  Following the initial document review phase, NUS engineers periodically visited Richmond and the plant sites to acquire newly developed information. NUS was also placed on the distribution list for Vepco/NRC correspondence.

  The document retrieval phase continued until early 1982, at which time sufficient information was available to document changes up to the January 31, 1982, cutoff date.

- The documentation retrieved during the first phase was reviewed in detail during the second phase to determine the particular “two-digit” section or sections of the FSAR that should be revised, i.e., 1.1, 1.2, 1.3, etc. Copies of the document (or of the particular pages of the document that were of interest) were placed in separate files corresponding to the two-digit sections. These files were defined as “change packages.” Development of the change packages continued in parallel with the document retrieval phase, with new information being reviewed and assigned to appropriate change packages. The final change packages became a work product delivered to Vepco on conclusion of the update effort and are available for tracing the sources of changes to the original FSARs.

- After development of the initial change packages the material filed therein was used in the third phase of the project to make the actual FSAR revisions. The revision process continued in parallel with the continuing development of the change packages.

The revision phase for most FSAR chapters included two cycles of Vepco review and comment. These comments became part of the change packages and were used in the development of the final draft UFSAR.

- Vepco reviewed and approved the final draft chapters of the UFSARs for printing. The printer prepared approximately 125 sets of the UFSARs. NUS delivered one original and 12 copies of the UFSAR directly to the NRC on July 20, 1982, for Surry and July 22, 1982, for North Anna. The original UFSARs were transmitted under cover letter supplied to NUS by Vepco (see the attachment to this foreword). The remaining copies were shipped to Richmond and the plant sites.

The following work products were also delivered to Vepco by NUS and are available for use in producing subsequent annual updates:

- Printer's copy of the UFSARs
- Annotated FSARs (2 copies)
- Final Change Packages (2 sets)
- Plant Drawing Indexes
- Key Word Indexes
- IBM Displaywriter Floppy Discs (2 sets each of the FSAR, Annotated FSAR, and Key Word Index)
- Update Procedures
- Introductory Volumes to the FSARs including this foreword, a list of effective pages, the key word indexes, the plant drawing indexes and a record of changes.

Further 10 CFR 50.71(e) rulemaking pertaining to UFSAR requirements for nuclear power stations was promulgated as recently as July 29, 1996 [61 FR 39278]. In particular, the annual revision requirement has been relaxed to six months after each refueling outage provided the interval between successive updates does not exceed 24 months.

The NRC issued a letter to licensees dated October 9, 1996, entitled "Request for Information Pursuant to 10 CFR 50.54(f) Regarding Adequacy and Availability of Design Basis Information." The letter required submittal of information that will provide the NRC added confidence and assurance that Virginia Electric and Power Company's nuclear plants are operated and maintained within their design bases and that any deviations are reconciled in a timely manner. The Company's response (Serial No. 96-535) dated February 7, 1997, described previously conducted programmatic reviews of the Updated Final Safety Analysis Report (UFSAR). The 1996 UFSAR Project Team examined the existing administrative controls for maintaining UFSAR content and usability. Process enhancements to simplify administrative

controls, to increase accountability for technical content, and to improve UFSAR accessibility and usability are promoted by conversion to electronic media.

Under separate cover (Serial No. 97-108) dated May 23, 1997, Virginia Electric and Power Company notified the NRC about its project to address potential regulatory concerns involving the current design and licensing bases for the Surry and North Anna Power Stations. This project scope exceeds the level of scrutiny normally applied to the current licensing basis through routine surveillance and quality assurance activities. In order to facilitate thorough review, exhaustive validation, and a rigorous corrective action process, the recommended conversion to electronic media was implemented in Revision 32 of the North Anna UFSAR. The entire text of the UFSAR was entered into electronic media. The conversion was accomplished by a process of augmenting recent UFSAR revision word processing packages with “scanned-in” optical character recognition documents for the balance of text, tables, and figures not previously stored electronically. A 100-percent word-for-word proofing was conducted by comparing a printed version of the entire electronic document with current controlled distribution copies. Thus, the electronic UFSAR was conveyed into service as the quality assurance document of record without introducing any substantive, technical, or non-editorial changes.

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

R. H. LEASBURG
VICE PRESIDENT
NUCLEAR OPERATIONS

July 20, 1982

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Serial No. 438
NO/GSS:acm
Docket Nos. 50-338
50-339
License Nos. NPF-4
NPF-7

Gentlemen:

UPDATED FINAL SAFETY ANALYSIS REPORT
NORTH ANNA POWER STATION UNITS NO. 1 AND 2

Pursuant to 10 CFR 50.71(e), the Virginia Electric and Power Company hereby submits the Updated Final Safety Analysis Report (UFSAR) for the North Anna Power Station Units No. 1 and 2. One signed original and twelve additional copies of the UFSAR are enclosed.

The UFSAR contains all the necessary changes since the submission of the original FSAR. This UFSAR is up to date as of February 1, 1982 which is within six months prior to the date of this letter.

The enclosed UFSAR is a completely new document without the pages from the original FSAR. It is not a revision of the original FSAR but retains all the applicable information from the original FSAR.

This initial UFSAR is a "clean" document without change bars and revision numbers. The subsequent revisions will have the change indicator and change identification.

Future revisions of the UFSAR will be submitted at least annually and will reflect all the changes up to six months prior to the date of submission.

As a duly authorized officer of Vepco, I hereby certify that the information given in the enclosed UFSAR accurately presents changes made since the previous submittal, necessary to reflect information and analyses submitted to the Commission or prepared pursuant to Commission requirement.

Very truly yours,

R. H. Leasburg

Enclosures:

cc: Mr. James P. O'Reilly (w/o enclosures)
Regional Administrator
Region II

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ORNL-3721, Supplement 3, 1966 (11B References)

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- 1.CC (Draft) (11C.2)
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