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SOUTHERN COMPANY
Energy to Serve Your World℠

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

VOGTLE ELECTRIC GENERATING PLANT
REPORT OF FACILITY CHANGES, TESTS & EXPERIMENTS

Gentlemen:

In accordance with 10 CFR 50.59 (b) (2), Southern Nuclear Operating Company (SNC) hereby submits the Vogtle Electric Generating Plant (VEGP) Report of Facility Changes, Tests and Experiments. This report reflects changes through May 4, 2001, which is consistent with the current Revision 10 of the VEGP Updated Final Safety Analysis Report.

Sincerely,

J. B. Beasley, Jr.

JBB/JLL

Enclosure: Report of Facility Changes, Tests and Experiments.

cc: Southern Nuclear Operating Company
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U. S. Nuclear Regulatory Commission
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IE47

10 CFR 50.59(B) REPORT of FACILITY CHANGES, TESTS & EXPERIMENTS. NOVEMBER 6, 1999 THROUGH MAY 4, 2001

VOGTLE ELECTRIC GENERATING PLANT
UNITS 1 & 2

SOUTHERN COMPANY

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10 CFR 50.59(B) REPORT of FACILITY CHANGES NOVEMBER 6, 1999 THROUGH MAY 4, 2001

VOGTLE ELECTRIC GENERATING PLANT
UNITS 1 & 2

SOUTHERN COMPANY

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Design Change Packages (DCPs)

SUBJECT: 94-V1N0034

DESCRIPTION: Two permanent flow-through tubes were installed in spare ports of electrical penetration No. 31 to use as ILRT pressure and flow taps. The tubes have the capability to be local leak rate tested (LLRT) with the electrical penetration header plate. These tubes, as well as the electrical penetration, are project class 11E and meet the same criteria as the original penetration..

SAFETY EVALUATION: This modification resulted in a change to drawing 1X4DB132. This P&ID was referenced in UFSAR section 6.2.6. In addition, section 6.2.6.1.2 requires revision. Table 6.2.4-1 is not affected since this is an electrical penetration and not a mechanical penetration. An LLRT was performed on the flow-through tubes and containment electrical penetration 31 in accordance with procedure 24965-C. The tubes have the capability to be leak rate tested with the electrical penetration header plate.

This change affects the ILRT procedure described in UFSAR section 6.2.6, but only to the extent that permanent flow-through tubes are utilized for pressure and flow taps. This change does not require a revision to any portion of the Technical Specification Bases or Technical Requirements Manual.

SUBJECT: 94-V2N0035

DESCRIPTION: Two permanent flow-through tubes were installed in spare ports of electrical penetration No. 31 to use as ILRT pressure and flow taps. The tubes have the capability to be local leak rate tested (LLRT) with the electrical penetration header plate. These tubes, as well as the electrical penetration, are project class 11E and meet the same criteria as the original penetration.

SAFETY EVALUATION: This modification resulted in a change to drawing 2X4DB132. The Unit 1 equivalent P&ID is referenced in UFSAR section 6.2.6. In addition, section 6.2.6.1.2 requires revision. Table 6.2.4-1 is not affected since this is an electrical penetration and not a mechanical penetration. An LLRT was performed on the flow-through tubes and containment electrical penetration 31 in accordance with procedure 24965-C. The tubes have the capability to be leak rate tested with the electrical penetration header plate.

This change affects the ILRT procedure described in UFSAR section 6.2.6, but only to the extent that permanent flow-through tubes are utilized for pressure and flow taps. This change does not require a revision to any portion of the Technical SpecificationBases or Technical Requirements Manual.

SUBJECT: 96-V1N0026

DESCRIPTION: A stairway was added from the containment operating floor at elevation 220'-0" down to elevation 194'- 1-3/4" of the reactor cavity. Specifically, the stairway addition consists of installing 2 flights of stairs and 2 landings with handrails from the main operating floor down to elevation 194'- 1-3/4" of the reactor cavity. Support steel for the stairway was provided at the landings which attach to the north wall of the refueling canal. The stairs, landings and support steel are made of stainless steel material. In order to facilitate refueling bridge operations and core barrel inspections, the stairway and handrails was removable. Also removed the reactor cavity ladder and reworked the refueling canal handrail in order to install the stairway. Additionally, the ladder providing access from the lower canal area at elevation 182'-4" was relocated from the north side of the canal to the south side.

SAFETY EVALUATION: The containment operating floor is depicted in the UFSAR, but not to the level of detail that depicts the existing reactor cavity ladder and refueling canal handrail. UFSAR table 6.2.1-72 details the passive heat sinks in the containment building. Table 15.6.5-2 details the peak clad temperature changes for large break LOCA analysis due to plant design changes in the containment. The stairway addition resulted in the addition of approximately 1600 lbm to the inside of the containment. Westinghouse evaluation of LOCA related UFSAR accident analyses for this mass addition determined that the effect of adding 1600 lbm of metal to the inside of the containment has no adverse affect on any design or regulatory limit. A note was added to UFSAR table 6.2.1-72 to indicate an evaluation was done addressing the mass addition. The changes do not affect the requirements of the Technical Specifications Bases and Technical Requirements Manual.

SUBJECT: 97-VAN0044

DESCRIPTION: The Unit 1 Borg-Warner electro-hydraulic control valve actuators associated with the essential chilled water system (1592) were replaced on the following control valves:

1TV-11675 Essential chiller condenser (NSCW)
1TV-11740 Essential chiller condenser (NSCW)
1TV-12124 Control room emergency filter system - CREFS (chilled water)
1TV-12125 Control room emergency filter system - CREFS (chilled water)

The following control valves and actuators were deleted:

1TV-12725 & 1TY-12725 Control building electrical EQPT rooms (chilled water)
1TV-12740 & 1TY-12740 Control building electrical EQPT rooms (chilled water)

To support the minimum voltage requirements of the new control valve actuators, the transformers associated with the existing 120 VAC distribution panels were replaced with new regulating transformers that will maintain the panel voltages at a nominal 120 volts as opposed to the potential degraded grid voltage of 103 volts afforded by the existing transformers. Also, temperature switch setpoints associated with the system 1532 normal HVAC system were changed to minimize the potential for low temperature alarms in the Train A, B, C and D battery rooms. Finally, the existing temperature controllers for valves 1TV-12124 and 1TV-12125 were replaced with smart controllers to improve control of their associated valves and the main control room temperature.

SAFETY EVALUATION: The following UFSAR sections were revised to reflect the deletion of control valves 1TV-12725 & 1TV-12740, and the addition of regulating transformers: Table 3.9.B.3-9, 9.4.5.3.1, Table 9.5.1-1, 9A.2.30, 9A.2.33, 9A.1.42, 9A.1.45, 9A.1.81, 9A.1.101, 9A.1.104, 9A.1.105, 9A.2.74. The following UFSAR paragraphs refer to drawings that are being revised as part of this design change:

9.2.9.1.2.1	1X4DB233, 1X4DB234
9.2.1.2.1	1X4DB134, 1X4DB135-2
9.4.5.2.1	1X4DB207-1

UFSAR section 8.3.1 and table 8.3.1-4 describing regulating transformers were not affected by this change. There are no changes to the Technical Specification Bases or the Technical Requirements Manual.

SUBJECT: 97-V1N0055

DESCRIPTION: The Westinghouse supplied positive displacement pump (PDP) was replaced with an Ingersoll-Dresser 2x10 CAM type, 12 stage centrifugal pump. This replacement pump is identical to those which have been installed at similar plants with positive results. The potential for shared spare parts with these other plants was considered when selecting this pump. As part of this change, the normal charging pump (NCP) was assigned a new plant tag number, 1-1208-P4-001 (the PDP tag number was 1-1208-P6-001). This pump has a design operating point of 130 gpm at 5900 ft. of head with a pump efficiency of 40%. Due to the efficiency difference between the existing PDP and the new NCP motors, a new 4160 VAC non-1E power supply was required. An electrical load study has been performed to analyze the impacts due to these additional loads. The PDP did receive a stop signal following initiation of a safety injection (SI). As a precautionary / protective design feature, the NCP trips immediately following an SI signal. The pump trip signal originates from maintained non-1E, train "A" and "B" sequencer contacts. This arrangement provides an electrical separation between 1E and non-1E power sources via the sequencers, as well as, generates a protective trip from either an "A" or "B" train SI signal. As a result of the pump change, pressure relief device 1PSV-8118 is no longer required and was removed.

Cooling for the new pump motor is provided from the existing auxiliary component cooling water (ACCW) supply currently cooling the PDPs lube oil and motor coolers. The NCP and motor are provided with temperature and vibration monitoring instrumentation supplied by the vendor.

The NCP discharge now ties in at a different point in the charging flow header, upstream of flow control valve 1FV-121. This allows the charging flow for all three CVCS charging pumps to be controlled by the same control valve and eliminates the need for additional flow controls for the new NCP. Flow instrumentation measures the total pump flow and generates a control room alarm indicating a low flow condition. The PDP speed controller 1SIC-459A was removed from the main control board. The plant computer displays pump and motor bearing temperatures, mini-flow valve position and pump breaker position.

The additional heat loads associated with the larger NCP motor were analyzed to determine the impact to the pump room environment. The existing HVAC is adequate to control pump room conditions at acceptable levels to protect equipment.

The miniflow recirculation line was rerouted to connect with the common CCP mini-flow line, just downstream of valve 1HV-8111A/B. The miniflow control valve, 1HV-8109 is designed to automatically open when the NCP is started and close when the NCP is stopped. Provisions are included to allow 1HV-8109 to be manually closed from the control room handswitch when NCP total flow is greater than 120 gpm.

SAFETY EVALUATION: UFSAR section 9.3.4 describes the CVCS system in detail. Throughout this section, specific references were made to P&IDs 1X4DB116-1, 1X4DB116-2 and 1X4DB118 which were updated to reflect the addition of the NCP and its new controls. Also, sections 9.3.4.1.1.6, 9.3.4.1.2 and 9.3.4.1.3.4 indicated that the PDP was available to be used for hydrostatic testing of the RCS. These sections were updated to reflect that the PDP were deleted and this function is no longer be available via the CVCS. Sections 9.3.4.1.2.1 and 9.3.4.1.2.5.1 describe the three CVCS pumps and were revised to reflect use of the new NCP. Section 9.3.4.1.2.5.24 part H, describes the PDP pump discharge relief valve. This section was revised to reflect the title change from the PDP to the NCP pump discharge. Section 9.3.4.1.2.6.2 part A, describes the power generation/base load operation of the CVCS. In this section, reference to the speed controller of the Unit 1 PDP was removed. As part of UFSAR table 9.3.4-2 the PDP design parameters are described and this table was updated to include the parameters for the NCP.

UFSAR section 9.2.8 describes the ACCW system. In section 9.2.8.2.1, P&ID 1X4DB139 is referenced and was changed as part of this design to indicate the new cooling loads associated with the NCP. Also, the system operation section 9.2.8.2.3 and table 9.2.8-1 was updated to reflect the specific details of the new cooling load on the ACCW system as a result of the NCP change. UFSAR section 5.2.2.10.1 discusses the potential overpressurization transients to the RCS which are evaluated to demonstrate conformance with 10 CFR 50, Appendix G. The mass input from the PDP was modeled in this particular chapter. The reference made to the PDP was changed to the NCP. Analysis received in Westinghouse letter GP-16838, dated August 13, 1998, states that the COPS current PORV and RHR suction relief valves setpoints remain unchanged for this modification. As part of the removal of the PDPs speed control loop, UFSAR table 7.4.2-1 was revised to show its deletion. This table is used to list instruments and controls which are available for hot standby and hot or cold shutdown, complete with locations of the controls and indication. UFSAR chapter 3 briefly discusses the extent in which structures, systems and components that are important to safety at VEGP comply with 10 CFR 50 appendix A (General Design Criteria for Nuclear Power Plants). Criterion 33, discusses reactor coolant makeup specifically and was updated to reflect that the PDP has been replaced with the NCP. Also, UFSAR chapter 9A was revised to reflect the additional combustible loading for the various fire areas affected by this design change. UFSAR section 9.3.2.2 describes the nuclear sampling system-liquid and table 9.3.2-4 lists specific process grab sample points. This list was updated to reflect that sample point number 66 is no longer in the PDP room but, it is in the NCP room. UFSAR section 9.3.1.2.1 describes the compressed air system and specifically references P&ID 1X4DB186-1. This drawing was updated to show the cut and capped air supply which was supporting the operation of the PDP and will no longer be required for the NCP. UFSAR Section 9.3.3 describes equipment and floor drainage systems. References to the CVCS positive displacement charging pump on page 9.3.3-13 were changed to normal charging pump. Also, UFSAR section 9.3.3.2 describes the equipment and floor drain system. As part of the section, P&ID 1X4DB146-1 was changed to reflect the removal of a drain which will no longer be required to support the operation of the NCP. There are no changes to the Technical Specification Bases or the Technical Requirements Manual.

SUBJECT: 97-V2N0056

DESCRIPTION: The Westinghouse supplied positive displacement pump (PDP) was replaced with an Ingersoll-Dresser 2x10 CAM type 12 stage centrifugal pump. This replacement pump is identical to those which have been installed at similar plants with positive results. The potential for shared spare parts with these other plants was considered when selecting this pump. As part of this change, the normal charging pump (NCP) was assigned a new plant tag number, 2-1208-P4-001 (the PDP tag number is 2-1208-P6-001). This pump has a design operating point of 130 gpm at 5900 ft. of head with a pump efficiency of 40%. Due to the efficiency difference between the existing PDP and the new NCP motors, a new 4160 VAC non-1E power supply was required. An electrical load study has been performed to analyze the impacts due to these additional loads. The PDP did receive a stop signal following initiation of a safety injection (SI). As a precautionary / protective design feature, the NCP trips immediately following an SI. signal. The pump trip signal originates from maintained non-1E, train "A" and "B" sequencer contacts. This arrangement provides an electrical separation between 1E and non-1E power sources via the sequencers, as well as, generates a protective trip from either an "A" or "B" train SI signal. As a result of the pump change, pressure relief device 2PSV-8118 is no longer required and was removed.

Cooling for the new pump motor is provided from the existing auxiliary component cooling water (ACCW) supply currently cooling the PDPs lube oil and motor coolers. The NCP and motor are provided with temperature and vibration monitoring instrumentation supplied by the vendor.

The NCP discharge now ties in at a different point in the charging flow header, upstream of flow control valve 2FV-121. This allows the charging flow for all three CVCS charging pumps to be controlled by the same control valve and eliminates the need for additional flow controls for the new NCP. Flow instrumentation measures the total pump flow and generates a control room alarm indicating a low flow condition. The PDP speed controller 2SIC-459A was removed from the main control board. The plant computer displays pump and motor bearing temperatures, mini-flow valve position and pump breaker position.

The additional heat loads associated with the larger NCP motor were analyzed to determine the impact to the pump room environment. The existing HVAC is adequate to control pump room conditions at acceptable levels to protect equipment.

The miniflow recirculation line was rerouted to connect with the common CCP mini-flow line, just downstream of valve 2HV-8111A/B. The miniflow control valve, 2HV-8109 is designed to automatically open when the NCP is started and close when the NCP is stopped. Provisions are included to allow 2HV-8109 to be manually closed from the control room handswitch when NCP total flow is greater than 120 gpm.

SAFETY EVALUATION: UFSAR section 9.3.4 describes the CVCS system in detail. Throughout this section, specific references are made to P&IDs 2X4DB116-1, 2X4DB116-2 and 2X4DB118, which were updated to reflect the addition of the NCP and its new controls. Also, sections 9.3.4.1.1.6, 9.3.4.1.2 and 9.3.4.1.3.4 indicate that the PDP is available to be used for hydrostatic testing the RCS. These sections were updated to reflect that the PDP has been deleted and this function will no longer be available via the CVCS. Sections 9.3.4.1.2.1 and 9.3.4.1.2.5.1 describe the three CVCS pumps and were revised to reflect use of the new NCP. Section 9.3.4.1.2.5.24 part H, describes the PDP pump discharge relief valve. This section was revised to reflect the title change from the PDP to the NCP pump discharge. Section 9.3.4.1.2.6.2 part A, describes the power generation/base load operation of the CVCS. In this section, reference to the speed controller of the Unit 2 PDP was removed. As part of UFSAR table 9.3.4-2 the PDP design parameters are described and this table was updated to include the parameters for the NCP. UFSAR section 9.2.8 describes the ACCW system. In section 9.2.8.2.1, P&ID 2X4DB139 is referenced and was changed as part of this design to indicate the new cooling loads associated with the NCP. Also, the system operation section 9.2.8.2.3 and table 9.2.8-1 was updated to reflect the specific details of the new cooling load on the ACCW system as a result of the NCP change. UFSAR section 5.2.2.10.1, discussed the potential overpressurization transients to the RCS which are evaluated to demonstrate conformance with 10 CFR 50, Appendix G. The mass input from the PDP was modeled in this particular chapter. The reference made to the PDP was changed to the NCP. Analysis received in Westinghouse letter GP-16838, dated August 13, 1998, states that the COPS current PORV and RHR suction relief valves setpoints remain unchanged for this modification. As part of the removal of the PDPs speed control loop, UFSAR table 7.4.2-1 was revised to show its deletion. This table is used to list instruments and controls which are available for hot standby and hot or cold shutdown, complete with locations of the controls and indication. UFSAR chapter 3 briefly discusses the extent in which structures, systems and components that are important to safety at VEGP comply with 10 CFR 50 Appendix A (General Design Criteria for Nuclear Power Plants) Criterion 33, discussed reactor coolant makeup specifically and was updated to reflect that the PDP has been replaced with the NCP. Also, UFSAR chapter 9A was revised to reflect the additional combustible loading for the various fire areas affected by this design change. UFSAR section 9.3.2.2 describes the nuclear sampling system-liquid and table 9.3.2-4 list specific process grab sample points. This list was updated to reflect that sample point number 66 is no longer in the PDP room but, it is in the NCP room. UFSAR section 9.3.1.2.1 describes the compressed air system and specifically references P&ID 2X4DB186-1. This drawing was updated to show the cut and capped air supply which was supporting the operation of the PDP and will no longer be required for the NCP. UFSAR Section 9.3.3 describes equipment and floor drainage systems. References

to the CVCS positive displacement charging pump on page 9.3.3-13 were changed to normal charging pump. There are no changes to the Technical Specification Bases or the Technical Requirements Manual.

SUBJECT: 97-VAN0063

DESCRIPTION: The existing auxiliary building and miscellaneous drains (system 1215) auxiliary feedwater system sump pumps were modified for both Unit 1 and Unit 2 (1/2-1215-P4-020 and 1/2-1215-P4-021). The existing vertical sump pumps (rated at 50 GPM at 160-Ft. head) were replaced with ITT FLYGT submersible pumps, rated at approximately 80 GPM at 220-Ft. head. The new pumps discharge into the existing piping. The replacement pumps will receive operating signals from the existing level instrumentation. The operating set points for the lead pump and the lag pump in each sump have been adjusted for proper operation of the new pumps. Electrical power to the new sump pump motors is supplied from the existing motor starters located in the 1/2NBG and 1/2NBQ 480 VAC motor control centers (MCCs). The existing circuit breaker in each MCC cubicle was replaced to provide adequate protection based on the new sump pump motor horsepower. The existing control logic, including the control switch and level switch was retained.

SAFETY EVALUATION: The replacement with submersible pumps resulted in changes to P&IDs 1X4DB146-3 and 2X4DB146-3, referenced in UFSAR sections 1.7 and 9.3; also 1X4DE316, 2X4DE316, 1X4DE512, and 2X4DE512 referenced in sections 1.7, 3.8.4.1.6, 10.4.9.2.1 and 9.1.5-2. UFSAR tables 9.3.3-1 (sheet 2 of 3) and 9.1.5-2 (sheet 7 of 11) require revision to correctly identify the replacement pumps flow rate, pressure, and weight.

SUBJECT: 97-V1N0071

DESCRIPTION: The available thrust and torque margin of valves 1HV-8801A and 1HV-8801B was increased. These are the high head safety injection pump (charging pump) injection isolation valves to the RCS cold legs (BIT discharge valves). Also, the stroke time was increased to more closely match that of 1HV-8105 and 1HV-8106. The physical modifications are limited to replacing the valve yoke, motor, motor thermal overload relay heater coil, and operator.

SAFETY EVALUATION: The design change increased the MOV stroke times listed in table 6.3.2-3 for valves 1HV-8801A/B. The stroke time along with note "i" at the end of table 6.3.2-3 required revision. There are no impacts to the Technical Specifications Bases or the Technical Requirements Manual.

SUBJECT: 98-VAN0031

DESCRIPTION: A loss of coolant accident (LOCA) requires the centrifugal charging pumps (CCPs) to operate in the safety injection mode. Due to an earlier pump impeller change and the addition of an orifice to reduce pump discharge flow (both related to refueling outage 1R7), the Unit 1, Train A CCP motor horsepower (hp) required to produce design LOCA flow increased. The existing motor is rated and qualified for 600 hp with a service factor of 1.15, which means that the motor can operate continuously at 690 hp without any service life loss. The qualified life of a CCP motor with a LOCA hp of 690 is 60 years, plus one year post-accident. However, the current LOCA hp requirement of 715 exceeds the approved rating. This DCP justified and documented that the motor will operate satisfactorily at the higher hp rating. This is a documentation change only and no physical change to the plant is required.

SAFETY EVALUATION: Although no physical changes to the plant are required to document acceptability of the higher Unit 1, Train A CCP motor LOCA hp, this DCP changes UFSAR section 8.3.1.1.8 B to clarify that the Unit 1 Train A CCP motor can operate at 715 hp with a service factor of 1.0. Also, UFSAR table 8.3.1-2 required revision to update the emergency diesel generator loading profile based on the higher CCP LOCA hp rating and UFSAR Table 9.2.1-1, sheet 1 of 2 was revised to show only one decimal place for the heat load for the CCPs.

SUBJECT: 98-V1N0046

DESCRIPTION: The turbine steam seal header pressure controls were modified by replacing the pressure switch near the discharge of 1HV-6032 with a dual setpoint pressure switch that will both close and block manual opening of 1HV-6032 when the discharge pressure is above the high pressure setpoint. The new control scheme will continue to close 1HV-6032 until the low-pressure setpoint of the pressure switch is achieved. The high-pressure setpoint was less than the lift setpoint for 1PSV-6046 so that the relief valve will not open when 1HV-6032 is being used to control pressure in the turbine steam seal header. The low-pressure setpoint will reset the control logic so that manual control of 1HV-6032 may be resumed if needed.

SAFETY EVALUATION: Drawing 1X4DB160-3 was revised and is listed as an UFSAR drawing in UFSAR Table 1.7.1-1. Turbine steam seal supply header pressure indication is referenced in UFSAR section 10.2.5 and 10.4.3.5, but there is no proposed change to this indication. UFSAR section 10.2.5 lists control room alarms that provide warning to operators of abnormal turbine-generator conditions and is affected by this design change. Specifically, the alarm for "Steam Seal Pressure Trouble" will now additionally alarm for high steam seal bypass pressure or low steam seal pressure. The turbine steam sealing system is discussed in UFSAR section 10.4.3, but the discussion does not mention manual operation of the bypass valve to augment turbine steam seal header pressure. The turbine steam seal system is also mentioned in UFSAR table 9.5.9-1 and UFSAR sections 10.3.2.2.1 and 14.2.8.1.4. No changes are needed to the Technical Requirements Manual or Technical SpecificationBases.

SUBJECT: 98-V2N0047

DESCRIPTION: The turbine steam seal header pressure controls were modified by replacing the pressure switch near the discharge of 2HV-6032 with a dual setpoint pressure switch that will both close and block manual opening of 2HV-6032 when the discharge pressure is above the high pressure setpoint. The new control scheme will continue to close 2HV-6032 until the low-pressure setpoint of the pressure switch is achieved. The high-pressure setpoint was less than the lift setpoint for 2PSV-6046 so that the relief valve will not open when 2HV-6032 is being used to control pressure in the turbine steam seal header. The low-pressure setpoint will reset the control logic so that manual control of 2HV-6032 may be resumed if needed.

SAFETY EVALUATION: Drawing 2X4DB160-3 was revised and is listed as an UFSAR drawing in UFSAR table 1.7.1-1. Turbine steam seal supply header pressure indication is referenced in UFSAR section 10.2.5 and 10.4.3.5, but there is no proposed change to this indication. UFSAR section 10.2.5 lists control room alarms that provide warning to operators of abnormal turbine-generator conditions and is affected by this design change. Specifically, the alarm for "Steam Seal Pressure Trouble" will now additionally alarm for high steam seal bypass pressure or low steam seal pressure. The turbine steam sealing system is discussed in UFSAR section 10.4.3, but the discussion does not mention manual operation of the bypass valve to augment turbine steam seal header pressure. The turbine steam seal

system is also mentioned in UFSAR table 9.5.9-1 and UFSAR sections 10.3.2.2.1 and 14.2.8.1.4. No changes are needed to the Technical Requirements Manual or Technical SpecificationBases.

SUBJECT: 98-V1N0049

DESCRIPTION: This design change added an in-mast sipping system to the refueling machine. The system is made up of basically four different components. These components are the mast hardware, a detection and recording module, a control module and a pump and valve module. Components mounted on the trolley were secured in place. The mast hardware consist of an air nozzle manifold that is mounted to the bottom of the stationary mast assembly, an air collection manifold connected to the support tube flange near the top of the mast, associated tubing and covers to close various openings in the mast. The detection and recording module is a scintillation detector connected to a strip chart that produces hardcopy results for broad band and narrow band analyses. The effluent from the detector was routed underneath and away from the trolley deck. The control system will provide the operator with the means of controlling the sipping operation in either the automatic or manual mode. The pump and valve package for this system contains the necessary regulators, gauges, vacuum pump, etc. required to draw samples from the mast. Westinghouse will retain components other than the mast hardware after the outage.

SAFETY EVALUATION: UFSAR Section 9.1.4.2.4 provides a general description of the refueling machine and section 9.1.4.2.2.3 describes the general operating sequence of the machine. Although this modification does not alter the function or operation of the refueling machine or any other system or component, in order to maintain an accurate description in the UFSAR, the in-mast sipping capability is referenced in the above mentioned sections. This modification does not change the plant as described in the Technical Specification Bases or the Technical Requirements Manual.

SUBJECT: 98-V1N0051

DESCRIPTION: The existing radial arm hoists were replaced with new hoists that include improved operation, maintenance, and reliability features. These hoists are part of the integrated head package on the reactor vessel. They are used for handling the reactor vessel studs and tensioners during removal and installation of the head. The new hoists have the same lifting capacity. They are removable for storage outside of the containment building during power operation. This will also allow for sharing the hoists between Units 1 and 2.

SAFETY EVALUATION: The hoists are used for activities associated with tensioning and de-tensioning the reactor vessel studs. UFSAR table 3.2.2-1, sheet 90, was revised to indicate that the radial arm stud tensioner hoist is not located in containment since it is removable. Item number 12, radial arm hoist assembly, remains unchanged since it is still permanent plant equipment. UFSAR paragraph 9.1.5.2.3.4.4 was revised to indicate that only the hoist assemblies are provided as part of the integrated head package and that the actual hoists are not considered part of the assembly. UFSAR table 9.1.5-3, sheet 1 and 2, Containment Building Overhead Load Handling Systems, was revised to indicate the design standard for the new radial arm hoists. There are no changes required to the Technical Specification Bases or the Technical Requirements Manual.

SUBJECT: 98-V1N0061

DESCRIPTION: Previously, the pressurizer power operated relief valve (PORV) 1PV-0455A actuated based on a signal from the pressurizer master controller. The master controller signal is derived from channel 1 or 3 of pressurizer pressure (Loop P-455 or P457). PORV 1PV-0456A is controlled from a bistable directly reading the Channel 2 or 4 pressurizer pressure signal (Loops P-456 and P-458). In June of 1998, a reactor trip and safety injection event occurred on Unit 2 due to a fault in the non-1E electrical distribution system. During recovery from the event, the master controller response caused PORV 2PV-0455A to open 120 psig below its nominal setpoint of 2335 psig, causing undesirable cycling of the PORV block valves and PORVs. To preclude the potential for block valve cycling in the future, this design change moved the input signal of the bistable for PORV 1PV-0455A (PB-455E) from downstream of the pressurizer pressure master controller to upstream of the master controller. PORV 1PV-0455A now open at a fixed setpoint of 2345 psig and operates similarly to PORV 1PV-0456A. 1PV-0456A retained its existing setpoint of 2335 psig. Therefore, during pressure excursions, 1PV-0456A can now be expected to open prior to 1PV-0455A.

SAFETY EVALUATION: UFSAR table 5.4.10-2 and UFSAR figure 7.7.1-4 were revised to describe the changes implemented. Technical Specification 3.4.12 contains requirements on PORV settings for cold overpressure protection system (COPS), however this design change has no impact on the use of the PORVs for COPS functions. The Technical Specifications do not include specific descriptions of the operation or setpoints associated with normal PORV control. There are no impacts to the Technical Specification Bases or Technical Requirements Manual.

SUBJECT: 98-V2N0062

DESCRIPTION: Previously, the pressurizer power operated relief valve (PORV) 2PV-0455A actuated based on a signal from the pressurizer master controller. The master controller signal is derived from channel 1 or 3 of pressurizer pressure (Loop P-455 or P457). PORV 2PV-0456A is controlled from a bistable directly reading the Channel 2 or 4 pressurizer pressure signal (Loops P-456 and P-458). In June of 1998, a reactor trip and safety injection event occurred on Unit 2 due to a fault in the non-1E electrical distribution system. During recovery from the event, the master controller response caused PORV 2PV-0455A to open 120 psig below its nominal setpoint of 2335 psig, causing undesirable cycling of the PORV block valves and PORVs. To preclude the potential for block valve cycling in the future, this design change moved the input signal of the bistable for PORV 2PV-0455A (PB-455E) from downstream of the pressurizer pressure master controller to upstream of the master controller. PORV 2PV-0455A now open at a fixed setpoint of 2345 psig and operates similarly to PORV 2PV-0456A. 2PV-0456A retained its existing setpoint of 2335 psig. Therefore, during pressure excursions, 2PV-0456A can now be expected to open prior to 2PV-0455A.

SAFETY EVALUATION: UFSAR table 5.4.10-2 and UFSAR figure 7.7.1-4 were revised to describe the changes implemented. Technical Specification 3.4.12 contains requirements on PORV settings for Cold Overpressure Protection System (COPS), however this design change has no impact on the use of the PORVs for COPS functions. The Technical Specifications do not include specific descriptions of the operation or setpoints associated with normal PORV control. There are no impacts to the Technical Specification Bases or Technical Requirements Manual.

SUBJECT: 99-V1N0024

DESCRIPTION: A duplex strainer arrangement was installed in the Unit 1 turbine generator stator cooling water system (1326). Also installed was a monorail beam/hoist assembly, above the duplex strainer. VEGP has experienced problems with stator bar corrosion. This has lead to excessive fouling of the stator cooling water system (SCWS) strainers from oxide deposits on the strainer internals. The problem has resulted in a forced outage to clean the filters. Installation of a duplex strainer will allow cleaning while the unit is in service of the fouled strainer section while stator cooling water flow is directed through the alternate strainer section.

SAFETY EVALUATION: The addition of a duplex strainer to the stator cooling water system required a revision to P&ID drawing 1X4DB193, referenced in the UFSAR. The addition of a monorail beam/hoist assembly for maintenance does not affect any documents contained in the UFSAR. There are no revisions necessary to the text of the UFSAR. Neither the Technical Specification Bases nor the Technical Requirements Manual required revisions due to this change.

SUBJECT: 00-V2N0030

DESCRIPTION: During the performance of the monthly SSPS and reactor trip breaker (RTB) operability surveillance, electricians were previously required to verify the status of the cell switch and 52b (auxiliary) contacts for both the main and bypass reactor trip breakers on terminal blocks in the rear of the reactor trip switchgear. If these terminals get shorted together during this surveillance, either a turbine trip or feedwater isolation would result depending at which terminal block the terminals had been shorted together. In an effort to reduce the risks associated with performing these cell switch and auxiliary contact resistance readings, the test points from the terminal blocks have been brought out to test panels (one test panel per train). The test panels contain switches and test jacks. Resistors are located in the test circuits to assist in preventing inadvertent actuation during surveillance. The test panels are located in near the reactor trip switchgear.

SAFETY EVALUATION: Features for testing the reactor trip breakers are described in UFSAR section 7.2.2.2.3.J.4. A description of the test panels was added to this section. This change does not affect Technical Specification Bases, or Technical Requirements Manual.

SUBJECT: 00-VAN0031

DESCRIPTION: To extend the Vogtle Unit 1 Cycle 9 reactor core operation for the period immediately preceding the cycle 9 to 10 refueling outage, a coastdown strategy was implemented, consisting of a reactor coolant system (RCS) average temperature (T_{AVG}) coastdown followed by power coastdown. The positive reactivity associated with the reduction in moderator temperature enables the reactor to remain at full power for a longer period. This results in greater electrical generation compared to any previous power coast down. This change allows the main turbine to draw down T_{AVG} when the reactor can no longer remain critical at 586.4 °F at 100% power. During this modified coast down, VEGP will maintain turbine valves wide open (VWO), rods fully withdrawn, and RCS boron as low as possible. T_{AVG} and power are allowed to sag while keeping power as close to 100% as possible until a specified T_{AVG} or the lower T_{AVG} program within the analyzed window is reached. A power coast down at reduced temperature then commences, i.e., ramping power down following a linear decrease in T_{AVG} to T_{NOLOAD}. The power coast down portion of the program is no different than a normal, planned shutdown. This change has been evaluated independently of any given fuel cycle, and its conclusions are applicable to

both Vogtle Unit 1 and Unit 2. This method of T_{AVG} / power coast down is now the standard preferred method for VEGP plant coast downs.

SAFETY EVALUATION: UFSAR section 15.0.2 has been enhanced to include a discussion of the control strategy for the end- of cycle coastdowns. This modification did not negatively impact any of the evaluations described in chapter 15. This change does not affect Technical Specification Bases, or Technical Requirements Manual.

SUBJECT: 94-VAM076

DESCRIPTION: One vacuum breaker/air release valve was added at the discharge of each waste water effluent pump (a total of 4), upstream of its associated check valve and one vacuum breaker/air release valve at either end of the combined pump discharge header (a total of 2). The new valves will require installation with insulation and heat trace since they are less than 8 in. in size and located outside. Pumps, pipe, insulation, heat trace, and valves added by this change are located at the waste water retention basins area and are project class 626, 62J and 62E.

SAFETY EVALUATION: These changes resulted in a modification to drawing AX4DB152-2. This P&ID is included in UFSAR subsections 1.7.1, 2.4.13, and 9.3.3 by reference only. The waste water effluent system is not covered to a level of design detail within the UFSAR such that any modifications to the text of the UFSAR were required due these changes. This change does not affect Technical Specification Bases, or Technical Requirements Manual.

SUBJECT: 97-VAM016

DESCRIPTION: A 1 ½ inch pipe was installed from the vicinity of seal oil storage tank to SGFP-B lube oil drain line (1307-L4-044-3") downstream of the valve (1307-U4-038) past the spectacle flange. The new line was capped on one end and connected to a drain line via valve 1307-U4-042. This modification accommodated draining of seal oil tank efficiently, safely and economically.

SAFETY EVALUATION: The turbine lube oil and filtration system is mentioned in UFSAR subsection 10.2.2. The P&IDs 1X4DB167-2 and 2X4DB167-2 were revised. The operation of the seal oil system, feed pumps or the lube oil system were not affected since this line will only be used to drain the seal oil during the outages. The seal oil or the lube oil systems are not discussed in the Technical Specification Bases or the Technical Requirements Manual. The seal oil system or the lube oil system is not the subject of any Technical Specification or the Environmental Protection Plan (EPP).

SUBJECT: 97-VAM026

DESCRIPTION: The steam generator blowdown conductivity analyzers, cells, flow indicators, and associated piping were deleted. 1/2-CIS-1182-1183, 1/2-CE-1182A, B, C and 1/2-CE-1183A, B, C.

SAFETY EVALUATION: UFSAR subsection 10.4.8 extensively describes the SGBD Processing System. UFSAR paragraph 10.4.8.2.2.4-D describes the local SGBD conductivity flow indicators and UFSAR paragraph 10.4.8.2.2.6 describes the SGBD conductivity instruments and alarms. These instruments were deleted by this modification; therefore, this subsection of the UFSAR was revised. Conductivity is still measured at this location via local sampling, but is not directly indicated. The instruments and piping deleted by this MDC are not discussed in the Technical Specification Bases or the Technical Requirements Manual. This portion of the SGBD system is not discussed in the Technical Specification.

SUBJECT: 97-VAM036

DESCRIPTION: An alternative sample collection device was provided to be used for reactor coolant system (RCS) hot leg sample collection in lieu of the 300 ml pressure sample vessel previously used. The previous RCS sample vessel was connected to the primary lab sample panel, sample station by quick

disconnect fittings. The new sample collection rig, a "Rheodyne" sample loop & rotary valve assembly, is plugged into this RCS sample station using the same type quick disconnect fittings. This assembly is used to supplement the original design sample vessel for sample collection, so either of the sampling rigs may be used, at any time, as directed by approved procedure. The intent of this design change is to reduce the time required for laboratory technicians to collect the RCS sample and thereby reduce the radiation dose uptake of chemistry personnel.

SAFETY EVALUATION: The UFSAR in Section 9.3.2.2.1 states that "The high-pressure RCS samples are collected at full pressure and reduced temperature in sample pressure vessels. Samples can also be taken at reduced pressure. These vessels are designed for 3000 psig at 600°F and are equipped with quick-disconnect couplings to facilitate removal to the radiochemical laboratory for analysis." This design change uses a high pressure (designed to operate at 7000 psig and 300°F), 6 port, 2 position rotary valve with an integrally attached, fixed volume sample loop for sample collection equipped with inlet and outlet isolation valves and quick-disconnect couplings.

The change to UFSAR paragraph 9.3.2.2.1 added the description of the rotary valve with sample loop as an alternative sample collection means instead of the removable valved pressure vessel. The Technical Specification, Technical SpecificationBases and Technical Requirements Manual are not concerned with the details of the hardware and means used to collect the RCS samples but the concern and impact of RCS sampling is only in the sample results in regard to effective control of reactivity and power issues.

SUBJECT: 97-VAM039

DESCRIPTION: The impeller on the electric fire pump (C-2301-P4-002) was replaced with a larger diameter impeller. This increased the capacity of the pump to allow a greater margin for wear and tear on the pump. The impeller diameter was increased from 17.125" to 17.375". This provides a capacity of 2500 gpm at a total dynamic head (TDH) of 300 feet. This is an increase from the original design capacity of 2500 gpm at 289 feet TDH. The pump operating pressure will increase from 125 psi to 130 psi. The change was approved by the plant's insurer, Nuclear Electric Insurance Limited (NEIL).

SAFETY EVALUATION: This impeller replacement on the Electric Fire Pump involved a change to the plant as described in the UFSAR. UFSAR table 9.5.1-2 was revised to show the 300 feet total dynamic head available for the Electric Fire Pump. UFSAR table 9.5.1-9 and Appendix 9B, Subsection C6.b (6) was revised to show that another exception is taken to NFPA 20-1983. The impeller replacement voided the UL listing of the pump assembly. This is an exception to NFPA 20-1983. No changes were required to the Technical SpecificationBases or Technical Requirements Manual. This MDC did not change written procedures implementing the fire protection program as described in TS 5.4.1.d.

SUBJECT: 97-VAM042

DESCRIPTION: A mechanical joint plug was provided for line C-2301-L4-557-8". This underground pipe had ruptured. This line supplied fire protection water for the sprinkler system for the former Pullman Mechanical Contractor's building which was abandoned. Also, several fire protection water piping drawings (CX4DB173-2, -3, -4 and CX2D99Q001-4, -5, -6, -7) were updated to show the current configuration of components in fire protection water yard loop system since some of the outside area buildings and some hydrant houses have been removed.

SAFETY EVALUATION: P&IDs CX4DB173-2, CS4DB173-3, and CX4DB173-4 which are referenced in UFSAR paragraph 9.5.1.2.2, "Fire Protection (Active Systems)" were updated to show the mechanical joint plug as described above, show the current status of isolation valves to abandoned/deleted buildings, and to show the removal of some of the hydrant hose houses.

FCR 97-VAM042-F001cut and capped a portion of line C-2301-L4-517-12" which provided water to Construction Warehouse #5 which was removed. Fire protection water is not needed for the immediate area around the deleted Construction Warehouse #5; therefore, abandoning a portion of this line did not jeopardize fire-fighting activities for the remaining facilities. In addition, abandoning the line prevents future ruptures from occurring along this section of pipe.

This activity involved a change to P&ID CX4DB173-4, which is referenced in UFSAR paragraph 9.5.1.2.2, "Fire Protection (Active Systems)." This P&ID was updated to show the cutting and capping of a portion of line C-2301-L4-517-12" and the closure of valves C2301-U4-695 and C-2301-U4-699. There is no safety-related equipment in the outside area loop where the redundancy will be lost. Therefore, no change to the UFSAR was required.

SUBJECT: 97-V2M046

DESCRIPTION: The Unit 2 steam generator blowdown system (SGBD) control system in the SGBD panel was replaced. This change made the Unit 1 and Unit 2 SGBD panels operationally identical.

SAFETY EVALUATION: UFSAR subsection 10.4.8 describes the steam generator blowdown processing system (SGBPS) system. This change did not functionally change the SGBPS operations. All of the controls, indications, and alarms are functionally identical. UFSAR sect6ion 10.4.8.2 list P&IDs 1X4DB179-1 and 1X4DB179-2. Both of these drawings were revised as part of Unit 1 MDC 97-V1M019. This MDC revised the equivalent Unit 2 P&IDs 2X4DB179-1 and 2X4DB179-2. This change did not require any additional revision to the UFSAR. The SGBPS is not discussed in the Bases for the Technical Specification.

SUBJECT: 97-VAM069

DESCRIPTION: The fuel oil day tank level indicator was removed from the emergency diesel generator engine control panel. The associated tubing and orifice were also removed. Removal of the tubing extending from the panel to the day tank was optional. The line from the check valve located on top of the day tank was plugged. Also, the local emergency start (break-glass) push-button was replaced with a maintained two position selector switch that is compatible with the previous 3-way valve. The selector switch is simply a different operator for the 3-way valve to provide the same function. Minor drawing errors noticed while developing the MDC were corrected.

SAFETY EVALUATION: The day tank level indicator located on the engine control panel is discussed in the UFSAR in table 9.5.4-2 (Sh. 1 and 6 or 7), Failure Modes and Effects Analysis. The referenced UFSAR pages were revised to delete reference to the panel mounted day tank level gauge. The emergency start push-button was originally described in the UFSAR as a "break-glass station." Paragraph 8.3.1.1.3.E on page 8.3.1-17 of the UFSAR was revised to delete the reference to "break-glass station."

SUBJECT: 98-VAM002

DESCRIPTION: Shielding was installed for selected exterior and interior walls of the alternate radwaste building (ARB). ALARA considerations were factored into this design. A concrete footing was poured on the southeast side of the ARB exterior wall extending from the NSCW fan room to beyond the currently constructed east wall in the east-west direction and extending southward from the building approximately 6 feet. Vendor supplied modular concrete blocks were placed inside the ARB in such a manner to shield the remaining south wall from the point at which the exterior constructed wall ends west to the southwest corner of the ARB. Additionally, modular shield logs were utilized on the exterior of the northwest wall spanning from the radwaste transfer building was southward to the door. The walls are constructed and located such that if any wall should collapse, there would not be any damage to a safety-related structure or component.

SAFETY EVALUATION: UFSAR subsection 1.9 describes VEGP compliance with the applicable Regulatory Guides for this structure. Subsections 3.7.B and 1.2.2-2 discuss the seismic and fluid retention design requirements of the basemat and surrounding curb. Chapter 11 describes use of the ARB. Paragraph 12.4.2.1 of the UFSAR describes the use of interior concrete walls to maintain Zone I (<0.25 mrem/hour) radiation levels. This design change added interior and exterior concrete shield walls.

The alternate radwaste building and associated shielding are not described in the Technical SpecificationBases or the Technical Requirements Manual. The ARB structure and shield walls are not directly described in any Technical Specification.

SUBJECT: 98-V1M012

DESCRIPTION: Four isolation valves were installed into the Unit 1 nitrogen supply piping which supply the safety injection accumulators to assist the safety injection isolation valves in isolating nitrogen from the accumulators. This change allowed a nitrogen blanket to be placed on the steam generators during drain downs during outages. These valves were located inside containment in the non safety related, non seismic portion of the nitrogen system piping upstream of the SI accumulator nitrogen supply valves and their associated bypass valves. These valves do not perform a safety related function or containment isolation function.

SAFETY EVALUATION: The safety injection system P&ID 1X4DB120 was revised to illustrate the location of the new nitrogen isolation valves. P&ID 1X4DB120 is referenced in UFSAR subsection 6.3.2.1. These valves assist the safety injection isolation valves in isolating nitrogen from the accumulators to allow a nitrogen blanket to be placed on the steam generators during drain downs during outages. These valve additions did not change the operation of the safety injection system or the auxiliary gas-nitrogen system. Based on a review of UFSAR subsections 3.1, 3.2.2, 6.1.1, 6.2.4, 6.3, 7.3.2, 9.3.5, 15.5.1 and 15.6.5, TS Bases 3.5.1, 3.5.2, 3.5.4 and 3.5.5 and Technical Requirements Manual subsection 13.5.1, this modification did not result in a revision to some portion of the UFSAR, Technical SpecificationBases or Technical Requirements Manual. This design change did not result in a change to the Technical Specification.

SUBJECT: 98-V2M013

DESCRIPTION: Four isolation valves were installed into the Unit 2 nitrogen supply piping to the safety injection accumulators to assist the safety injection isolation valves in isolating nitrogen from the accumulators. This change allowed a nitrogen blanket to be placed on the steam generators during drain

downs during outages. These valves were located inside containment in the non safety related, non seismic portion of the nitrogen system piping upstream of the SI accumulator nitrogen supply valves and their associated bypass valves. These valves do not perform a safety related function or containment isolation function.

SAFETY EVALUATION: This change required a revision to safety injection system P&ID 2X4DB120 to illustrate the location of the new nitrogen isolation valves. These valve additions did not change the operation of the safety injection system or the auxiliary gas-nitrogen system. This modification did not result in a revision to some portion of the UFSAR, Technical SpecificationBases or Technical Requirements Manual based on a review of UFSAR subsections 3.1, 3.2.2, 6.1.1, 6.2.4, 6.3, 7.3.2, 9.3.5, 15.5.1 and 15.6.5, TS Bases 3.5.1, 3.5.2, 3.5.4, and 3.5.5 and Technical Requirements Manual subsection 13.5.1. This design change did not result in a change to the Technical Specification.

SUBJECT: 98-VAM040

DESCRIPTION: A portion of the underground fire protection water piping in the outside yard area was modified. Additionally, line C-2301-L4-523-8" which provided water to outside yard areas west of the protected area and north of the service road was cut and capped. This line has ruptured between isolation valves C-2301-U4-715 and C-2301-U4-716. Fire protection water is not needed for the immediate area served by this line. Therefore, abandoning a portion of this line did not jeopardize fire fighting activities for the remaining facilities. In addition, abandoning the line prevents future ruptures from occurring along this section of pipe.

SAFETY EVALUATION: P&IDs CX4DB173-2 and CX4DB173-3 which are referenced in UFSAR paragraph 9.5.1.2.2, "Fire Protection (Active Systems)" were updated to show the cutting and capping a portion of line C-2301-L4-523-8" and the closure of associated valves. Although a portion of the redundant loop was deleted by this change, UFSAR paragraph 9.5.1.2.2.4 describes the loop and sectionalization necessary for areas containing safety-related/safe shutdown equipment. There is no safety-related equipment in the outside area loop where the redundancy was lost. Therefore, no change to the UFSAR was required. No changes were made to the TS Bases or Technical Requirements Manual. Written procedures implementing the fire protection program as described in T.S. 5.4.1.d remains in place.

SUBJECT: 98-VAM045

DESCRIPTION: The "sample bomb" installed at nuclear sampling panel 1/2-1212-NSP (sample panel connection point 1/2-1212-NSP-S06) used for collecting samples from the CVCS letdown line was replaced with an "Orbisphere" hydrogen sensor/flow chamber and a "Johnson/Yokogawa" conductivity sensor. The new sensors are able to provide continuous hydrogen and conductivity monitoring capabilities.

SAFETY EVALUATION: UFSAR subsection 9.3.2 discusses the function and operation of the liquid nuclear sampling system. The description discusses the collection and treatment of samples. The subsection did not specifically discuss the use of a "sample bomb" as the method utilized in the collection of the samples. This subsection did however state that the system is manually operated on an intermittent basis. The installation of the new sensors provides a continuous sample and therefore represented a change to the operation of the system as described in this subsection. The addition of the sensors did not impact the containment isolation portion of the sampling system. UFSAR Section 3.2, "Classifications of Structures, Components, Equipment and Systems" table 3.2.2-1 provides the applicable Codes to which

the NSSL was built to. The Liquid Nuclear Process Sampling System is not the topic of any Technical Specification.

SUBJECT: 98-VAM052

DESCRIPTION: The high-flow alarm for volume control tank (VCT) purge flow was deleted. Also, references to the VCT purge flowmeter in UFSAR paragraph 11.3.2.2.3 and references to the VCT purge flow high-flow alarm in Design Manual, DC-1902, subsection 2.2.2 were deleted. 1/2-FI/FT/FSH-1094 was deleted from P&IDs 1/2X4DB128.

SAFETY EVALUATION: This change did not increase the probability of occurrence of any accident previously evaluated in the UFSAR 15.7.1 for a radioactive waste gas decay tank (GDT) failure since deleting this high flow instrumentation had no affect on increasing the probability of a GDT failure.

SUBJECT: 99-VAM004

DESCRIPTION: Multiple fans in the reactor cavity cooling system and the reactor support cooling system are interlocked with flow switches that trip the fans in the event of a low flow condition. UFSAR paragraphs 9.4.6.2.3.F and 9.4.6.2.3.G require the reactor cavity cooling system and reactor support cooling system to be automatically loaded on a bus energized by the diesel generator upon loss of offsite power. While the fans, are powered by a bus loaded on the diesel, the flow switches are not. Original design consideration did not take into account the fact that the flow switches were on an unavailable power source, preventing the fans from functioning in the event of loss of offsite power.

The interlock was removed between the affected fans and flow switches, allowing the fans to function during loss of offsite power and bringing the reactor cavity cooling system and reactor support cooling system into compliance with the UFSAR. Additionally, all flow switch timers were changed to 45 seconds to reduce nuisance alarms.

SAFETY EVALUATION: Neither the Technical Specification Bases nor Technical Requirements Manual referenced either the reactor cavity or reactor support cooling systems. Subsection 9.4.6 of the UFSAR describes the ability of the fans to be automatically loaded onto the diesel generators following and LOSP. This change brought the plant into compliance with the UFSAR. Furthermore, the UFSAR commits to Reg. Guide 1.140. This regulation commits the plant to ASME/ANSI N-509&510. ASME/ANSI N-509 describes the design and manufacture of nuclear filtration units and does not require low flow trips to be present. Neither the reactor cavity cooling system nor reactor support cooling system is mentioned in the Technical Specification.

SUBJECT: 99-V2M012

DESCRIPTION: A pneumatic interlock signal was connected from the main turbine front standard air relay dump valve to close the MSR steam supply air operated control valves when the main turbine trips. This minimized the potential for a safety injection actuation due to excess cool down after a turbine trip coincident with a loss of non-safety related AC power.

SAFETY EVALUATION: The main turbine and MSRs are described in UFSAR sections 10.1 and 10.2 although the controls which regulate the heating steam flow to the MSRs are not described in the UFSAR text. P&ID 2X4DB160-2 and P&ID 2x4DB175-2 which are similar to the Unit 1 drawings

referenced in UFSAR section 10.2.2 and paragraph 9.3.1.2.1 were revised as a result of this change. The main turbine MSR heating steam flow controls, is not the subject of the Technical Specification or the EPP.

SUBJECT: 99-VAM026

DESCRIPTION: Use test well TW-1 as a backup source of water for replenishment of the well water storage tank. Analysis shows that it is permissible to use this well as a source of well water provided the pump flow rate does not exceed 1000 gpm. Monitoring for ground settlement was performed at the time of initial use of this well as a production water supply. Subsequent monitoring for settlement is currently performed under the settlement-monitoring program.

SAFETY EVALUATION: The UFSAR paragraph 2.4.12.1.3.3 states that "test well (TW-1) was drilled and tested to provide design data for the makeup well field. This well is not used for plant makeup due to its location near Category 1 structures." The Category 1 structures referred to are the Unit 1 NSCW cooling towers. Based on the results of a technical evaluation of the effect of pumping from this test well at a pumping rate not to exceed 1000 gpm, the total maximum subsidence at the edge of the NSCW Tower 1A will not exceed the maximum differential settlement for the NSCW valve house train A category 1 buried piping. Therefore, operation of a pump from this well at a flow rate that does not exceed 1000 gpm is acceptable.

Use of test well TW-1 is not discussed in the Technical Specification and this change did not require any changes to the Technical Specification.

SUBJECT: 99-V1M027

DESCRIPTION: The reach rod assembly was removed on valve 1-1902-U4-107 on line 1902-078-3/4" and a local valve handle was installed to manipulate the valve. Valve 1902-U4-107 is used during sampling of waste gases from Unit 1 waste gas decay tank #3. 1902-U4-107 is located in auxiliary building room B39 which is classified as a radiation maintenance/ALARA zone II as referenced in UFSAR 12.3.1 to drawing AX6DD104 "Post TMI 24 Hour Rad Map" and is expected to cause an exposure of 0.1 to 1 R/hr. The projected dose received due to local manual operation does not pose a concern to the operator since this valve is not required to be manipulated during an accident. Sampling gas decay tank (GDT) #3 is not required during an accident and there are other means to sample GDT #3. It is likely that the dose equivalent to personnel from the maintenance on this valve exceeds the dose projected due to manual operation of this valve. Removing the reach rod does not violate Design Manual DC-1014 recommendation to have a reach rod installed if a valve is expected to be operated for more than 1 time per year; thus, no reach rod was recommended in Rad Zone III.

SAFETY EVALUATION: This MDC required a change to critical drawing P&ID 1X4DB128 that is referenced in UFSAR subsection 11.3.2 which describes waste processing system-gas. There was no change to TS Bases 3.7 or to Technical Requirements Manual 13.7. There were no required changes to the TS 3.7 and/or the EPP.

SUBJECT: 99-VAM029

DESCRIPTION: A sight glass was installed to allow observance of leakage from cask load pit liner. A hinged pit cover and a handle were added so operators can periodically open up the pit and check for leakage from the cask load pit liner into FHB sump by observance of the sight glass in the valve pit.

SAFETY EVALUATION: Critical drawing P&ID 1X4DB183, referenced in UFSAR subsection 9.3.3, which describes equipment and floor drainage systems was changed. This change involved installing a flanged sight glass downstream of FHB Cask Liner drain valve to allow detection of liner leakage and changes the position of the valve from LC to close. This change was made to make the plant design capabilities consistent with the current description in UFSAR paragraph 9.3.3.2.3.5, "Liner Plate Leakage Detection", item C. "Fuel Cask Loading Pit". The addition of the sight glass allowed the operator to perform the requirements of observing a leak by the dripping from the drain line as described in this subsection. There were no changes to the UFSAR due to adding hinges and a handle to the valve pit cover. There were no changes to the UFSAR subsection 9.1.3, which describes the spent fuel pool cooling and purification system (SFPCPS). There were no changes required to the Technical SpecificationBases or to the Technical Requirements Manual since this change to the equipment and floor drainage systems P&ID are not described in TS Bases section 3.7 or to TRM section 13.7. There were no changes required to the Technical Specification since the equipment and floor drainage systems or liner plate leakage detection changes involved are not described in TS sections 3.7.

SUBJECT: 99-VAM031

DESCRIPTION: Cross fill flanges were installed in all NSCW cooling towers so that one train can fill the other as needed. The change involved adding a 2 ½" x 5" pipe nipple to the flange location already designated for cross fill. By installing the nipple, maintenance personnel no longer need to replace the existing flange with a valve assembly when cross pumping and torque the blind flange, since installation of the pipe nipple prevents having to remove the flange. Operators now only have to remove a pipe cap to install a fire hose for cross filling. The seismic qualification of the NSCW piping system will remain unchanged.

SAFETY EVALUATION: P&IDs listed in the UFSAR paragraph 9.2.1.2.1 were changed to reflect the new system configuration. There is no TS that addresses cross filling of the NSCW trains. Therefore, the installation of the modified flanges did not affect any of the current Technical Specification.

SUBJECT: 99-VAM032

DESCRIPTION: In order to comply with current EPRI Primary to Secondary Leakage Guidelines, additional sampling points were added in the steam jet air ejection (SJAE) / mechanical vacuum pump discharge piping upstream of the SJAE exhaust filter 1-1574-N7-001. The sampling points were installed to accommodate the future installation of a new SJAE radiation monitor package. The change also included providing taps for future flow elements.

SAFETY EVALUATION: UFSAR chapter 15.6.3 discusses the primary to secondary leak. Adding sampling points and flow transmitter taps upstream of the condenser vacuum exhaust system did not increase the probability of an occurrence of an accident previously evaluated. These sampling points enable the plant to quantify the extent of a primary to secondary leak. Systems 1309 and 1574 are not referenced in the Technical Specification and therefore did not constitute a change. There were no changes required to the Technical Specification or Technical Requirements Manual.

SUBJECT: 99-V1M044

DESCRIPTION: Recent developments regarding the reliability of the accumulator level transmitters require VEGP personnel to trend these instrument channels.

Internal wiring in the 7300 control cabinets was changed utilizing existing computer interface broads (NCI), existing pre-fabricated cables routed to the computer input/output (I/O) cabinet, and existing computer I/O hardware.

SAFETY EVALUATION: This MDC provided additional monitoring capabilities for the alternate accumulator level channels 1L-951, 1L-952, 1L-955 and 1L-956. These channels served indication functions at the main control board, with annunciator functions for high and low lever. The redundant accumulator level channels were already available on the IPC for trending purposes. The addition of computer indication for these instrument loops required a representation change to P&ID 1X4DB120. This drawing number is referenced in the text of the UFSAR therefore, a change to the plant was implied.. However, this change did not represent a functional change to the plant described in the UFSAR, as reviewed in paragraphs 6.3.2.2.1, 6.3.4.2, 6.3.5.4.2, 7.2.1.1.6, 7.3.1.2.2.6, table 6.3.3-2, table 7.5.2-1, 15.5 and 15.6. The Technical Specification Bases discussion for the accumulators contained in subsection B3.5.1 identified using the channel indicators on the control board to verify accumulator volume requirements pursuant to SR 3.5.1.2. This change did not impact this discussion or discussions related to IPC computer system Technical Specificationfunctions inferred in subsections B3.1.4, B3.2.1, B3.2.2, B3.2.3, B3.3.1, and B3.3.8. Also, this change did not affect the Technical Requirements Manual, COLR, or the PTLR. This change did not impact Technical Specification limiting conditions or surveillance requirements associated with accumulator level channels as reviewed in specification 3.5.1. The computer system modifications did not impact the Technical Specifications for the computer-related functions as reviewed in subsections 3.1.4, 3.2.1, 3.2.2, 3.2.3, 3.3.1, 3.3.8 and their associated Bases.

SUBJECT: 99-VAM047

DESCRIPTION: The volume control tank (VCT) high pressure alarm setpoint was lowered from 65 psig to 50 psig. During review of the boric acid transfer pump performance (Reference Westinghouse letter GP-16950 dated 4/14/99), it was determined that the boric acid transfer pumps could not deliver the required 30 gpm (Reference TRM 13.1.3.3) of boric acid flow with VCT pressures in excess of 50 psig. Therefore, the pumps could not be relied upon to serve as a credited boration flow path with VCT pressures in excess of 50 psig. The VCT pressure alarm was set at 65 psig. The purpose of this alarm is to alert operators of possible abnormal conditions in the VCT due to high level or malfunction of the hydrogen or nitrogen regulator and to take appropriate measures to bring the VCT pressures back within specification. However, by lowering the setpoint to 50 psig it also served the function of alerting the operators that the boric acid transfer pumps could not serve as a credited boration flow path until VCT pressure was lowered and the alarm cleared

SAFETY EVALUATION: The function of the boric acid transfer pumps for purposes of providing an acceptable emergency boration flow path is discussed in UFSAR subsections 9.3.4 and 6.3.3 and TRM subsections 13.1.2 and 13.1.3. The UFSAR subsection 9.3.4 describes the volume control tank and its associated components in detail. UFSAR paragraph 9.3.4.1.2.5.11 specifically states that the VCT pressure is monitored with indication given in the control room and that an alarm is actuated on high pressure. However, no reference is made to the setpoint for this hi pressure alarm in the UFSAR. Additionally, there is no reference to the VCT high pressure alarm in the Technical Requirements Manual

or Technical Specification Bases. There were no Technical Specification requirements associated with this alarm based upon a review of TS 3.1, 3.4, 3.5 and 3.9

SUBJECT: 99-VAM059

DESCRIPTION: The Unit 1 and Unit 2 steel roll-up doors, which have become unavailable for servicing the south side of the turbine building, were replaced with new doors designed for high frequency use (100,000 cycles) and included modifications such as a one horsepower operator to replace the previous fractional horsepower motor previously in service on each door. The new doors meet all qualifications for roll-up doors at VEGP as described in specification X1AH08.

SAFETY EVALUATION: The turbine building roll-up doors located on the south side of the Turbine Building are not described in the UFSAR, Technical Specification or Technical Requirements Manual. No changes were required to the Technical Specification.

SUBJECT: 99-VAM061

DESCRIPTION: Temperature switches A-TISL-20908, 0, 10 and 11 and eight other switches which feed as inputs to annunciator ALB53-D02 were deleted. The annunciator alarm did not have reflash capability, allowing one switch to mask the other inputs. These switches are associated with the recycle evaporator package rooms, which have been retired in place. The alarm had become a nuisance since the ambient temperature frequently drops below setpoint. No piping that transfers water-containing boron exists in the associated rooms (RC-61, 64 and 65). No other equipment in this room currently needed to be monitored by this switch. Removal of these switches as in input to ALB53-D02 did not impact the operation or safety of the plant.

SAFETY EVALUATION: TRM 13.1.2 and 13.1.3 lists temperature switches which warn of low space temperatures for rooms in the auxiliary building that contain boron flow paths. A-TISL-20908, 9, 10 and 11 are not listed in these sections. UFSAR subsections 1.7.1 and 9.4.3.1.2.1 specifically list P&ID 1X4DB208-2, which depict these switches and their alarm function. These switches and the areas they serve are not addressed in the Technical Specification.

SUBJECT: 99-VAM065

DESCRIPTION: A sample of the stator water cooling (SCW) system water is passed through the oxygen analyzer and returned to the SCW storage tank to provide measurement and continuous indication of the SCW oxygen content..

SAFETY EVALUATION: The turbine generator is discussed UFSAR section 10.2. The P&ID (1/2X4DB193) is referenced in UFSAR subsection 1.7.1 and 10.2.2. There were no changes to the Technical Specification Bases or the Technical Requirements Manual. The SCW system is not safety related and is not discussed in the Technical Specification. The stator water cooling system provides no safety function and does not support the operation of any safety-related systems.

SUBJECT: 99-VAM067

DESCRIPTION: Auxiliary building low differential pressure annunciator ALB53A06 on the QHVAC panel was not required and therefore was removed to eliminate the nuisance alarm. The indicating portion of the loop remained so that auxiliary building negative pressure can be demonstrated.

The piping penetration filtration system has low building to atmosphere differential pressure annunciation. The pressure transmitters are located in each of the piping penetration filter rooms. The piping penetration filter rooms are ventilated by, and therefore connect to, the auxiliary building normal ventilation during normal operation. A gross failure of the auxiliary building normal ventilation resulting in low auxiliary building to atmosphere differential pressure would therefore be sensed by the piping penetration building to atmosphere transmitters and annunciation given after 45 seconds.

The piping penetration building to atmosphere low differential pressure annunciation is equipped with a 45 second time delay and is inherently more stable due to separation of the normal and ESF filter rooms. For these reasons, the annunciation associated with 1/2PDIC-12670 was deleted. The indication portion of the loop remained functional.

The auxiliary building normal supply inlet isolation dampers 1/2PV-12670A/B are designed to modulate using building to atmosphere differential pressure. During start-up, one of the supply filter housings was damaged when the inlet damper closed due to a building pressure transient. 1/2PDIC-12670 was then placed in manual and a caution tag added to preclude another occurrence of this event. Building pressure can be maintained without inlet damper modulation. For these reasons, the modulating function of 1/2PDIC-122670 was removed and the controller is now manual operation only

SAFETY EVALUATION: The auxiliary building to atmosphere low differential pressure transmitter, indication, alarm and damper modulation are not expressly described in the UFSAR. However, the P&ID 1/2X4DB208-1 is listed in paragraph 9.4.3.1.2 of the UFSAR and does show these component and required revision. Furthermore, paragraph 9.4.3.1.1.3C states that the normal ventilation system is designed to maintain the building negative to prevent release of radioactivity to the atmosphere. Even though this change modified components associated with pressure control, indication, and alarm, this function was not hampered by this modification. The auxiliary building normal ventilation system is not safety related and is therefore not addressed in the Technical Specification Bases or the Technical Requirements Manual. The auxiliary building normal ventilation system is not described in the Technical Specification.

SUBJECT: 00-VAM008

DESCRIPTION: A local pushbutton and indicator was installed to allow improved monitoring of the turbine driven auxiliary feedwater (TDAFW) pump speed control system while the pump is not operating. The safety related pushbutton allows the speed control startup ramp feature to be manually initiated to verify its function. The non-safety related indicator allows the existing isolated ramp generator/signal conditioner (RGSC) output signal to be observed locally. By depressing the pushbutton for approximately 15-20 seconds, performance of the RGSC and the remote speed setpoint loop can be verified. This modification improved the reliability of the TDAFW pump by providing additional means to detect control system malfunctions between periodic pump runs.

SAFETY EVALUATION: The auxiliary feedwater system is described in UFSAR subsections 7.3.7 and 10.4.9. The TDAFW pump turbine and the speed control system is not described at the level of detail that would make a description of the proposed monitoring feature appropriate. The proposed

modification did not involve a change to the Technical Specification Bases or the Technical Requirements Manual. The proposed modification did not change the operability requirements for the AFW system specified in TS 3.7.5 or 3.3.5.

SUBJECT: 00-V1M027

DESCRIPTION: This MDC utilized the available feedwater temperature loops in the 7300 process control rack to provide additional indication of feedwater temperatures to the IPC computer. The addition of these computer inputs provided the much-needed diverse indication on the computer for trending feedwater temperatures. This aids in early identification of instrument drift with regards to the existing temperature inputs used for the calorimetric. Additionally, future improvements could be made to the calorimetric algorithm based on the future trend data of these additional feedwater temperature inputs.

SAFETY EVALUATION: The addition of computer indication for these temperatures required a representation change to P&ID 1X4DB168-3 which is referenced in the UFSAR. This change did not represent a functional change to the plant as described in the UFSAR as reviewed in paragraphs 7.1.2.1.6, 7.2.2, 10.4.7.2.1, 10.4.9.2.1, 15.0, 15.1, 18.1.2.4 and table 1.7.1-1. This change did not impact the IPC as reviewed in UFSAR subsections 7.1, 7.5.3.6, 7.5.5.1, 7.7.1, 7.7.2, 8.3, 14.2.8, 15.4.9-3 and 18.2. There is no impact to Technical Specification Bases as reviewed in subsections B3.1.3, B3.1.4, B3.2.1, B3.2.2, B3.2.3, B3.3.1, B3.3.8 and B3.8.1. Also, this change does not affect the Technical Requirements Manual. This change did not impact the Technical Specification for feedwater temperature or computer related functions as reviewed in subsections 3.1.3, 3.1.4, 3.2.1, 3.2.2, 3.2.3, 3.3.1, 3.3.8 and 3.8.1.

SUBJECT: 97-0433

DESCRIPTION: An Ericson "Freeset" DCT900 wireless communication system was installed in the control room. The system tied directly into the existing plant PABX phone system and created wireless communication capability for the control room. The proposed "Freeset" system interfaces with the existing plant PABX phone system without any loss of functionality. In addition, subsequent analysis performed by SCS under calculation X5CEMI0001 confirmed that the output signal strength is below the acceptable level emissions in the control room. The change to the plant phone system did not have an adverse impact on any control equipment, systems, or structures required for safe shutdown of the plant.

SAFETY EVALUATION: UFSAR 9.5.2 states that the communications systems are independent of one another; therefore, a failure in one system does not degrade the performance of the other systems. Communication systems are non-safety related and serve no safety function.

UFSAR paragraph 9.5.2.2.6 list drawings that schematically depict the various communications networks. UFSAR 18.1.2.3 states that communication to/from the control room is provided using sound-powered telephone systems. The addition of the "Freeset" DCT900 wireless communications system did not affect the sound powered telephone system. TRM 13.9.2. states that direct communications shall be maintained between the control room and personnel at the refueling station during core alterations. This is accomplished via the refueling sound-powered system. The proposed modification did not adversely impact this requirement.

The installation of the "Freeset" DCT900 wireless communications system did not require a change to the Technical Specification.

SUBJECT: 98-0316

DESCRIPTION: The oxygen supply manifold inlet gauge 1/2/A-PI-1107 (0-60 psi with 2 psi increments) was replaced with a 0-60 psi gauge with 1 psi increments. Also, this change added an isolation valve and a capped test connection.

SAFETY EVALUATION: Critical drawing P&ID 1/2X4DB129, referenced in UFSAR subsection 11.3.2, which describes the gaseous waste processing system (GWPS, System 1902) was changed. It required no changes to the UFSAR as referenced in UFSAR table 3.2.2. There were no changes required to the Technical Specification Bases or to the Technical Requirements Manual since this change to the gaseous waste processing system (GWPS, System 1902), which is not described in TS section 3.7 or to TRM section 13.7.

SUBJECT: 99-0150

DESCRIPTION: The controller, used in the fuel handling building normal exhaust filtration system, to change the fan flow rate to control building pressure at 0.25" w.g. negative, relative to atmosphere, was changed to a different brand. The previous controller, manufactured by Leads and Northrup, had failed and was no longer available. A Yokogawa controller was installed in its place. These controllers are used for both indication and control. For improved panel layout, AFI12514 was relocated beside APDIC12501 and AFI12515 beside APDIC12500.

SAFETY EVALUATION: P&ID AX4DB204-2 referenced in UFSAR paragraph 9.4.2.1.2.1 was revised. The text of the UFSAR was not impacted. The FHB normal ventilation system is not discussed

in the Technical Specification Bases or the Technical Requirements Manual. The FHB PA ventilation system, discussed in TRM 13.9.5, was not affected by this change. The FHB normal ventilation system is not discussed in the Technical Specification.

SUBJECT: 99-0247

DESCRIPTION: Pressure relief valve APSV 7490 was removed to eliminate a source of oxygen in-leakage into the demineralized water system. The original purpose of APSV 7490 was to serve as pump protection for the degas. transfer pumps (A-1409-D4-001, P08, P09, and P10). RER 99-0018 installed a mini-flow line from the pump discharge header, which returns to the degasifier. This mini-flow line serves as adequate pump protection.

SAFETY EVALUATION: This equipment is not specifically addressed in the UFSAR, Technical Specification or Technical Requirements Manual. However, the equipment is implicitly referenced via the P&ID on which the equipment appears (AX4DB177).

These changes involved no safety limits or limiting safety system settings or limiting conditions for operations or surveillance requirements. No changes were required to the Technical Specification.

SUBJECT: 99-0345

DESCRIPTION: This change revised P&ID 1/2X4DB157 to correctly indicate where line 1/2-1411-609-1/2 continues on P&ID 1/2X4DB160-2. Also, valve 1-1411-U4-649 is shown on drawing 1X4DB157 as a needle valve. However, the valve is actually a globe valve. Therefore, the valve type was changed on drawing 1X4DB157 to correctly reflect as-found conditions.

Valve 1-1411-U4-649 is located in line 1-1411-608-1/2" (piping class GG1). Piping class GG1 specifies valve mark number 325 for use in the ½" through 2" pipe size. Valve 1-1411-U4-649 is mark number 325, which is defined in the Master Valve List as a 1500 lb. 2" and smaller globe valve.

SAFETY EVALUATION: This change updated design documents to reflect as-found conditions. This RER did not require a physical change to the plant. However, 1/2X4DB157 is a critical drawing that is referenced in the UFSAR. UFSAR subsection 1.7.1, 10.4.7, and 10.4.10 were reviewed.

The condensate chemical injection is not discussed in the Technical Specification Bases or Technical Requirements Manual; thus, this change did not require a change to the Technical Specification Bases or Technical Requirements Manual. There are not safety limits, limiting safety system settings or limiting conditions for operating the plant involved with this change. Therefore, no changes were required to the Technical Specification.

SUBJECT: 00-0009

DESCRIPTION: The NSCW tower basin local "Lamacoid" level indication scales and the associated supporting steel frames were removed. Operations was not utilizing the scales on any rounds or in any SOPs. Basin level indication for Tech Spec SR 3.7.9.1 is obtained from permanent plant indication (LI-1606 and LI-1607). The permanent plant indication (LI-1606 and LI-1607) is nonsafety-related (project class 61J) and is not required for safe shutdown of the plant. The local scales are not safety-related and

presently serve no function in the operation of the power station. Removing the scales did not delete or alter any function of the plant.

SAFETY EVALUATION: No credit for, or description of, the local "Lamacoid" NSCW basin level indicating scales is found in the UFSAR, Technical Specification Bases, or Technical Requirements Manual. TS Bases 3.7.9 states that, "Instrumentation is provided for monitoring basin level and water temperature" for the ultimate heat sink. The NSCW basin level monitoring requirement is fulfilled by permanent plant instrumentation LI-1606 and LI-1607. P&IDs 1/2X4DB133-1 and 1/2X4DB133-2 show the local "Lamacoid" scales and required a revision to remove the scales.

The removal of the "Lamacoid" scales does not alter the operation or method of operation of VEGP. The removal of the "Lamacoid" scales does not affect the method of performing SR 3.7.9.1 (24 hour surveillance on NSCW basin level). Removing the NSCW basin local "Lamacoid" level indication scales does not affect VEGPs adherence to TS 3.7.8 or TS 3.7.9. No reactivity concerns are introduced due to the removal of the scales and no other environmental issues are raised due to the removal of the scales.

SUBJECT: 00-0020

DESCRIPTION: The main steam lines (2 lines) are located in a tunnel that turns up as it enters the turbine building. Each steam line has a drain system located at the low point in the tunnel. Each steam line drain system consists of a normal drain and a startup drain. The normal drain path consists of flow through a fixed orifice, and a control valve will open on a high level in the drain pot. The normal system flows to the condenser. The startup drain path consist of a locked open block valves (1/2-U4-720/721) and a motor operated valves (1/2-UV-6276/6281) that can open a path to atmosphere on a high water level signal in the drain pots. Currently these valves are leaking out the exhaust stack on both units. This change allowed motor operated valves 1/2-UV-6276/6281 the block valves (1/2-U4-720-721) to be changed from locked open to normally closed to stop leakage through the valves.

SAFETY EVALUATION: This change required a change to the P&ID 1X4DB160-1. This drawing is discussed in UFSAR in subsections 10.4.4, 10.3.2, 10.2.2, and 1.7.1. The UFSAR does not discuss the main steam line drains or the operation of this system. This change did not have any impact on the Technical Requirements Manual or the Technical Specification bases. The steam line drains are not discussed in the Technical Specification and or EPP.

SUBJECT: 00-0054

DESCRIPTION: This change allowed valves of a different size and type to be installed on the condensers of the normal chillers due to recurring problems with the vent and drain valves on the normal chillers condenser. The vent taps provided by the manufacturer is ¼" female national pipe thread (FNPT). The ½" gate valves were replaced with smaller valves that reduced the weight, and eliminated a pipe cap that must currently be removed. These changes will possibly eliminate further problems with these valves. The drain tap is ¾" FNPT. Silt tended to collect in the top of these valves such that they cannot be opened. The existing ½" globe valves were replaced with ¾" gate valves. This reduced clogging and allowed the cleaning out the valves without having to remove them from the machine. P&ID AX4DB218 and isometric drawing 1J2-1405-525-01 show these valves as being piping material class NKO. This class break was removed from plant documents, which included the valves in the scope of the chiller. These valves provide a pressure boundary for the turbine plant cooling water (TPCW) system, 1405.

SAFETY EVALUATION: Paragraph 9.2.9.2.2.1 references P&ID AX4DB218 as part of the normal chilled water system description. This drawing was changed to show the new valve types, and line and valve sizes. ABNs were issued against the P&ID. The turbine plant cooling water system description in UFSAR subsection 9.2.10 did not require a revision.

The normal chilled water system is not listed in the Technical Specification. In the TS Bases, B 3.7.14 applicability, it is referred to as the normal method for cooling the auxiliary building, with the ESF room coolers and essential chiller as a backup. This change did not affect the function of either the normal or essential chilled water systems.

SUBJECT: 00-0076

DESCRIPTION: Alterations were made to several features of the main turbine electro-hydraulic control (EHC) system. The tubing which routes the dry air purge flow into the reservoir was changed so that the air is not admitted below the fluid level. This change prevents any of the possible undesirable effects associated with air entrainment in the fluid. A local flow indicator was added to allow periodic verification of the purge flow rate. Because the dry air purge has been successful in eliminating moisture from the fluid, the desiccant and moisture indicator installed on the breather was no longer needed and it was eliminated. The setpoint for the control valve, which regulates flow through the fluid purification subsystem, was reduced slightly at the suggestion of the fluid supplier. Past experience indicated that the purification media performance was improved at the lower flow. The equipment modified is all non-safety related. The changes are expected to improve the operation of the EHC system by improving the fluid quality.

SAFETY EVALUATION: The EHC system is described in UFSAR section 10.2. Although the type of changes being made did not necessitate a revision of the UFSAR text, the changes did result in a change to drawing 1X4DB194, which is referenced in UFSAR subsection 10.2.2.3.1. The EHC hydraulic system is not discussed in the Technical Specification Bases or the Technical Requirements Manual. The EHC hydraulic system is not the subject of any Technical Specification or the EPP.

SUBJECT: 00-0113

DESCRIPTION: Immediately downstream of water treatment system vendor temporary connection valve A-1409-U4-679 is a 2 ½" fire hose connection. This connection is used during demineralized plant outages to connect to vendor equipment for demineralized water processing. On P&ID AX4DB177, this connection is labeled as "2 ½" Fire Hose Connection for Temp. Truck Demin." which does not clearly indicate that the connection may be used for other purposes.

SAFETY EVALUATION: This modification changed the name of the 2 ½" fire hose connection as shown on P&ID AX4DB177 to "2 ½" Fire Hose Connector User Station." This equipment is not specifically addressed in the UFSAR, Technical Specification or Technical Requirements Manual. However, the equipment is implicitly referenced via the P&ID on which the equipment appears (AX4DB177).

These changes involve no safety limits or limiting safety system settings or limiting conditions for operations or surveillance requirements. This change renamed the 2 ½" fire hose connection downstream of valve A-1409-U4-679 as shown on P&ID AX4DB177 to "2 ½" Fire Hose Connector User Station."

Additionally, section 3 of the EPP was reviewed. This change did not involve an unreviewed environmental question as described by section 3.1 of the EPP.

SUBJECT: 00-0100

DESCRIPTION: Valves were relocated and flanges installed on auxiliary lines to the condensate pumps to allow for easier pump removal and removal of pumps while the unit is on-line.

SAFETY EVALUATION: This physical change required revision of P&ID 1X4DB168-1, which is listed in UFSAR subsection 10.4.7 "Condensate and Feedwater System". This change did not require any change to the Technical Specification or EPP.

SUBJECT: 00-0263

DESCRIPTION: Drain lines and isolation valves were added on the turbine main seal oil pumps (1/2-1324-S4-501-P01) and the recirculating seal oil pumps (1/2-1324-S4-P02).

SAFETY EVALUATION: This modification changed drawing 1X4DB191. 1X4DB191 is listed in the UFSAR, Chapter 10 and is similar to 2X4DB191, which was also revised as a result of this change.

The drain for the turbine seal oil pumps is not mentioned in the Technical Specifications. The change had no effect on the Technical Specification or EPP.

10 CFR 50.59(B) REPORT of TESTS & EXPERIMENTS. NOVEMBER 6, 1999 THROUGH MAY 4, 2001

VOGTLE ELECTRIC GENERATING PLANT
UNITS 1 & 2

SOUTHERN COMPANY

Energy to Serve Your World℠

SUBJECT: T-ENG-99-14

DESCRIPTION: During refueling outage 2R7, the CVCS positive displacement charging pump was replaced with a new centrifugal "normal charging pump" (NCP). To demonstrate that the NCP (2-1208-P4-001) would operate within acceptable performance parameters, a functional performance test was required. Temporary engineering procedure T-ENG-99-14 was developed to perform this test. This test started the new NCP with its common CCP miniflow line (2-1208-L4-501) limiting flow to approximately 45 gpm. Suction and discharge pressures, pump with motor bearing temperatures, along with vibrations readings were some of the parameters that were monitored throughout the different phases of the pump startup. The pump miniflow (section 5.2) portion of the test could have been performed while the plant is in any operating mode. After, the new pump had performed in an acceptable range at the minimum flow level, then the pump transitioned to injection into the RCS. The RCS was at full temperature and pressure and a running CCP was shutdown, as would be the case during any operational sequencing directed by procedure 13006-2. The NCP was then operated at approximately both the 75 and 120 gpm levels and parameters were monitored at each level. This verified that the new pump would operate successfully at maximum letdown conditions without exceeding any critical operating characteristics. At any time during this test, if there was a need to stop the running NCP and start another CCP; section 5.7 was included to direct the operators through this process.

SAFETY EVALUATION: UFSAR subsection 9.3.4 describes the CVCS in detail. Throughout this subsection, specific references are made to P&ID 2X4DB116-1. However, since the test equipment was installed only temporarily and of sufficiently short duration, a permanent change to the UFSAR was not required. The NCP was added to the plants design by DCP 97-V2N0056.

Based on review of Technical Specification Bases, particularly B3.4 (Reactor Coolant System) and B3.5 (Emergency Core Cooling System), nothing in the proposed procedure involved a change to the plant as described in the Technical Specification Bases. Also, review of the Technical Requirements Manual did not require any revision, based on review of sections 13.1 (Reactivity Control Systems) and 13.5 (ECCS).

Based on a review of UFSAR Subsections 9.3.4, "Chemical and Volume Control System", 6.3 "Emergency Core Cooling System", and Section 7.4, System Required for Safe Shutdown", this temporary test procedure did not affect any procedure described in the UFSAR. Based on a review of the Technical Specification Bases, this test did not affect any procedures described in the Technical SpecificationBases. Therefore, the functional performance test procedure did not involve a test not described in the UFSAR. Based on a review of the Technical Specification, this temporary procedure did not require changes to the Technical Specification or to the Technical Requirement Manual for ECCS, Subsection 13.5.1. The EPP remains unaffected.

SUBJECT: T-ENG-99-21, Rev. 1

DESCRIPTION: This temporary engineering procedure determined the flow rate at the most remote hose connections on each of the Seismic Category I standpipes. These values have been compared with design values. No pre-operational test could be found for this system that demonstrated that this system could meet its design basis. This condition was discovered during a recent NRC inspection. Since this test essentially imitates a pre-operational test and all equipment would be operated in accordance with their design, this temporary procedure did not represent a special test as defined in procedure 00053-c, "Temporary Procedures and Special Tests."

SAFETY EVALUATION: This activity did not result in any physical changes to the plant, nor did the UFSAR, Technical Specification Bases, or Technical Requirements Manual require revision as a

result of this activity. The system was operated in a manner consistent with existing procedures and in a manner previously analyzed.

The temporary procedure involved flowing water under normal system operating conditions from hose connections on the Seismic Category I Standpipe System. These conditions have been previously evaluated in the UFSAR, therefore, this activity did not involve a test or experiment not described in the UFSAR. TENG-99-21 to verify the capacity of the Seismic Category I Standpipe System did not involve a change to the Technical Specification as described in TS 3.7.8. "NSCW System", or TS 3.7.9, "Ultimate Heat Sink". This activity did not change written procedures implementing the fire protection program as described in TS 5.4.1.d. No changes were required to the EPP.

SUBJECT: T-ENG-99-21, Rev. 2

DESCRIPTION: This temporary engineering procedure determined the flow rate at the most remote hose connections on each of the Seismic Category I Standpipes. These values have been compared with design values. No pre-operational test can be found for this system that demonstrated that this system could meet its design basis. This condition was discovered during a recent NRC inspection. Since this procedure essentially imitates a pre-operational test and all equipment would be operated in accordance with their design, this temporary procedure did not represent a Special Test as defined in procedure 00053-C, "Temporary Procedures and Special Tests." Revision 2 incorporated provisions for flushing the standpipes, if necessary, allowed for lubrication of the manual valves, and provided direction for performing a hydrostatic test and visual inspection per 29106-C.

SAFETY EVALUATION: TENG-99-21 involved a test procedure to verify the water flow capacity of the Seismic Category I standpipe System. This activity did not result in any physical changes to the plant, nor did the UFSAR, Technical Specification Bases, or Technical Requirements Manual require revision as a result of this activity. The system was operated in a manner consistent with existing procedures and in a manner previously analyzed.

This temporary procedure involved flowing water under normal system operating conditions from hose connections on the Seismic Category I Standpipe System. These conditions have been previously evaluated in the UFSAR, therefore, this activity did not involve a test or experiment not described in the UFSAR. TENG-99-21 to verify the capacity of the Seismic Category I Standpipe System did not involve a change to the Technical Specifications as described in TS 3.7.8, "NSCW System", or TS 3.7.9, "Ultimate Heat Sink." This activity did not change written procedures implementing the fire protection program as described in TS 5.4.1.d. No changes were required to the EPP.

SUBJECT: T-ENG-99-024

DESCRIPTION: This temporary engineering procedure was developed so that proper sequencer operation could be verified following the addition of circuitry which would prevent the Normal Charging Pump trip coil from energizing during normal 'A' or 'B' train testing as per DCP 97-V2N0056 transmittal No. 005. This test also verified that the normal charging pump load sheds during an actual SI signal.

SAFETY EVALUATION: Testing of sequencer relays is discussed in TS Bases B3.3.2 which describes the sequencer output relays which change state of actuate ESF loads powered by the 4160V ESF bus and also mentions the slave relay testing procedures. UFSAR paragraph 8.3.1.1.3.3.d briefly describes the ESFAS testing where load shed occurs and the auto-connected loads are loaded onto the respective bus by the sequencer. No changes to either of these documents were required since the type of

testing covered by this procedure is similar to testing described in both the UFSAR and the Technical Specification Bases. Therefore, there was no change to the plant as described in the UFSAR, Technical Specification Bases, or the Technical Requirements Manual and no revision to these documents was required.

The test methodology was similar to that used to test other safety features sequencer relays and contacts and did not require a change to any licensing document. Testing of sequencer relays is discussed in TS Bases B3.3.2 that describes the sequencer output relays which change state to actuate ESF loads powered by the 4160V ESF bus and also mentions the slave relay testing procedures. UFSAR paragraph 8.3.1.1.3.H.3.d briefly describes the ESFAS testing where load shed occurs and the auto-connected loads are loaded onto the respective bus by the sequencer. No changes to these documents was required since the type of testing covered by this procedure is not described in detail in either the UFSAR and the Technical Specification Bases.

Testing of the SFSS and its associated relays is discussed in TS Bases B3.3.2 which describes the sequencer output relays which change state to actuate ESF loads powered by the 4160V ESF bus and also mentions the slave relay testing procedures. Due to the similarity to the tests that are referenced in the Technical Specification Bases and the UFSAR, this test in not considered a "Special Test" as defined by plant procedures 00056-C and 50014-C.

Testing of sequencer relays is discussed in TS 3.3.2, (specifically 3.3.2.2, Actuation Logic Test, 3.3.2.3, Master Relay Test, and 3.3.2.5, Slave Relay Test). No changes to the TS was required since the type of testing covered by this procedure is similar to testing that is discussed in the Technical Specification. This test did not require revision of the EPP.

SUBJECT: T-ENG-00-01, Rev. 0

DESCRIPTION: This temporary engineering procedure provided guidance for conducting a series of investigative data collection runs on the Unit 2 Stator Cooling Water System. This particular safety evaluation applies to T-ENG-00-01, Revision 0. Revision 0 provided guidance for installing and operating for approximately 3 months, a 30 x 150 Dutch mesh basket in Unit 2 Stator Cooling inlet strainer 2-1326-F4-506. The system was monitored and data was collected during this time period. At the end of 3 months the strainer basket was removed and analyzed for cupric oxide accumulation. Results will be used to validate and refine a cupric oxide transfer function GE has developed in an effort to determine and prevent the clogging mechanism, which occurred on Unit 2.

SAFETY EVALUATION: UFSAR section 10.2 briefly references the stator cooling system; however, no details are provided. Stator cooling is not referenced in the Technical Specification or Technical Requirements Manual. No permanent changes were made to the plant. This temporary Procedure is not a test or experiment as described in 50.59 criterion. By definition, these are not tests or experiments that could degrade the margin of safety or degrade the adequacy of SSCs to prevent accidents or mitigate accident conditions. T-ENG-00-01 Revision 0 is referenced as an investigative experiment. No stator cooling system parameters were altered other than the strainer basket mesh size. Stator Cooling water is not discussed in the Technical Specification. This procedure did not affect the EPP.

SUBJECT: T-ENG-00-01, Rev. 1

DESCRIPTION: This temporary engineering procedure provided guidance for conducting a series of investigative data collection runs on the Unit 2 stator cooling system. This particular safety evaluation applies to T-ENG-00-01, Revision 1. Revision 1 provides guidance for placing the Unit 2 stator cooling system in a CuO undersaturated condition and operating for approximately 3 months with a 30 x 150 "Dutch" mesh test basket installed in Unit 2 stator cooling inlet strainer 2-1326-F4-506. Under saturation is accomplished by increasing the CO2 level of the stator cooling system from 0 ppb to ~12 ppb. The system was monitored and data was collected during this time period. At the end of 3 months, the strainer basket was removed and analyzed for cupric oxide accumulation. Results will be used to validate and refine a cupric oxide transfer function GE has developed in an effort to determine and prevent the clogging mechanism, which occurred on Unit 2.

SAFETY EVALUATION: UFSAR Section 10.2 briefly references the stator cooling system; however, no details are provided. Stator cooling is not referenced in the Technical Specification or Technical Requirements Manual. No permanent changes are being made to the plant. This temporary procedure is not a test or experiment as described in 50.59 criterion. Stator cooling water is not discussed in Technical Specification.

SUBJECT: T-ENG-00-03

DESCRIPTION: This temporary Engineering procedure verified operability of the external annunciator box added by Transmittal 6 of DCP 97-VAN0043 (Fire Alarm Computer Replacement). Wiring modifications were made to multiplexer string 3. Representative computer points were tested on this string as well as points on an additional string to ensure that appropriate audible and visual annunciation was received for the various alarm types.

SAFETY EVALUATION: This activity involved a functional test to verify operability of a multiplexer string after it had been modified during implementation of DCP 97-VAN0043 Transmittal 6. Functions of the new external alarm box were also tested. This functional test did not involve a change to the plant as described in UFSAR 9.5.1, which describes the fire protection equipment at VEGP. No changes exist to the Technical Specification Bases or Technical Requirements Manual.

UFSAR table 9.5.1-9 describes conformance to applicable NFPA fire code standards. VEGP is committed to NFPA 72D-1979. It describes acceptance tests for fire alarm signaling systems following installation or alterations. This temporary procedure fulfills the requirements for acceptance testing as described in the UFSAR. This acceptance testing is required by the UFSAR, therefore, this activity did not involve a test or experiment not described in the UFSAR.

T-ENG-00-03 verified acceptability of the new fire alarm computer external annunciation and associated components that have been modified by DCP 97-VAN0043 Transmittal 6. This activity did not involve a change to the Technical Specification. This activity did not change written procedures implementing the fire protection program as described in TS 5.4.1.d. No changes were required to the EPP.

SUBJECT: T-ENG-00-05

DESCRIPTION: This temporary engineering procedure was created to identify the source of in-leakage into the safety injection discharge header from the accumulators and quantify this leakage. The troubleshooting plan manipulated valves in the SI test header (1HV-8871, 1HV-8964, 1HV-8888) and

closed SIP A cold leg injection MOV 1HV-8821A. Closing 1HV-8821A required entry into TS 3.5.2. However, the valve was closed for a relatively short period of time and the 72-hour completion time specified in TS 3.5.2 was not challenged. The valves, which were manipulated on the SI test header, are containment isolation valves. All of these valves close upon receipt of a CI-A, SI or loss of power. Since the temporary procedure did not defeat any interlocks associated with these valves, there would be no potential loss of inventory in the event of a safety injection and containment integrity would be preserved.

SAFETY EVALUATION: Since none of the components involved in the temporary procedure were placed outside their design tolerances and upon completion of the procedure were returned to their normal configuration, the proposed change did not involve a change to the plant as described in the UFSAR, Technical Requirements Manual or Technical Specification Bases. (Reference UFSAR subsections 5.2.5, 6.2.4, 6.3.4, 15.6, 16.3 and table 3.9.N.3-2, TRM 13.5.1 and TS Bases 3.5.2 and 3.6.3)

UFSAR subsection 5.2.5 and 6.3.4.2 discuss the ability to detect leakage from the RCS pressure isolation valves using the SI test header. Using the SI test header as directed in the procedure did not place any of the components in the test header outside their design criteria. Based upon a review of UFSAR subsections 5.2.5, 6.2.4, 6.3.4, 15.6 and 16.3, TRM subsection 13.5.1 and TS Bases 3.5.2 and 3.6.3, the procedure did not represent a change to procedures as described in the UFSAR, Technical Requirements Manual or Technical Specification Bases. Utilizing the SI test header, in a manner similar to that described in UFSAR subsection 5.2.5 and 6.3.4.2, to identify and quantify leakage from the accumulators into the SI system, and closing valve 1HV-8821A, for a short period of time, as allowed by TS 3.5.2, does not constitute a test or experiment not described in the UFSAR.

TS 3.5.2 allows for a train of SI to be removed from service for up to 72 hours. Since the valve was closed for a relatively short period of time, the 72-hour completion time was not challenged. Additionally, during performance of this temporary procedure, accumulator levels and pressures were monitored to ensure compliance with TS 3.5.1. Therefore, based upon a review of TS 3.5.1, 3.5.2, and 3.6.3 the proposed change did not represent a change to the Technical Specification. The EPP remains unaffected.

SUBJECT: T-ENG-00-06

DESCRIPTION: During refueling outage 1R9, the CVCS positive displacement charging pump was replaced with a new centrifugal "normal charging pump" (NCP). To demonstrate that the NCP (1-1208-P4-001) will operate within acceptable performance parameters, a functional performance test was required. Temporary engineering procedure T-ENG-00-06 was developed to perform this test. This test started the new NCP with its common centrifugal charging pump (CCP) miniflow line (1-1208-L4-501) limiting flow to approximately 45 gpm. Critical parameters such as suction and discharge pressures, pump with motor bearing temperatures, along with vibration readings, were some of the parameters that were monitored throughout the different phases of the pump startup. The pump miniflow (section 5.2) portion of the test could be performed while the plant is in any operating mode. After the new pump had performed in an acceptable range at the minimum flow plateau, then the pump transitioned to injection into the RCS. The RCS was at normal operating temperature and pressure and a running CCP was shut down, as would be the case during any operational sequencing directed by procedure 13006-1. The NCP was then operated at approximately both the 75 and 120 gpm plateaus and critical parameters were monitored at each level. This verified that the new pump would operate successfully at maximum letdown conditions without exceeding any critical operating characteristics. At any time during this test, if there was a need to stop the running NCP and start another CCP, section 5.7 was included to direct the operators through this process.

SAFETY EVALUATION: To adequately assess the NCPs performance, precision measurement of the hydraulic parameters was required. Thus, the proposed procedure provided for installation of temporary test equipment at various locations (e.g. 1FE-10132 and 1PI-0117). The installation of the temporary test equipment at the locations denoted in the procedure are not shown on P&ID 1X4DB116-1 and therefore involved a change to the plant as described in the UFSAR. UFSAR subsection 9.3.4 describes the CVCS in detail. Throughout this section, specific references are made to P&ID 1X4DB116-1. However, since the test equipment was installed only temporarily and of sufficiently short duration, a permanent change to the UFSAR was not required. Based on review of Technical Specification Bases, particularly B3.4 (Reactor Coolant System) and B3.5 (Emergency Core Cooling System), nothing in the proposed procedure involved a change to the plant as described in the technical specification bases. Also, the Technical Requirements Manual did not require any revision, based on review of sections 13.1 (Reactivity Control System) and 13.5 (ECCS).

Operating the NCP on miniflow and in support of 75 gpm and 120 gpm letdown is bounded by the design assumptions/calculations used to develop DCP 97-V1N0055 and does not place the CVCS system outside any of it's normal operating limits or configurations.

Based on a review of UFSAR subsections 9.3.4, "Chemical and Volume Control System", 6.3 "Emergency Core Cooling System", and Section 7.4, "Systems Required for Safe Shutdown, this temporary test procedure did not affect any procedure described in the UFSAR. Based on a review of the TS Bases B3.5, this test did not affect any procedures described in the Technical Specification Bases. Based upon a review of TRM 13.1 and 13.5, this test does not affect any procedures described in the Technical Requirements Manual.

This configuration will not create a situation that is not part of the CVCS design because the NCP is not required to mitigate any accident described in chapter 15. Therefore, the proposed functional performance test procedure does not involve a test or experiment not described in the UFSAR.

This temporary test procedure will provide instruction to adequately determine the acceptable performance of the NCP. The NCP is not safety-related and is not required to operate in the event of an accident of any kind. Based on a review of TS 3.1, 3.4 and 3.5, this temporary procedure does not involve a change to the Technical Specification. The EPP remains unaffected.

SUBJECT: T-ENG-00-07

DESCRIPTION: During low flow rates late in core life, the boric acid flow control valve, 2FV-0110A, had difficulty controlling flow. DCP 00-VAN0007 was initiated to modify the valve internals to provide improved throttling characteristics. The design change replaced the valve seat ring, cage, plug, and stem and associated packing and gaskets. This temporary Engineering procedure tested the valve's post installation functionality.

SAFETY EVALUATION: This temporary procedure performed makeups to the refueling water storage tank (RWST) similar to paragraph 4.4.2 of procedure 13701-2, "Boric Acid System." In addition, the procedure verified that valve 2FV-0110A could pass at least 30 gpm (TRM 13.1 requirement) and that the valve coefficient Cv is greater than 10.5, thereby ensuring that the valve could pass at least 30 gpm with a VCT back pressure of up to 45 psig. Prior to the performance of makeups to the RWST, the blender to the VCT valve, 2FV-0111B, and the blender to the charging pumps suction, 2FV-0110B, were closed and independently verified. This prevented an inadvertent dilution of the RCS as described in UFSAR subsection 15.4.6. Also, blended makeups were performed after the boration in order to prevent the piping system from remaining filled with 4 weight percent boric acid solution as described in UFSAR

9.3.4. Additionally, the temporary procedure contained a note to terminate the performance of the procedure and establish a boration flow path if emergency boration is required. Therefore, this temporary procedure did not affect the design, function, or performance of the CVCS reactor makeup control or boric acid systems. This change was not a change to the plant as described in the UFSAR, Technical Specification Bases, or Technical Requirements Manual.

The boric acid flow control system was operated in a manner similar to that described in UFSAR subsection 9.3.4. However, the boration of the RWST was performed slightly different than described in UFSAR 9.3.4.1.2.3 (D). The temporary engineering procedure involved manually opening the boric acid flow control valve, 2FV-0110A with a boric acid transfer pump running and a flow path aligned to the RWST. As a result, the temporary procedure bypassed setting the flow controllers and batch integrators as described in the UFSAR. Therefore, the procedure did involve a change to procedures as described in the UFSAR. Since the temporary engineering procedure was used only to verify the functionality of the design change and did not become a normal method for operating the system, the change did not require a permanent change to the UFSAR.

According to UFSAR 4.6.4, no credit is taken for the boration capabilities of the CVCS as a system, in the analysis of UFSAR chapter 15 transients. However, the temporary procedure contained a note to terminate the performance of the procedure and establish a boration flow path should the need for an emergency boration be required. Therefore, the proposed change was not a test or experiment not described in the UFSAR.

Section 3.1 of the Technical Specification remained unaffected and administrative controls were present to provide boration for SDM requirements should it have been required. The EPP remained unaffected.

SUBJECT: T-ENG-00-09

DESCRIPTION: During refueling outage 1R9, the discharge orifice (1FO-10122) was replaced. To demonstrate that the CCP and orifice were within their analyzed limits following replacement of the orifice, a performance test was required. Temporary engineering procedure T-ENG-00-09 was developed to perform this test.

SAFETY EVALUATION: The performance test was conducted on centrifugal charging pump (CCP) 1B following replacement of the discharge orifice during refueling outage 1R09. The CCPs are discussed in detail in UFSAR sections 6.3 and 9.3.4, TRM 13.5.1 and in the Bases to TS 3.5. The performance test was conducted to assure that the head-flow characteristics of the new orifice/pump were within the limits assumed in the design of the ECCS. To adequately assess the orifice/pump's performance, precision measurement of hydraulic parameters were required. Thus, the procedure required installation of temporary test equipment at various locations (e.g. 1FE-0917 and 1FE-0121). The installation of the temporary test equipment at the locations denoted in the procedure are not shown on P&IDs 1X4DB116-1, 1X4DB116-2 or 1X4DB119 and therefore involved a change to the plant as described in the UFSAR. However, since the test equipment was installed only temporarily and of sufficiently short duration, a permanent change to the UFSAR was not required. Nothing in the procedure involved a change to the plant as described in the Technical Specification Bases and the Technical Requirements Manual.

The performance test was conducted to assure that the head-flow characteristics following installation of the new orifice remained within the design limits of the ECCS. Following this performance test, the "ECCS Subsystem Flow Balance and Check Valve Refueling Inservice Test" (Operating Procedure

14721-1) was performed to verify that ECCS flow parameters are met per Technical Requirements for the ECCS, subsection 13.5.1.

UFSAR subsections 9.3.4, "Chemical and Volume Control System", 6.3 "Emergency Core Cooling System" and Section 7.4, "System Required for Safe Shutdown" were reviewed. This temporary test procedure did not affect any procedure described in the UFSAR. Because the testing will occur during Mode 6 or the defueled mode, review of Technical Specification Bases was limited to Section 3.9, "Refueling Operations" and 3.4.12, "Cold Overpressure Protection Systems" (COPS). This test did not affect any procedures described in the Technical Specification Bases.

Conducting this performance test of CCP 1B after the flow orifice is replaced is similar in safety significance to pre-operational tests presently described in UFSAR paragraph 14.2.8.1.22 and "ECCS Subsystem Flow Balance and Check Valve Refueling Inservice Test", Operating procedure 14721-1. The performance test procedure did not involve a test not described in the UFSAR. Based on a review of TS Sections 3.9, "Refueling Operations" and 3.4.12, "Cold Overpressure Protection Systems (COPS) this temporary procedure did not require changes to the Technical Specification or to the Technical Requirement Manual for the ECCS, subsection 13.5.1. The EPP remained unaffected.

SUBJECT: T-ENG-00-10

DESCRIPTION: This temporary engineering procedure was written to remove defective hold down spring(s) and loose parts from the top nozzle of fuel assembly 5K13 to permit handling of the fuel assembly without interference to fuel handling equipment. This procedure also included fuel movement sequencing to ensure fuel assembly support is maintained throughout the evolution.

SAFETY EVALUATION: The UFSAR provides a general description of the fuel assembly including the fuel assembly and top nozzle configuration (4.2.2.2), hold down springs (figure 4.2-1) and spring screws (4.2.2.2.2). This procedure addressed the case where defective fuel assembly top nozzle spring screw(s) result in situation where the configuration is other than represented in UFSAR figure 4.2-2. As a result of the defect, the springs and spring clamp represent a foreign material exclusion threat and could hinder safe operation of fuel handling equipment. Thus, some portions of the hold down spring and spring clamp were required to be removed to assure safe handling of the fuel assembly. Fuel movement sequencing is not detailed in the UFSAR. Technical Specification including the TS Bases and Technical Requirements Manual does not address the fuel assembly configuration.

The UFSAR discusses fuel handling procedures in paragraph 9.1.4.2.2 including a generalized fuel handling procedure that includes the equipment and movements required for movement of fuel assemblies in paragraph 9.1.4.2.2.3. The temporary engineering procedure does not modify or change in any way the flow or intent of the generalized procedure. Technical Specification, including the bases and Technical Requirements Manual do not discuss fuel handling procedures or fuel assembly configuration. The EPP is unaffected by this temporary procedure.

SUBJECT: T-ENG-00-11

DESCRIPTION: This temporary engineering procedure was written to remove defective hold down spring(s) and loose parts from the top nozzle of fuel assembly 5K73 to permit handling of the fuel assembly without interference to fuel handling equipment. This procedure also included fuel movement sequencing to ensure fuel assembly support is maintained throughout the evolution.

SAFETY EVALUATION: The UFSAR provides a general description of the fuel assembly including the fuel assembly and top nozzle configuration (4.2.2.2), hold down springs (figure 4.2-1) and spring screws (4.2.2.2.2). This procedure addressed the case where defective fuel assembly top nozzle spring screw(s) result in situation where the configuration is other than represented in UFSAR figure 4.2-2. As a result of the defect, the springs and spring clamp represent a foreign material exclusion threat and could hinder safe operation of fuel handling equipment. Thus, some portions of the hold down spring and spring clamp were required to be removed to assure safe handling of the fuel assembly. Fuel movement sequencing is not detailed in the UFSAR. Technical Specification including the TS Bases and Technical Requirements Manual does not address the fuel assembly configuration.

The UFSAR discusses fuel handling procedures in paragraph 9.1.4.2.2 including a generalized fuel handling procedure that includes the equipment and movements required for movement of fuel assemblies in paragraph 9.1.4.2.2.3. The temporary engineering procedure does not modify or change in any way the flow or intent of the generalized procedure. Technical Specification, including the bases and Technical Requirements Manual do not discuss fuel handling procedures or fuel assembly configuration. The EPP is unaffected by this temporary procedure.

SUBJECT: TCP-T-ENG-00-11-0

DESCRIPTION: This temporary engineering procedure was written to remove loose parts from the top nozzle of fuel assembly 5K29 to permit handling of the fuel assembly without interference to fuel handling equipment. This procedure also included fuel movement sequencing to ensure fuel assembly support is maintained throughout the evolution.

SAFETY EVALUATION: The UFSAR provides a general description of the fuel assembly including the fuel assembly and top nozzle configuration (4.2.2.2), hold down springs (figure 4.2-1) and spring screws (4.2.2.2.2). This procedure addressed the case where defective fuel assembly top nozzle spring screw(s) resulted in a situation where the configuration is other than represented in UFSAR figure 4.2-2. As a result of the defect, the springs and spring clamp represent a foreign material exclusion threat and could hinder safe operation of fuel handling equipment. Thus, some portions of the hold down spring and spring clamp were required to be removed to assure safe handling of the fuel assembly. Fuel movement sequencing is not detailed in the UFSAR. Technical Specification, including the TS bases and Technical Requirements Manual does not address the fuel assembly configuration.

The UFSAR discusses fuel handling procedures in paragraph 9.1.4.2.2 including a generalized fuel handling procedure that includes the equipment and movements required for movement of fuel assemblies in paragraph 9.1.4.2.2.3. The temporary engineering procedure did not modify or change in any way the flow or intent of the generalized procedure. Technical Specification including the Bases and Technical Requirements Manual do not discuss fuel handling procedures or fuel assembly configuration. The EPP is unaffected by this temporary procedure.

SUBJECT: T-ENG-00-12

DESCRIPTION: This temporary engineering procedure quantified the back leakage through the normal charging pump (NCP) discharge check valve, 1-1208-U6-129, in order to satisfy the requirements of the 1R9 ECCS flow balance surveillance. The check valve was pressurized to the ECCS flow balance CCP cold leg injection pressure of 1100 (±50) psig. The purpose of the back leakage test for the check valve was to ensure that during accident conditions (cold leg injection) at a lower discharge pressure that

the check valve would seat such that injection flow capability will not be affected by a leaking check valve.

The check valve testing consisted of installing a hydro pump between the manual isolation valve (1-1208-U6-131) and the check valve (1-1208-U6-129) to pressurize to 1100 (±50) psig. An upstream vent was utilized to collect and quantify leakage past the check valve. Borated water was utilized as the suction source for the hydro pump and the leakage was collected in a container. Provisions were provided in the procedure to isolate the vent path in case of check valve failure (or gross leakage).

SAFETY EVALUATION: No physical changes were made to the plant. The temporary engineering procedure governs the completion of ECCS flow balance surveillance testing requirements. Test equipment was installed to quantify check valve back leakage and was removed after completion of the testing. Hydro test/leakage testing of piping and valves is discussed in the ISI and IST programs, which are mentioned in UFSAR Section 6.6 and Technical Specification, subsection 5.5.8.

The temporary engineering procedure did not change any procedure as described in the UFSAR, Technical Specification Bases or Technical Requirements Manual. The check valve back leakage testing that this temporary engineering procedure detailed was encompassed by subsection 5.1 of the ECCS flow balance testing as described in TRM 13.5.1. This back leakage testing was therefore encompassed by the existing flow balance testing, which is described in the Technical Requirements Manual. Technical Specification subsection 3.5.2 and 3.5.3 were reviewed and no changes were required The hydro test for the discharge check valve was performed prior to the NCP being placed in service in compliance with TS 3.5.2 and 3.5.3.

SUBJECT: T-ENG-00-013

DESCRIPTION: The temporary engineering procedure was revised to correct hand switch position designation and paragraph numbers. The Unit 2, Phase B, main power transformer is being installed per DCP 00-V2N0003. The temporary engineering procedure provided reasonable assurance that the Transformer was acceptable for power operation. The tests in the procedure demonstrated that the transformer, transformer auxiliaries, protective relays, alarms and control devices, functioned as designed.

SAFETY EVALUATION: The main power transformer is discussed in UFSAR sections 8.1, 8.2, and paragraph 9.5.1.2.1.1. The temporary engineering procedure did not affect these portions of the UFSAR. The temporary procedure revision did not require revision to the UFSAR, Technical Specification Bases or Technical Requirements Manual. The UFSAR paragraph 14.2.8.1.66 describes the main and unit auxiliary transformer pre-operational tests. The proposed procedure revision did not alter the procedures as described in the UFSAR, Technical Specification Bases and the Technical Requirements Manual. The new transformer was subjected to an induced voltage test before installation. The procedure revision was consistent with the testing performed during startup per paragraph 14.2.8.1.66 of the UFSAR. The main power transformers are not mentioned in the Technical Specification. The transformers are non-1E, not safety related and do not perform any safety-related function. The procedure did not affect the Technical Specification or the EPP.

SUBJECT: T-ENG-00-14

DESCRIPTION: This temporary engineering procedure provided the functional test instructions for the transformer deluge system for the Phase B main step-up transformer. The Phase B transformer is being replaced under DCP 00-V2N0003-001. The fire protection deluge system for the transformer was

being reworked and required functional tests to be performed. The functional test included an air test for the dry pilot air lines, a hydrostatic test for the deluge piping and a discharge test to verify adequacy of the nozzle spray pattern.

SAFETY EVALUATION: This temporary procedure did not involve a change to the plant as described in the UFSAR, Technical Specification Bases, or Technical Requirements Manual. The transformer deluge system is installed in accordance with NFPA 13, which is described in UFSAR subsection 9.5.1. This temporary procedure incorporated testing requirements for deluge systems per NFPA 13. This NFPA standard is referenced in UFSAR subsection 9.5.1. This functional test incorporated testing requirements per NFPA 13 as described in UFSAR subsection 9.5.1 and did not involve a test or experiment not described in the UFSAR. Fire protection systems are not described in the Technical Specification, therefore, no change was required to the Technical Specification. No changes were made to the EPP.

SUBJECT: T-ENG-00-15, Rev. 0

DESCRIPTION: This temporary engineering procedure evaluates the changes to revision 0 of the procedure. Rev. 1 changed the procedure to allow the CO2 injection to begin at a strainer dP of 7 psid instead of 8 psid. This started the process at a lower level of strainer clogging.

SAFETY EVALUATION: There were no changes to the plant introduced by this change and the UFSAR, Technical Specification Bases, and Technical Requirements Manual did not require revision. The proposed procedure revision did not have any effects on other plant systems. The changes did not introduce any actions, which would be considered a test or experiment. Stator cooling water system is not discussed in Technical Specification. This procedure did not affect the EPP.

SUBJECT: T-ENG-00-15, Rev. 1

DESCRIPTION: This temporary engineering procedure evaluated the changes to revision 0 of the procedure. Rev. 1 changed the procedure to allow the CO2 injection to begin at a strainer dP of 7 psid instead of 8 psid. This started the process at a lower level of strainer clogging.

SAFETY EVALUATION: There were no changes to the plant introduced by this change and the UFSAR, Technical Specification Bases, and Technical Requirements Manual did not require revision. The proposed procedure revision did not have any effects on other plant systems. The changes did not introduce any actions, which would be considered a test or experiment. Stator cooling water system is not discussed in Technical Specification. This procedure did not affect the EPP.

SUBJECT: T-ENG-01-01

DESCRIPTION: During refueling outage 2R8, CCP 2A rotating element and its discharge orifice were replaced. To demonstrate that the CCP pump and motor were within their analyzed limits following replacement of the rotating element/orifice, a performance test was required. Temporary engineering procedure T-ENG-01-01 was developed to perform this test.

SAFETY EVALUATION: The performance test was conducted on centrifugal charging pump (CCP) 2A following replacement of the rotating element/discharge orifice during refueling outage 2R8.

The CCPs are discussed in detail in UFSAR sections 6.3 and 9.3.4, TRM 13.5.1 and in the TS Bases 3.5. The performance test was conducted to assure that the head-flow characteristics of the rebuilt pump were within the limits assumed in the design of the ECCS. To adequately assess the pump's performance, precision measurements of hydraulic and electrical parameters were required. Thus, the procedure required the installation of temporary test equipment at various locations (e.g. 2FE-0917 and 2FE-0121). The installation of the temporary test equipment at the locations denoted in the procedure were not shown on P&IDs 2X4DB116-1, 2X4DB116-2, 2X4DB119 and therefore involved a change to the plant as described in the UFSAR. However, since the test equipment was installed only temporarily and of sufficiently short duration, a permanent change to the UFSAR was not required. Nothing in the proposed procedure involved a change to the plant as described in the Technical Specification Bases and the Technical Requirements Manual.

The CCP 2A performance test was derived from this existing approved procedure (14721-2) and was limited to testing during Mode 6, or the "defueled" mode. System interaction, resulting from the CCP 2A performance test, is limited to those which are currently affected during the ECCS Flow Balance during the same operational modes. The CCP 2A performance test did not affect any procedure as described in the Technical Requirements Manual.

UFSAR Subsections 9.3.4, "Chemical and Volume Control System", 6.3 "Emergency Core Cooling System" and Section 7.4, "System Required for Safe Shutdown" were reviewed. This temporary test procedure did not affect any procedure described in the UFSAR. Because the testing occurred during Mode 6 or the "defueled" mode, review of Technical Specification Bases was limited to Sections 3.9, "Refueling Operations" and 3.4.12, "Cold Overpressure Protection System" (COPS). This test did not affect any procedures described in the Technical Specification Bases.

Conducting this performance test of CCP 2A after the pump internals were replaced was similar in safety significance to pre-operational tests presently described in UFSAR paragraph 14.2.8.1.22 and "ECCS Subsystem Flow Balance and Check Valve Refueling Inservice Test", Operating Procedure 14721-2. Therefore, the performance test procedure did not involve a test not described in the UFSAR.

Based on a review of Technical Specifications Sections 3.9, "Refueling Operations" and 3.4.12, Cold Overpressure Protection Systems (COPS) this temporary procedure did not require any changes to the Technical Specification or to the Technical Requirement Manual for the ECCS, Subsection 13.5.1. The EPP remained unaffected.

SUBJECT: T-ENG-01-04

DESCRIPTION: This temporary Engineering procedure collected data on the operation of the main and steam generator feed pump (SGFP) turbine battery powered emergency oil pumps while the pumps were powered only from the batteries. The procedure disconnected the battery chargers from the batteries and operated the pumps for approximately 10 minutes. During the pump operation, oil pressure and various voltage and current values were recorded by test equipment installed under the direction of the procedure. The batteries were used to power the remaining small control loads while the procedure was being performed. The procedure contained limitations to ensure that the voltage remained adequate to service these non-safety related loads.

SAFETY EVALUATION: The main turbine is described in UFSAR section 10.2. The SGFP turbines are described in UFSAR subsection 10.4.7. The operation of the emergency oil pumps for the main and SGFP turbines did not differ from that which is described in the UFSAR. The portions of the non-1E 125 VDC system operated in this procedure are described in UFSAR paragraph 8.3.2.1.2.

Paragraph 8.3.2.1.5 describes testing of the 125 VDC systems. The brief operation allowed by this procedure was well within the load capability of the 2NB2B batteries. The test performed by this procedure was a small portion of the battery service test that is described in 8.3.2.1.5. The subject pumps and batteries are not discussed in the Technical Requirements Manual or the Technical Specification Bases. The emergency oil pumps and the non-1E 125 VDC system are not discussed in the Technical Specification or the EPP.