

TENNESSEE VALLEY AUTHORITY
NUCLEAR GENERATION

SEQUOYAH NUCLEAR PLANT
UNITS 1 AND 2

10 CFR 50.59
ANNUAL OPERATING REPORT
TO THE
NUCLEAR REGULATORY COMMISSION

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The following criteria establish the bases for the items contained in this report.

I. Facility Changes

A. Modifications

During 1991, Sequoyah continued the process of reviewing ECNs/DCNs to verify field-complete status in the plant and make appropriate revisions to the SAR. A number of these ECNs/DCNs had been previously completed but are being reported in this annual report as a result of the ECN/DCN backlog closure activities associated with the unresolved Item 327, 328/89-18-02. A cross-check of these ECNs/DCNs and previous annual operating reports revealed that some of these ECNs/DCNs had been reported in the past. Only the ECNs/DCNs not previously reported are included in this report.

B. Temporary Alterations

Temporary alterations to the facility that required a safety evaluation are reported if they were written and approved in 1991. A temporary alteration is documented on a TACF. Previously reported alterations still in existence are listed by their TACF number only.

II. Procedures

Procedures that were revised have been included in this report based on the June 1989 revision of Standard Practice SQA119. This revision instituted the use of a safety assessment concurrent with the screening review. If the safety assessment on a procedure indicated the need for a safety evaluation, the procedure change is reported.

III. Specific Iodine Isotopic Activity Concentration and/or DEI-131 Determination

During 1991 there were no specific activity results of Unit 1 or Unit 2 reactor coolant systems exceeding the limits of TS 3.4.8 (1.0 $\mu\text{Ci/gm}$) during either power operation or reactor shutdown/start-up.

IV. Other Safety Evaluations

Following a 1991 QA audit of the 10 CFR 50.59 program at SQN, a few safety evaluations were determined to not have been properly distributed following PORC approval. As a result, fourteen safety evaluations from the 1989 time frame were not included in the annual operating report. These safety evaluations have been included in this report. Program changes which have occurred since this event should prevent recurrence of this event.

The following is a list of abbreviations and acronym common to this report.

<u>Abbreviations/Acronyms</u>	<u>Definition</u>
AARP	Alternate Analysis Review Program
ABGTS	Auxiliary Building Gas Treatment System
ABSCE	Auxiliary Building Secondary Containment Enclosure
ac	Alternating Current
ACA	Auxiliary Control Air
AERCW	Auxiliary Essential Raw Cooling Water
AFW	Auxiliary Feedwater
AFWPT	Auxiliary Feedwater Pump Turbine
AHU	Air-Handling Unit
AI	Administrative Instruction
ANSI	American National Standards Institute
AOI	Abnormal Operating Instruction
ARPI	Analog Rod Position Indication
ASCO	Automatic Switch Company
ASME	American Society Of Mechanical Engineers
ASOS	Assistant Shift Operations Supervisor
ASTM	American Society For Testing And Materials
ATC	Automatic Time Control
ATWS	Anticipated Transient Without a Scram
AUO	Assistant Unit Operator
AUX	Auxiliary
AWG	American Wire Gauge
AZ	Azimuth
A/C	Air-Conditioning
BAE	Boric Acid Evaporator
BAT	Boric Acid Tank
BATP	Boric Acid Transfer Pump
BISI	Bypassed and Inoperable Status Indication
BIT	Boron Injection Tank
CAM	Continuous Air Monitor
CAQR	Condition Adverse To Quality Report
CATS	Commitment Action Tracking System
CBACS	Control Bldg Air Cleanup System
CCP	Centrifugal Charging Pump
CCPIT	Centrifugal Charging Pump Injection Tank
CCS	Component Cooling System
CCW	Component Cooling Water
CDCT	Cask Decontamination Collector Tank
CDWE	Condensate Demineralizer Waste Evaporator
CE	Combustion Engineering
CEB	Civil Engineering Branch
cfm	Cubic Feet Per Minute
CFR	Code Of Federal Regulations
CGCS	Combustible Gas Control System
CILRT	Containment Integrated Leak Rate Test
CIS	Containment Isolation System
CIV	Containment Isolation Valve
CLA	Cold Leg Accumulator
COPS	Cold Overpressure Protection System

Abbreviations/AcronymsDefinition

CP	Crankcase pressure
CPAES	Containment Purge Air Exhaust System
cpm	Counts Per Minute
CRD	Control Rod Drive
CRDM	Control Rod Drive Mechanism
CRI	Control Room Isolation
CRVI	Control Room Ventilation Isolation
CS	Containment Spray
CSP	Containment Spray Pump
CSS	Containment Spray System
CSSC	Critical Systems, Structures, and Components
CST	Condensate Storage Tank
CT	Current Transformer
CSST	Common Station Service Transformer
CV	Check Valve
CVC(S)	Chemical Volume Control (System)
CVE	Condenser Vacuum Exhaust
CVI	Containment Vent Isolation
CTT	Cooling Tower Transformer
DAW	Dry Active Waste
DBA	Design Baseline Accident
DBE	Design Baseline Event
DBVP	Design Baseline Verification Program
dc	Direct Current
DCA	Design Change Authorization
DCN	Design Change Notice
DCR	Design Change Request
DEC	Digital Equipment Corporation
DPM	Division Procedure Manuals
DWCD	Demineralized Water and Cask Decontamination
DWST	Demineralized Water Storage Tank
D/G	Diesel Generator
EBR	Electrical Board Room
ECCS	Emergency Core Cooling System
ECN	Engineering Change Notice
EGTS	Emergency Gas Treatment System
EHC	Electrohydraulic Controller
el	Elevation
EMI	Electromagnetic Interference
EMSL	Electrical Maintenance Section Letter
ENS	Emergency Notification System
EOI	Emergency Operating Instruction
EOP	Emergency Operating Procedure
EQ	Environmental Qualification
EQIS	Equipment Information System
ERCW	Essential Raw Cooling Water
ESF	Engineered Safety Feature
FCR	Field Change Request
FCV	Flow Control Valve
FE	Flow Element

Abbreviations/AcronymsDefinition

FHSS	Fuel Handling and Storage System
FQE	Field Quality Engineering
FRG	Function Restoration Guidelines
FS	Flow Switch
FSV	Flow Solenoid Valves
FT	Flow Transmitter
ft-lb	Foot-Pound
FVB	Fifth Vital Battery
GBCS	Generator Bus Cooling System
GCS	Gland Steam Condenser
GCS	General Construction Specification
GDC	General Design Criteria
GOI	General Operating Instruction
gph	Gallons Per Hour
gpm	Gallons Per Minute
HCI	Hazard Control Instruction
HELB	High-Energy Line Break
HEPA	High-Efficiency Particulate Air
HERCW	Hanger - ERCW
HJWT	High-Jacket Water Temperature
hp	Horsepower
HPFP	High-Pressure Fire Protection
HUT	Holdup Tank
HVAC	Heating, Ventilation, And Air-Conditioning
I&C	Instrument & Control
ICF	Instruction Change Form
IMI	Instrument Maintenance Instruction
I/P	Current to Pneumatic
JB	Junction Box
kV	Kilovolt
kW	Kilowatt
LC	Limit Control
LCC	Lower Compartment Cooler
LCO	Limiting Condition Of Operation
LCV	Level Control Valve
LED	Light-Emitting Diode
LER	Licensee Event Report
LLRW	Low-Level Radwaste
LOCA	Loss of Coolant Accident
LOP	Lube Oil Pressure
LT	Level Transmitter
mA	Milliampere
MCC	Motor-Control Center
MCR	Main Control Room
MDAFWP	Motor-Driven Auxiliary Feedwater Pump
MEB	Mechanical Engineering Branch
MELB	Moderate-Energy Line Break
MFIV(s)	Main Feedwater Isolation Valves(s)
MFLB	Main Feedwater Line Break

Abbreviations/AcronymsDefinition

MFPTC	Main Feedwater Pump Turbine Condenser
MFW	Main Feedwater
MIC	Microbiologically-Induced Corrosion
MOP	Main Oil Pump
MOV	Motor-Operated Valve
MPC	Maximum Permissible Concentration
MR	Man-Rem/Maintenance Request
MS	Main Steam
MSDDT	Main Steam Dump Drain Tank
MSIV	Main Steam Isolation Valve
MSLB	Main Steam Line Break
MSV	Main Steam Valve
MSVV	Main Steam Valve Vault
MTR	Minimum Training Radius
mV	Millivolts
MVAR	Millivolt Amperes Reactive
MWTP	Makeup Water Treatment Plant
M&AI	Modifications and Additions Instruction
M&TE	Measuring and Test Equipment
NBS	National Bureau of Standards
NCR	Nonconformance Report
NDE	Nondestructive Examination
NE	Nuclear Engineering
NEB	Nuclear Engineering Branch
NFPA	National Fire Protection Association
NPDES	National Pollution Discharge Elimination System
NIS	Nuclear Instrumentation System
NPG	Nuclear Power Group
NPSH	Net Positive Suction Head
NQAM	Nuclear Quality Assurance Manual
NRC	Nuclear Regulatory Commission
NSSS	Nuclear Steam Supply System
NUREG	Nuclear Regulation
O.D.	Outer Diameter
O&PS	Office and Power Stores
OE-MEB	Office of Engineering-Mechanical Engineering Branch
OH&S	Occupational Health and Safety
PAES	Purge Air Exhaust System
PAM	PostAccident Monitoring
PAS	PostAccident Sampling
PCB	Power Circuit Breaker
PCF	Prodecure Change Form
PCV	Pressure Control Valve
PD	Positive Displacement
PI	Pressure Indicators
PI	Periodic Instructions
PM	Preventive Maintenance
PMP	Preventive Maintenance Program
PMT	Post Maintenance Test

Abbreviations/AcronymsDefinition

SI	Surveillance Instruction
SI(S)	Safety Injection (System)
SMS	Status Monitoring System
SNM	Special Nuclear Material
SOI	Standard Operating Instruction
SOS	Shift Operations Supervisor
SP	Standard Pressure
SPDS	Safety Parameter Display System
SPTS	Sequoyah Procedures Tracking System
SQA	Sequoyah Administrative Instruction
SQN	Sequoyah Nuclear Plant
SR	Surveillance Requirement
SRO	Senior Reactor Operator
SSD	Seismic Self-Drilling
SSP	Site Standard Practice
SSPS	Solid State Protection System
SS	Stainless Steel
STI	Special Test Instruction
S/D	Shutdown
S/G	Steam Generator
TACF	Temporary Alteration Control Form
Tavg	Average Temperature
TDAFW	Turbine-Driven Auxiliary Feedwater
TDPU	Time-Delay Pickup
TEACP	Temporary Exterior Access Control Portal
TI	Technical Instruction
TS	Technical Specification(s)
TS	Technical Support
TSC	Technical Support Center
TSCDS	Technical Support Center Data System
UF	Underfrequency
UHIH	Upper-Head Injection Hanger
UHI(S)	Upper-Head Injection (System)
UO	Unit Operator
USQ	Unreviewed Safety Question
USQD	Unreviewed Safety Question Determination
UV	Undervoltage
U.L.	Underwriters Laboratories
V	Volt
VCT	Volume-Control Tank
VOM	Volt/GHM Meter
WC	Water Column
WGC	Waste Gas Compressor
WGDT	Waste Gas Decay Tank
WOG-ERGs	Westinghouse Owners Group-Emergency Response Guidelines
WP	Workplan

Abbreviations/AcronymsDefinition

PORC	Plant Operations Review Committee
PORV	Power-Operated Relief Valve
ppm	Parts Per Million
PRO	Potential Reportable Occurrence
PRT	Pressure-Relief Tank
PRV	Pressure-Relief Valve
PS	Pressure Switch
psi	Pounds Per Square Inch
psia	Pounds Per Square Inch Absolute
psid	Pounds Per Square Inch Differential
psig	Pounds Per Square Inch Gauge
PSO	Power System Operations
PT	Pressure Transmitter/Preoperational Test
QA	Quality Assurance
QC	Quality Control
QE&C	Quality Engineering and Control
QIR	Quality Information Release/Request
QMDS	Qualification Maintenance Data Sheet
R	Revision
RCDT	Reactor Coolant Drain Tank
RCH	Reactor Coolant Hanger
RCP	Reactor Coolant Pump
RCS	Reactor Coolant System
RCW	Raw Cooling Water
REX	Radiation Exposure System
RF(I)	Radio Frequency(Interference)
RHR(P)	Residual Heat Removal (Pump)
RHV	Reactor Head Vent
RIMS	Retrievable Information Management System
RM	Radiation Monitor
RPI	Rod-Position Indicator/Indication
rpm	Revolutions Per Minute
RPS	Reactor Protection System
RSW	Raw Service Water
RTD	Resistive Thermal Detector
RTV	Room-Treated Vulcanization
RWST	Refueling Water Storage Tank
RX	Reactor
R.G.	Regulatory Guide
SAR	Safety Analysis Report
SCF	Standard Cubic Feet
SCFH	Standard Cubic Feet Per Hour
SCR	Sig. 'ficant Condition Report
SCV	Steel Containment Vessel
SDM	Shutdown Margin
SE	Shift Engineer
SER	Safety Evaluation Report
SFPC	Spent Fuel Pool Cooling
SGBD	Steam Generator Blowdown
SGTR	Steam Generator Tube Rupture

CHANGES IN THE FACILITY - MODIFICATIONS

ECN/DCN	DESCRIPTION SUMMARY	SAFETY ANALYSIS SUMMARY
L5048	Nuisance alarms in the main control room were eliminated by deleting the existing flow switches in the ERCW main flow headers.	An evaluation was performed by MEB on the elimination of all the ERCW low-flow alarms. It was concluded that the problems that might cause a low-flow alarm would cause other detectable effects; therefore, the alarms could be eliminated. The removal of the low-flow alarms will not affect the ERCW's ability to operate under Appendix R conditions. Removal of the low-flow alarm for both headers will not increase the probability of an accident occurring and does not impact the system's ability to perform its safety functions. The consequences of any accident were not increased, and no new accidents were created.
L5063	This ECN authorized the replacement of containment isolation Check Valves (both units) 26-1260, 26-1296, 59-633, and 81-502. The new valves have the disc hinged from the valve body instead of the bonnet to facilitate maintenance by allowing visual checks in the disc-to-seat alignment. Revision 1 to the ECN noted that the Unit 1 Check Valves 1-26-1296, 1-81-502, 2-59-633, and 2-81-502 were not replaced. They were leak tested, and their performance was found to be satisfactory.	This modification did not degrade the affected system or allow an increase in leakage. The new valves meet the same qualification as the previous valves. The margin of safety as defined in the basis for any TS was not reduced.
L5064	This ECN authorized the replacement of CIVs 31C-697, 31C-715, 31C-734, 31C-752, 70-679, 70-698, 77-868. The existing check valves were Class B and were replaced with Class B soft seat check valves. Also, the seal weld on the bonnet of Valves 1 and 2-77-868 was removed and replaced with a bonnet gasket. This ECN was only partially implemented and the remaining work tracked under WP-9972 and WP-9034.	The replacement of the check valves was done to ensure seating reliability and did not degrade the affected systems. The new valves met the same qualifications as the existing valves. No new accident or malfunction possibilities were created. The TS margin of safety was not reduced.
L5096	This modification added a third CSST and revised the 6900V Start Bus A and B by adding a new 6900V start board and revising the 6900V Start Bus A and B.	There was no increase in the probability of occurrence or consequences of an accident or malfunction of equipment important to safety previously evaluated in the SAR. No new accident or equipment malfunction possibilities were created. TS 3/4.8 addresses electrical power systems and was reviewed for this modification. No margin of safety was reduced.
L5101	Reservoir temperature monitoring equipment was added to determine compliance with reservoir temperature limitations stipulated in the NPDES permit.	This is not nuclear safety related. The SAR does not address reservoir temperature limitations as one of nuclear safety. The basis for any TS margin of safety was not reduced.
L5171	This modification provided the Unit 1 and Unit 2 interface for the LLRW storage facility which is designed to receive, handle, store, load, and retrieve packaged nonvolume-reduced and volume-reduced LLRW generated at SQN. This ECN and USQD was for the interface connections only; it did not cover the addition of the LLRW facility.	The LLRW storage facility does not interface with any safety-related equipment. Based on NRC's issuance of license to TVA for this facility and their evaluation of the facility, the use of this facility will not create any new types of accident or malfunction. This margin of safety as defined in the basis for any TS was not reduced.

CHANGES IN THE FACILITY - MODIFICATIONS

ECN/DCN	DESCRIPTION SUMMARY	SAFETY ANALYSIS SUMMARY
L5322	This modification was written to install supplementary battery-operated phone circuit in the MCR to serve Panels 1-M-2, 1-M-4, 1-M-6, 1-M-8, 1-M-15, and 0-M-27A. The conduits and cables were installed, but the phone power supply was not installed in Panel 0-M-27A.	The existing PAX system supplies the needed communications; therefore, this ECN was downscoped to delete the requirement to install the phone circuit in the MCR. The installation of conduits and cables did not degrade any safety-related equipment or function. The margin of safety as defined in the basis for any TS was not reduced.
L5323	This ECN was written to replace charcoal test canisters on the ABGTS, EGTS, PAES, and CBEACS with charcoal absorber test trays. Because of manufacturer's material availability, the test trays were not installed for Train A of the CBEACS. Instead, stainless steel pipe caps were installed. The partial workplan for EGTS and CPAES was for removal of the charcoal test canisters, plugging the corresponding piping and using regular charcoal trays instead of charcoal test trays specified in the original ECN.	There was no increase in the probability of occurrence or consequences of an accident or malfunction of equipment important to safety. No new accident or equipment malfunction possibilities were created. The TS margin of safety was not reduced.
L5434	The ECN modified Door A-56 at el 690 between the service building and auxiliary building. Its frame and hardware were replaced and an electrical closure was added.	The replacement door meets or exceeds the specifications of the existing door. There was no increase in the probability of occurrence or consequences of an accident. No new accidents or malfunctions were created. The margin of safety was not reduced.
L5495	Work performed under this ECN designed and constructed the outage office and shop facility (Field Services Building) at SQN. It was built in two phases: Phase I was the construction of the office building, Phase II was the construction of the shop facility.	The construction of the facility did not adversely impact any safety system or function. No features addressed in plant TSs were affected by this ECN.
L5500	Valve locking devices were installed on specific Unit 1 and Unit 2 valves to ensure proper system alignment between the ERCW pumping station and the intake pumping station. The devices installed also ensure proper alignment of the supply header isolation valves to the D/Gs and the MDAFWPs.	There was no change in the function of the ERCW or in the function of equipment served by ERCW. This work enhances nuclear safety by ensuring that the correct ERCW alignments are maintained. The margin of safety as defined in the basis for any TS was not reduced.
L5552	The condensate demineralizer system was modified to allow for processing two polisher beds per day. The change required replacing the high-crud filters, adding neutralized receiving tanks and adding or replacing existing piping, valves, pumps and instrumentation equipment as required.	This change was made to a nonsafety-related system and it had no impact on any safety-related system. The condensate demineralizer system is not addressed in the basis of the plant TSs. Radioactive material allowed to be released to unrestricted areas is addressed in TS 3/4.11.1, but this change improves system performance in that area.
L5586	A 3-inch conduit MC2772 was installed from 1-R-137 to cable tray XM. A 3-inch conduit MC2773 was installed from 2-R-137 to cable tray XW. Holes were cut in Panels 1, 2-M-4 for Controllers 1, 2-FIC-1-213.	The conduits installed by this ECN do not carry any cable related to this ECN. The holes cut in Panel M-4 have not been used for any hardware of this ECN. No safety-related equipment was installed by this ECN.

CHANGES IN THE FACILITY - MODIFICATIONS

<u>ECN/DCN</u>	<u>DESCRIPTION SUMMARY</u>	<u>SAFETY ANALYSIS SUMMARY</u>
L5611	A pressure-reducing valve was added to MSIVs on the Unit 1 control air system to regulate control air pressure to the MSIVs. A pressure-relief valve and gauge were added downstream of the regulator.	This change was meant to enhance, not degrade, the main steamline isolation. There was no increase in the probability for occurrence or consequences of an accident. No new possibilities for an accident or malfunction were created. The margin of safety as defined in TS 4.7.1.5 was not reduced.
L5620	Under this ECN instrumentation was to be added to monitor the discharge pressure of TDAFWPs IA-S and 2A-S from the auxiliary instrument room. The only work completed was the partial pull of Cable IA1593 and changing the conduit numbers on conduits 2A1592 and IA1592 to 2A1598 and IA1598. The ECN was downscoped for closure.	The abandoned cable is not terminated at either end and the retagged conduits have no safety function. The modifications made have no impact on the SAR. The change does not affect the ability of the TDAFWP to perform its safety function. The margin of safety was not reduced.
L5635	A permanent ladder was installed in the Unit 1 reactor building from the raceway (el 679.78, 270° azimuth) to accumulator room 4 at el 693.0.	The ladder is designed such that its failure during a seismic event will not jeopardize any safety-related equipment. No safety-related function or feature was adversely affected by this modification. The addition of the ladder did not directly or indirectly affect any safety-related system covered by the TSs.
L5653	Modifications were made to provide adequate freeze protection for sense lines and transmitters, as needed, for the RWST instrumentation. This included upgrading the heat trace units, upgrading the insulation and providing adequate (heated and insulated) enclosures for the transmitters.	The installation of adequate freeze protection features did not degrade the function, logic, or controls of the affected or nearby features. No new accident possibilities were created. The margin of safety was not reduced. This modification was necessary to promote the availability and reliability of ESF actuation system instrumentation.
L5671	Modifications were made to provide power to the field Services Building, the additional D/G Building, the Volume Reduction/Solidification Building, and future buildings in the last area of the yard. Another ECN provides final tie-ins.	There was no increase in the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety. No new possibility for an accident or malfunction of equipment was created. The equipment affected by this ECN is not addressed by the TS.
L5754	This ECN provided for changing switch setpoints in order to clear various nuisance alarms on the annunciator panels listed in the ECN document.	Each setpoint change was evaluated and found to be acceptable. There was no increase in the probability for or consequences of an accident. No new accidents were created. The TS margin of safety was not reduced.
L5779	A bypass line was installed around UHI isolation valve FCV-87-22 with a differential pressure gauge.	There was no increase in the probability of occurrence or consequences of an accident or malfunction of equipment. No new accident possibilities were created. The margin of safety as defined in the basis for any TS was not reduced.
L5830	This modification replaced the seats on the containment building lower compartment normal range radiation monitor RE-90-106A containment isolation valves 1-FCV-90-107, 108, and 111. The existing seats were SA479 Type 316 stainless steel. The new seats are SA479 Type 316 with ethylene propylene terpolymer insert. The insert seats provide a tighter seal against leakage for Kerotest 9957 model valves.	This modification did not impact the safety functions of the CIS, RMS, or any other system important to safety. There was no increase in the probability of occurrence or consequences of an accident. The margin of safety as defined in the basis for any TS was not reduced.

CHANGES IN THE FACILITY - MODIFICATIONS

ECN/DCN	DESCRIPTION SUMMARY	SAFETY ANALYSIS SUMMARY
L5838	Modifications were made to upgrade the door interlock system on Doors A55, A60, A64, A65, A151 and A152.	This change was not safety-related. The new interlock system is more reliable and should prevent inadvertent opening of the doors. There was no increase in the probability of occurrence or consequences of an accident. No TS margin of safety was reduced.
L5855	Auxiliary Building Personnel Doors A56, A57 and A58 were modified as required to withstand high frequency use. Originally, these doors were designed for occasional equipment access and minimal personnel access. They are now being utilized at a rate as high as 1800 people in an 8-hour shift. Modifications were made to eliminate the positive pressure against the doors. Modifications were made to existing equipment and additional hardware was added.	There was no increase in the probability of occurrence or consequences of an accident or malfunction of equipment important to safety. No new possibility of an accident or malfunction was created. This change did not decrease the margin of safety as described in the basis for the TS.
L5858	This modification changed the NPSH alarm and trip setting for Unit 1 condensate booster pumps from 85.3 psig to 60 psig for the alarm and from 85.3 psig to 50 psig for the trip. Instruments affected by this change were 1-PS-2-82A, 82B, 88A, 88B, 95A and 95B. These changes were made to reduce the number of nuisance trips that have occurred.	There was no increase in the probability of occurrence or consequences of an accident or malfunction of equipment. No new accident possibilities were created. The changes did not affect any TS margin of safety.
L5883	Existing MS, AFW, and Ventilation system flow and pressure switches listed in the ECN were replaced/relocated to meet the requirements of NUREG-0588. The function of 1 and 2-PS-3-140A, 140B, 150A, 150B, 160A, 160B, 165A and 165B was deleted under FCR 3262 as recommended by the AFW Reliability Task Team.	There was no increase in the probability of occurrence or consequences of an accident or malfunction of equipment important to safety. The margin of safety was not reduced.
L5911	This ECN provided permanent TVA Class G piping which will allow operation of the mobile processing equipment located in the railroad bay. This modification allows removal of the temporary hoses currently in place to allow movement of radioactive liquid waste from the Auxiliary Building to the railroad bay. ECN L5911 also removed from available service the 3-inch pipe that provides a fill path to the refueling canal from the CVCS holdup tank. The 3-inch pipe was capped at both ends. This ECN also tied into the CDCT recirculation piping to allow the processed radioactive liquid waste to be returned to a convenient holdup tank before discharging to the environment via the diffuser pond.	The WDS piping modification was designed to appropriate codes to maintain retention in the event of a seismic event. Safety-related equipment was not adversely affected by the implementation of this ECN. There was no increase in the probability of occurrence or consequences of an accident previously evaluated in the SAR. The probability for an accident of a different type or the probability for a malfunction of equipment of a different type than any evaluated previously in the SAR was not created. The TS margin of safety was not reduced.
L5914	For Unit 1 and Unit 2, the main steam dump drain tank was modified by installing another FCV in parallel with FCV-1-171 and providing manual isolation valves for both FCV-1-171 and the newly added valve. Also, a sight glass and pressure-vacuum gauge were installed on the tank. For Unit 1 only, the existing 1-inch vacuum piping for the tank was rerouted from its original location to a new location on the 14-inch condenser vacuum pump suction piping.	These modifications did not degrade the logic, control, or function of any features required to perform nuclear safety functions. This modification provides redundancy and additional instrumentation to detect problems with the steam dump drain system. These changes were not safety related and did not impact the basis of any TS.

CHANGES IN THE FACILITY - MODIFICATIONS

ECN/DCN

DESCRIPTION SUMMARY

SAFETY ANALYSIS SUMMARY

- L5916 TACF 81-11-77, dated January 5, 1981, increased the CDCT Pumps A and B from a capacity of 10 gpm to 40 gpm. The larger pumps were mounted on wooden platforms and hence no seismic I(L). TACF 81-580-77, dated August 8, 1981, increased CDCT Pump A capacity from 40 gpm to 150 gpm. ECN L5916 covered the scope of both TACFs. TACF 81-890-77 removed the internals of Check Valve 0-77-687 to allow installation of a recirculation line (TACF 81-11-77) through a bonnet adaptor. ECN L5916 allowed removal of TACF 81-890-077 by restoring the temporary change to its original plant configuration, by replacing the check valve internals and removing the temporary recirculation line. The total scope of ECN L5916 (under Revision 2) was to replace CDCT Pumps A and B and associated Cartridge Filters A and B with higher capacity (150 gpm) components. The scope also included a bypass line around the new CDCT bag filters. Revision 3 of this SE supported the request for removal of Check Valve 0-77-687 to preclude flow restrictions placed on the CDCT system. After the CDCT filter bypass line was installed, the temporary recirculation line installed by TACF 81-890-077 was removed. It was not possible to fully restore the check valve to its pre-TACF configuration because of the loss of the check valve internals. The valve was replaced with a similar size and type of valve. The check valve created a significant pressure drop within the system. TACF 0-89-60-077 removed the internals from the check valve on a temporary basis. DCN 11984A was initiated to remove the check valve body from the flow path and replace the valve with a straight section of the piping, allowing the TACF to be removed.
- L5932 ECNs L5932, L5933, L5934, and L5935 provided for modifications to the existing security system as part of the "Power Block" security concept. The modifications outlined under ECN L5932 disabled the existing system after the other ECNs enable the new security system.
- L5938 This ECN provided for the replacement of FW Heaters 1 and 2 with new heaters designed to match existing nozzle sizes and locations and equipped with stainless steel tubes, and for the replacement of FW Heaters 3 and 4 with Hartsville heaters that are also equipped with stainless steel tubing. Piping to FW Heaters 3 and 4 was redesigned and resupported to facilitate the new nozzle sizes and location. Also, each 30-inch extruded on steam nozzle on the No. 4 FW heaters was changed to 18 inches. The modification required the relocation of various instrument and control panels, thermocouples, controllers, and level switches.
- There was no increase in the probability of occurrence or consequences of an accident previously evaluated in the SAR. The probability of a malfunction of equipment important to safety was not increased. The margin of safety as defined in the basis for any TS was not reduced.
- These modifications were made on the security system, which does not involve any nuclear or support safety functions. There was no increase in the probability of occurrence or the consequence of an accident. No new accident possibilities were created. The margin of safety was not reduced.
- This modification did not adversely affect equipment reliability, materials compatibility, or system design parameters. No further equipment failure modes were created by this modification. These changes did not affect the operating characteristics of any system from that described in the SAR. SAR Sections 10.4.7.1.2 and 10.4.9.1 and Table 10.1-1 (Sheet 4) were revised to reflect the new FW heater manufacturer, tube material, and design temperatures and pressures. There was no decrease in the margin of safety as defined in the basis for any TS.

CHANGES IN THE FACILITY - MODIFICATIONS

<u>ECN/PCN</u>	<u>DESCRIPTION SUMMARY</u>	<u>SAFETY ANALYSIS SUMMARY</u>
L5965	Hinge pin plugs were seal welded to repair leaks on AFW check valves 3-861, 862, 921, 922, 330, 831, 832, and 833. Drawings were revised to reflect this modification.	The seal weld does not affect the integrity of the check valve or the seismic qualification of the AFW system. There was no increase in any accident or equipment malfunction possibilities or consequences. No TSs margin of safety was impacted.
L5977	This modification provided dedicated blowdown demineralizers to the steam generator blowdown system.	Based on the evaluation and discussion of the modification checklist for this ECN, and based on the special requirements identified in the SE, this design change satisfied the safety requirements of all systems impacted and did not introduce a USQ. As such, there was no impact on nuclear safety.
L6005	This ECN replaced the existing AFW turbine pump cast iron ejector with a carbon steel ejector.	The new ejector meets TVA Class C requirements; the existing one did not. The replacement ejector has the same operating parameters as the existing one. The new ejector and associated piping meet seismic Category I requirement.
L6064	A permanent access platform was added at el 700.5 in the Unit 1 reactor building. This platform extends from the existing steam generator platform to the existing RCP 3 platform.	There was no increase in the probability of occurrence or consequences of an accident or malfunction of equipment important to safety. There was no impact on any TS margin of safety.
L6095	A time-delay relay was added in the RM CVIs trip circuit for RE-90-106, 112, 130 and 131 to prevent CVI on spurious high radiation signals. A time-delay relay was added on the MCR vent monitors RE-90-125 and 126 high radiation trip circuit to prevent spurious high radiation signals from causing a CRI. A time-delay relay was added on the auxiliary building vent monitor noble gas channel (0-RM-90-101B) to prevent ABI from spurious high radiation spikes. A time-delay was added to the trip function on the particular channel (0-RM-90-101A) and the iodine (0-RM-90-101C). A seal-in relay was added to the auxiliary building vent isolation signal from RM-90-101. FCR 7973 added one indicator light each for HS-90-101G, HS-90-102 and HS-90-103.	There was no increase in the probability of occurrence or consequences of an accident or malfunction of equipment important to safety. Time-delay relays do not degrade the function of the RMs. No new accident possibilities were created. The margin of safety as defined in the basis of any TS was not reduced.
L6137	A time-delay was added to high radiation trip circuit of the fuel pool RMs 0-RE-90-102 and 103. Also, a jumper was installed to RP-1 module to allow for auto reset. FCR 2862 added seal-in relays to the auxiliary building vent isolation signal from 0-RM-90-102 and 0-RM-90-103.	The time-delay relays and the seal-in relays do not alter the function of the RMs. The radiation levels are still continuously monitored and automatic action is still initiated upon high radiation as required by TS 3/4-3.3.1.
L6148	This modification revised alarm logic on condensate storage tank header pressure to give annunciation when any one of the three switches (of each set) in the 2/3 logic make up indicates low pressure.	This change was made to alert the operator to any low pressure signal from the CST header. The change did not impact any safety function of the system or any other safety function of the plant. The margin of safety was not reduced.
L6152	Modifications to the SPDS added 28 additional computer points to the TSC data base and revised the MCR layout to include the SPDS console and operation desk. The modification also revised the TSC 12VAC power distribution panels 1 and 2 to supply electrical power to the SPDS.	The SPDS is a non-Class 1E system designed to augment the safety-related instrumentation in the MCR and to assist the reactor operator in evaluating plant critical safety functions during accident conditions. No safety-related equipment was degraded by this modification. Adequate design requirements and operating procedures were implemented to ensure that the margin of safety was not reduced.

CHANGES IN THE FACILITY - MODIFICATIONS

ECN/DCN	DESCRIPTION SUMMARY	SAFETY ANALYSIS SUMMARY
L6156	Valves 1, 2-FCV-67-65, 66, 67 and 68 were replaced with valves that have stainless steel bodies. These valves are located in the D/G Building.	The use of stainless steel instead of carbon steel enhances performance by eliminating leakage as a result of corrosion. The new design meets or exceeds the original design requirements. The margin of safety as defined in the basis for TS 3/4.8.1 or any other TS was not reduced.
L6170	This modification was written to install emergency descent devices in the Unit 1 and Unit 2 east and west main steam valve rooms. The devices were installed in Unit 1. No work was done on Unit 2. The ECN was downscoped to document Unit 1 only.	There was no increase in the probability of occurrence or the consequences of an accident or malfunction of equipment. The possibility for an accident or malfunction of a different type was not created. There are no TS covering this equipment. No TS margin of safety was reduced.
L6181	Unit 2 RCS inboard and outboard cables ZPM910 and ZPM911 inside Penetration 22 were moved from Connection 230 to Connection 251.	The old connection (230) had a high resistance which indicated failure. The new connection (251) performs the same function as the old one and does not change any operational characteristics. There are no TSs governing the operation of this equipment.
L6196	The pressurizer safety valve loop seal piping was insulated to maintain the liquid loop seal temperature between 300°F and 350°F. Revision 8 of the ECN addressed the Unit 1 and Unit 2 design changes from liquid loop seals to steam-filled safety valve loops. Revision 10 clarifies the work done under the ECN as, "Reflective mirror insulation was installed on Unit 1 only. The Unit 2 insulation was installed by ECN 6221." The USQD on ECN L6196 also covered work on pipe and pipe supports modified on Units 1 and 2.	There was no increase in the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety. No accident or malfunction of a different type was created. The margin of safety as defined in the basis for any TS was not reduced.
L6205	This ECN covered the replacement of fuses on the auxiliary instrument room and backup control panels to prevent a nonindicating fuse on the power supply from disabling instrument loops before the indicating fuse blows.	The safety-related Class 1E, seismic Category I instrument panels affected by this ECN were not degraded, and their function did not change. There was no increase in the probability for occurrence or consequences of an accident, and no new accident possibilities were created. The margin of safety as defined in the basis for an TS was not reduced.
L6206	This ECN authorized the recoating of the interior of the CST with a Service Level 1 coating. Drawing notes were revised to reflect this authorization.	The CST is a nonsafety class tank. The Level 1 coating enhances the quality of the water supply by reducing the potential for peeling, flaking, chipping, etc., of the coating. The margin of safety as described in TS 3/4.7.1 was not reduced.
L6244	The VHF radio system used for alerting SQN and WBN of a flooding contingency from the location of Fontana Hydro Plant was reconfigured to utilize a new base-repeater station near Fontana to replace Greentop in the overall channel routing. Under the new configuration, the microwave channel at Greentop is not used and a radio station is required at SQN. This station controls the base station at Lookout Mountain, providing a channel to Fontana, as well as local area coverage. The existing base station at SQN was retired.	This modification improved the communication link between SQN and Fontana Dam. No safety-related function or feature was degraded. Improved flood warning capability of the plant ensures that protective actions will be taken and operations terminated in the event of flood conditions. The TS margin of safety was not reduced.

CHANGES IN THE FACILITY - MODIFICATIONS

ECN/DCN	DESCRIPTION SUMMARY	SAFETY ANALYSIS SUMMARY
L6253	The No. 2 seal housing on the RCPs was modified to allow addition of replaceable wear surface. On the No. 2 RCP on Unit 1, the seal housing was rotated 15 degrees so that a new antirotation pinhole could be drilled. In addition, the holes for six mounting bolts were redrilled.	The probability of occurrence of an accident previously evaluated in the SAR was not increased. The consequences of an accident previously evaluated in the SAR were not increased. No accident of a different type was created. The margin of safety was not reduced.
L6311	All floor pipe and conduit penetration in the auxiliary building el 690, 714, 734, 749 and 759 that were not already required to be sealed were sealed. A valve operator handwheel extension was provided on 1 and 2-PCV-1-5 and 30. Sprinklers were added in the AUD station el 669. Flow Drawing 47WBS1-1 was revised.	None of the changes degraded any plant safety functions or features. The TS margin of safety was not reduced.
L6343	This ECN was written to replace or upgrade fire doors as necessary to meet 10 CFR 50 Appendix R requirements. Ten workplans were written; nine workplans were completed. WP 11641 was written to install weatherstripping and automatic door bottoms and has been determined to be upgrade items only and not required for Appendix R. The ECN was downscoped, with WP 11641 to be implemented by visual inspection of TS fire doors on a periodic basis with hardware upgrades provided by work requests.	All equipment added or modified meets U.L. requirements and serves to meet the requirements of 10 CFR 50 Appendix R. The installation of fire doors meets equivalent seismic I(L) requirements. There was no impact on any safety-related function or feature. Security aspects of the plant were not degraded. The margin of safety as defined in the basis for any TS was not reduced.
L6351	This ECN was written to install demineralized water booster pumps to provide adequate pressure to the CDWE. Workplan 11631 installed pump tie in points and isolation valves in the auxiliary building, but the ECN was downscoped because the pumps were not installed.	The CDWE does not perform any nuclear safety-related function. All piping and components are TVA Class H, nonseismic. The system function was not altered, and no safety-related equipment was degraded. No safety-related function or feature covered by the plant TSs was directly or indirectly affected by this ECN.
L6352	The routing of Unit 2 AFW Cable 2PM4481 was changed between 2-FI-3-170B on Panel 2-L-381 and 2-FM-3-170B on Panel 2-L-11A. The original cable "shorted out" and a new cable could not be pulled in the original route because of flammastic coatings.	The instrument loop affected is non-Class 1E and does not serve any control function within the AFW system. The new cable meets the same design requirements as the one it replaced, and the new routing did not result in any Appendix R interactions. No safety-related system was adversely affected by this ECN. The margin of safety as defined in the basis for TS 3/4,7.1.2 or any other TS was not reduced.
L6358	Barton transmitters 1-PDT-62-8, 21, 34, and 47 were replaced with functionally equivalent Rosemount transmitters.	The new transmitters meet the same seismic and electrical requirements. The indication and alarm capability was not degraded. No safety-related function or feature of the plant was adversely affected by this modification. The probability of occurrence or the consequences of an accident were not increased. The margin of safety was not reduced.
L6359	The Barton Model 288A level switches on the UHI tank were replaced with more reliable switches that are less subject to instrument drift.	These modifications did not affect the function of the UHI system. No safety-related system was degraded and the new switches meet all signal design requirements. The TS margin of safety was not reduced.

CHANGES IN THE FACILITY - MODIFICATIONS

<u>ECN/DCN</u>	<u>DESCRIPTION SUMMARY</u>	<u>SAFETY ANALYSIS SUMMARY</u>
L6379	Instrument tabs were revised to identify all Appendix R required equipment by adding an "R" designation. This was a documentation change only; no physical work was involved.	This ECN was for documentation purposes only. No safety-related equipment was changed or affected.
L6406	This ECN revised the 500kV line PCBs reclosing scheme to decrease the possibility of turbine shaft damage from shock as a result of the unloading and loading of the generator.	This change was nonsafety-related and impacted only the power transmission of the plant. No system safety function or existing plant function was affected. The 500kV PCBs are not addressed in the basis of any IS.
L6417	An additional supply of cooling water to the CDWE recirculation pump seals other than the demineralized water system was provided by this modification.	There was no increase in the probability of occurrence or consequence of an accident. No safety-related function or feature covered by the ISs was adversely affected by this ECN. The margin of safety as defined in the basis for any IS was not reduced.
L6437	This modification replaced FE-2-256 and FE-2-257 with Fluid Components Incorporated (FCI) model flow sensors and added a narrow range FCI model sensor in the same area. The FCI model sensors have a slightly heated probe and are not affected by condensation.	This modification did not adversely affect the function of performance of the condenser vacuum exhaust system, and all equipment is in the turbine building, a nonseismic, nonsafety-related structure. The change required no IE power supply, and the sensors have no automatic control function. No safety-related function covered by plant ISs was degraded by this modification.
L6439	This modification relocated 1 and 2-LT-68-320, 1 and 2-PT-68-322, 1 and 2-PT-68-323 outside the crane wall. The sense line extensions were added for the transmitters, and the sense lines for additional required sense lines were changed from 3/8-inch compression tubing to 1/2-inch Schedule 160 pipe.	The relocation of the transmitters outside the crane wall allows maintenance to be performed in Modes 1 through 3. It also reduces the radiation exposure when working on the transmitters in Modes 4 through 6. The modification did not affect the functions of any components. All applicable safety requirements were met. No margin of safety was reduced.
L6444	This ECN was written to replace obsolete GEMAC transmitters with equivalent Rosemount transmitters. Workplan 11752 was written to replace only 2-PT-3-153 because it was inoperable. Replacement of the other transmitters (2-PT-3-145, 161, and 168) was not required at this time. These were obsolete, not defective. When the need for replacement does arise, it will be handled under a new DCN.	The subject transmitters do not provide any automatic control function or serve any safety-related purpose. No safety-related equipment was indirectly affected. The IS margin of safety was not reduced.
L6464	The PT-1-72 and 73 drain valve support was revised from a typical wall mount to a bracket mount.	This change did not adversely affect the function or performance of the pressure transmitters. The new support reduces the stress in the sense line. No safety-related function covered by plant ISs was directly or indirectly affected by this change.
L6468	Insulation was installed behind the upper deck vent curtain and the upper deck vent curtain was sealed by the addition of Rocatex or Armaflex insulation with a velcro-type fastener. This vent curtain is part of the ice condenser system, and the modification helps maintain the ice condenser temperature.	There was no increase in the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety. The possibility for an accident or malfunction of a different type than any evaluated previously in the SAR was not increased. No safety-related function or feature covered by the plant IS was degraded by the modification. The margin of safety as defined in any the basis for any IS was not reduced.

CHANGES IN THE FACILITY - MODIFICATIONS

ECN/DCN	DESCRIPTION SUMMARY	SAFETY ANALYSIS SUMMARY
L6472	This ECN replaced defective 0-PCV-12-39 (a 5-inch self-controlled pressure valve) with a 6-inch externally controlled pressure valve from Bellefonte (Masonite Model 525).	The new valve did not change the function nor degrade the operation of the auxiliary boiler system. The new configuration was evaluated for seismic Category I requirements. The margin of safety as defined in the basis for any TS was not reduced.
L6489	The windsock for the heliport was relocated to a location 10 feet west of the fence and 24 feet 6 inches north of the center line of the landing pad.	This modification was outside the security area, and the location is free of any ERCW piping or essential electrical cables. This change was made to improve the pilot's visibility of the windsock. No safety-related function covered by the plant TSs was directly or indirectly affected.
L6474	Several ERCW piping sections downstream of the CCW heat exchangers were replaced with carbon steel pipe coated internally with Belzona Molecular Ceramic-S. These sections had degraded as a result of cavitation problems.	The new pipe sections are TVA Class C, which is compatible with the existing system. The additional weight of the coating is insignificant and the seismic analysis was not affected. The possibility of the epoxy coating coming off and becoming "mixed in" with the ERCW was evaluated. It was determined that this should not result in the possibility for any new accidents or malfunctions. The margin of safety as defined in the basis for TSs 3/4.7.1.2 (AFW) and 3/4.7.4 (ERCW) was not reduced.
L6545	Old pressure indicators PI-6-97, 100, and 103 were replaced with new indicators. Because of the actual operating design conditions at 100 percent power, the pressure on the No. 3 HDT is 163 psia. The old indicators were scaled 0-100 psig. The new indicators are 0-200 psig.	The modification did not affect the function or performance of any safety-related system, and all equipment is located in the turbine building (a nonseismic, nonsafety-related structure). No IE power supplies were involved. There was no reduction in any TS margin of safety.
L6572	The soft iron gasket that was used between the flanges of the bonnet and body of each MFW isolation valve (1, 2-FCV-3-33, 47, 87, and 100) was replaced with a flexitallic gasket.	The thickness of the flexitallic gasket is the same as the soft iron gasket so that steam travel is not impacted. The new gasket is compatible with the materials in the valve body and bonnet. The new gasket does not degrade the system in any way. The valves in this modification are not addressed in the basis of the TSs.
L6596	This modification completed interface design and construction for DAW building and tied the building to the plant support services.	The DAW building is nonseismic and is not within the scope of the QA program. There is no safety-related equipment in the building or in the near-by area. The probability of occurrence or the consequences of an accident were not increased. The DAW is not addressed in TSs; therefore, the margin of safety as defined in the basis for any TS was not reduced.
L6604	Under this ECN, various changes and additions were made to the 47A050 mechanical hanger drawing series general notes.	These changes did not degrade the seismicity of the supports or the affected piping systems. No safety-related function or feature was adversely affected. These changes to the 47A050 notes did not invalidate any of the original design requirements for the supports or the affected piping systems. No safety-related system covered by the TSs was adversely affected by this ECN. The margin of safety was not reduced.

CHANGES IN THE FACILITY - MODIFICATIONS

ECN/DCN	DESCRIPTION SUMMARY	SAFETY ANALYSIS SUMMARY
L6631	This modification provided for the review, revision, or addition of drawings as necessary to incorporate updated travel data (thermal movement) on all snubber support drawings, and snubber load tables. Also, resolution was provided for any discrepancies identified by the Office of Nuclear Power upon comparison of updated thermal movements to actual snubber position settings as authorized by the FCR process, including replacement of snubbers with less than 1/16-inch total movement.	This modification did not degrade any safety-related function or feature. Any discrepancies between the latest thermal movement and installed snubber position setting that would be adverse to snubber operability was evaluated by the FCR process. Any snubber replacements meet or exceed all original design requirements. The margin of safety as defined in the basis for TS 3/4.7.9 or any other TS basis was not reduced.
L6635	Four embedded conduits beneath the caustic tank had been damaged as a result of corrosion. These conduits and cables (located in the turbine building and serving nonsafety-related equipment) were rerouted as exposed rather than embedded and the four embedded conduits were sealed. Damaged conduit from the floor to the cable tray was removed.	This modification did not affect any safety-related conduits or cables. All changes were made in the turbine building, a nonseismic structure. There was no degradation to any plant safety system. No safety-related function covered by plant TSs was directly or indirectly affected by this ECN.
L6654	This modification removed the existing faulty magnetic oil gage of the seal oil drain regulator, closed the opening and replaced it with sight glass and necessary fittings. Inspection had revealed that the Unit 1 gage actually indicated a level greater than 1/4 full even though the tank was empty.	The probability of occurrence or the consequences of an accident or malfunction of equipment important to safety was not increased. No new accident or malfunction of a different type was created. The margin of safety was not reduced.
L6655	Permanently installed proximate/seismic vibration detection transducers (test points) were added for periodic monitoring and balancing of the turbogenerator shaft (rotor).	These test points were added to improve the plant's ability to obtain accurate, two-plane shaft motion and vibration data. There was no increase in the probability for or consequences of an accident. The margin of safety as defined in the basis of any TS was not reduced.
L6666	This ECN was written in 1986 to replace doors found damaged or nonfunctional during the performance of SI-261, "Visual Inspection of Technical Specification Fire Doors on a Periodic Basis - Unit 0, 1, and 2." In the 1991 process of verifying field completion, it was found that doors and frames found nonfunctional by the SI had been found functional by later inspections and no longer required changeout. This ECN was downscoped and closed.	Fire rating compatibility between fire walls and associated doors and security requirements were not degraded by work originally planned under this ECN. There was no reduction in the TS margin of safety. Revision 2 of this ECN downscoped the requirement for the replacement of five fire-rated doors.
L6683	Snubber loads were calculated on rigorously analyzed systems to verify proper snubber design; loads on TVA load tables were issued and/or revised; snubber calculations were revised as required and snubbers were changed out where necessary. The 1991 review for field completion and closure of this ECN found that work had been performed on Unit 2, but that no Unit 1 drawings were issued or revised and no field work was required on Unit 1 under this ECN. A separate DCN can be written for the unimplemented work on Unit 1 and ECN L6683 was closed.	There were no functional changes involved, and no safety-related equipment was degraded. The analysis ensures that the actual loads do not exceed the rated loads of the snubber. The margin of safety was not reduced.

CHANGES IN THE FACILITY - MODIFICATIONS

ECN/DCN	DESCRIPTION SUMMARY	SAFETY ANALYSIS SUMMARY
L6689	This modification revised control of main steam system PORVs located in the east and west valve vaults to prevent uncontrolled blowdown of two steam generators. Affected pilot solenoid valves and I/P converters were relocated from the valve vaults to a less harsh environment. Those in the east valve vault were moved to the reactor building annulus and mounted on the outside of the shield wall. Those in the west valve vault were moved into the 480V shutdown board rooms at el 734. The valve positioners were replaced by those which have been qualified for operation to temperatures up to 180°F including addition of penetrations and tubing to facilitate installation.	There was no increase in the probability of occurrence or the consequences of an accident. No new accident possibilities were created. No safety-related function covered by plant TSs was affected by this ECN.
L6696	The rubber and leather parts of the master and selector valves in the Cardox Corporation supplied CO ₂ fire extinguishing system were replaced with teflon parts. Manufacturer drawings were updated accordingly.	The material change did not functionally change or adversely affect the system. The seismic requirements and design were not impacted. There was no increase in the probability of occurrence or the consequences of an accident. No safety-related system covered by plant TSs was adversely affected by this ECN.
L6719	This ECN provided a complete volumetric intrusion detection system to supplement the existing FPS-2 system on the fence, added a new nuisance fence, provided grading and gravel between the nuisance fence and the existing fence, and made fence lighting improvements for alarm assessment.	There were no in-plant changes made under this ECN. The changes did not affect Category I structures, systems, or equipment important to safety. The electrical changes were non-Class 1E. No safety-related function covered by the TSs was directly or indirectly affected by this ECN.
L6758	HVAC seismic supports were added in the auxiliary building, control building, and diesel generator buildings to account for deficiencies as noted in SCR SQMCEB8602. There were discrepancies between design assumptions and the HVAC duct test results and/or design standards.	No existing duct support was modified under this ECN. CEB had performed an analysis to determine which duct sections required additional supports. The new supports were evaluated to ensure that the addition did not degrade any safety-related structure. There were no physical or functional changes to the HVAC system, equipment, or duct. No safety-related system covered by plant TSs was degraded by this ECN.
L6760	This ECN revised the labeling of 1-FCO-30-106 and 107 and 2-FCO-30-108 and 109 and their associated equipment from purge air supply to auxiliary building general supply in the wiring diagrams and instrument tabs. The tag numbers of the equipment were changed in the field. The wiring diagrams and instrument tabs did not agree with other documents.	The systems were not functionally changed or adversely affected. This change brought consistency in design documents. There was no increase in the probability of occurrence or consequences of an accident or equipment malfunction previously evaluated in the SAR. No new accident possibilities were created. No safety-related system covered by plant TSs was adversely affected. The TS margin of safety was not reduced.
L6761	Work performed under this ECN modified the east steam valve room blowout panels to provide 64.6 square feet of permanent ventilation area per unit to the outside and redesigned missile protection because of the permanent opening of the blowout panels. Doors A103 and A107 were modified allowing for 22.7 square feet of ventilation area because TVA had based licensing calculations on this door flow area for postulated MSIBs with superheat in the valve vaults.	The modifications did not interface with any safety system. The modifications allow lower peak superheat temperatures, thus allowing the safety-related equipment in the valve vaults to be qualified ensuring proper mitigation of MSIBs from the valve vault equipment. There was no increase in the probability of occurrence or the consequences of an accident. No new accident possibilities were created. No TS margin of safety was reduced.

CHANGES IN THE FACILITY - MODIFICATIONS

ECN/DCN	DESCRIPTION SUMMARY	SAFETY ANALYSIS SUMMARY
L6768	This modification added supports to cable trays and/or modified existing cable tray supports in all areas except the annulus to conform to the requirements of design criteria.	This modification/addition was performed to ensure that the cable tray supports can withstand all loading conditions. The functions of the systems affected by these cables remained unaltered. TSs do not address cable tray supports.
L6800	The setpoint for 1, 2-FS-72-13 and 1, 2-FS-72-34 was changed from 500 gpm to 1650 gpm to ensure the calculated safety limit of 250 gpm will be met.	The change of the setpoint for the flow switches was required to ensure the safety limit will be met with instrument loop accuracy considered. This modification was performed to prevent the potential damage to the containment spray pumps under low flow conditions due to overheating or cavitation. There was no increase in the probability of occurrence or the consequences of an accident. No new accident possibilities were created.
L6802	The EGTS filter housings and Units 1 and 2 containment purge air cleanup filter housings were modified/qualified to use activated charcoal filter trays between 26.75 inches and 30 inches in nominal length. This change also required seismic qualification of the housings, radiation map revisions, environmental qualifications and possible equipment relocations.	The modification (following special requirements specified) did not alter, modify, or affect any engineered safety feature function, reactor protective function, or safety system. Implementation of this ECN did not degrade the margin of safety as defined in the basis for any TS.
L6809	This Unit 2 modification replaced missing and/or damaged mirror insulation as required in the MSVVs. Other insulation (other than mirror insulation) was replaced as required. Wire meshing was installed around the piping and insulation to help shred any pieces of insulation that might fall off so drainage paths would not be clogged. The ECN also included provisions for running a temperature surveillance test program. This included installation of thermocouples.	The probability of occurrence or the consequences of an accident or malfunction of equipment important to safety was not increased. The possibility for an accident or malfunction of a different type was not created. The margin of safety as defined in the basis of any TS was not reduced.
L6813	During the baseline verification walkdown, it was noted that PRVs 1, 2-72-512 and 513 were set at 120 psig while the flow diagram (Drawing 47W812-1 R12) indicated the setpoint pressure to be at 100 psig. This ECN revised the associated drawings to correct the setpoint of the relief valves in question.	The design calculations as well as the TVA Bill of Material 47BM436-4 R2 indicate a setpoint of 120 psig. MEB analysis and CEB evaluation supported this change. There was no increase in the probability of occurrence or the consequences of an accident. No new accidents or malfunctions of equipment were created. The margin of safety was not reduced.
L6815	A 500kV PCB and associated equipment were installed. The 161kV PCB and its associated equipment were retired. Transmission lines were reterminated; a power line carrier telephone terminal was installed, and the security system was modified by relocating the fence and associated equipment.	All changes were associated with nonsafety-related systems and did not impact nuclear safety. Since SAR Chapter 8 addresses the subject of electrical power systems that cover 161kV and 500kV transmission lines and related equipment, the SAR was updated. TSs do not address the 161kV switchyard, the 500kV switchyard, or communications.
L6823	The work performed under this ECN rerouted Unit 2 conduit to alleviate the effects of hot spots on 10 CFR 50.49 cables in the MSVVs. Cables and equipment (e.g., FCV's actuator, limit switches) that were identified as having experienced physical degradation were replaced. Design drawings were revised and pipe rupture analysis on the rerouted conduit was performed.	This modification did not alter the logic, controls, or functions of any system required for nuclear safety. This modification enhances the reliability and availability of the impacted features. There was no increase in the probability of occurrence or consequences of an accident. The TS margin of safety was not reduced.

CHANGES IN THE FACILITY -- MODIFICATIONS

ECN/DCN	DESCRIPTION SUMMARY	SAFETY ANALYSIS SUMMARY
L6827	Modifications made under this ECN are intended to reduce control building flooding from MELBs in the turbine building. Floor drains in the control building tool storage room (el 669), which would receive water from turbine building via an open staircase at el 685, provide direct access for flood waters into the control building through basement floor drains. Sealing off the tool storage room drains blocks the passage of turbine building flood water into the control building. The first stage, or restart work, involved the temporary capping of the tool storage room gutter drains.	Modifications to the tool storage room drain system had no adverse affect on any plant safety feature. These modifications enhance the availability of the control building after turbine building flooding as a result of a MELB, and no safety-related equipment was degraded. No new accident possibilities were created. SQN ISs do not cover the modifications made by the ECN.
L6830	Drawings were revised to relocate the Class A to Class B boundary break in Unit 2 CVCS to reflect as-constructed conditions. Drawings were revised to relocate the Class A to Class B boundary break to reflect as-constructed conditions in Unit 1 RCS pressurizer spray line to the blind flange downstream of Valve 1-V62-503. A specially fabricated 3/4-inch by 1/2-inch 0.375 bore reducing coupling was installed downstream of Valve 1-V62-313A on Unit 1 CVCS seal injection bypass line to No. 1 seal in RCP 2.	These changes to reflect as-constructed conditions are for documentation only. The installation of the reducing coupling did not degrade any system requirements. SAR analyses and IS requirements remain unchanged.
L6832	A new DAW facility was required at Sequoyah. Work under this ECN verified the design, reviewed and accepted vendor drawings and entered them into TVA's Drawing Management System, reviewed vendor design calculations and issued them into TVA's RIMS. Also, the finished facility was inspected and accepted, and the SAR was revised to reflect the changes to the solid waste disposal system. The maximum allowable curie content and contact dose rate of waste stored in the building was determined, and radiation monitoring devices were provided.	There was no increase in the probability of occurrence or consequences of an accident. The possibility for an accident of a different type was not created. The DAW is not covered in ISs. There was no reduction in any margin of safety.
L6848	This ECN covered Unit 2 modifications to end connections of structural steel members bearing piping and conduit supports for seismic Category I systems to compensate for their thermal expansion and resultant reactions of interior walls and structural members located inside the reactor building.	This modification did not change the ability of the structure, equipment, piping, tubing, or conduit supports to perform their function. There was no increase in the probability of occurrence or consequences of an accident. ISs do not specifically address this change. No IS margin of safety was reduced.
L6851	This ECN covered modifications in a harsh environment to end connections of structural members to compensate for their thermal expansion and resultant reactions of interior wall and structural members. The original design, construction, and installation of these supports did not make allowances for temperature increases and effects on adjacent structures.	This modification allows thermal expansion movement of the member of the support system, thus preventing excessive forces or movements that may create an overstress condition. The modification did not alter or change the functionality of the supports. The probability of occurrence or consequences of an accident or malfunction of equipment important to safety was not increased. Any new components (supports) added by this modification were qualified to meet harsh environment conditions.

CHANGES IN THE FACILITY - MODIFICATIONS

ECN/DCN	DESCRIPTION SUMMARY	SAFETY ANALYSIS SUMMARY
L6859	The low pressure alarm setpoint for UHI switches PIS-87-21, 22, 23, and 24 was changed from 2800 psig to 2970 psig based on the low limit used in Westinghouse analysis, 2875 psig and the instrument loop accuracy calculated by NE, 90.76 psig.	The increase of low pressure alarm setpoint enables the isolation valves to have greater closing time tolerance and improves the operability limit. The modification did not affect the water volume delivery through the valves. There were no other changes involved--no wiring or cable changes were required. There was no increase in the probability of occurrence or consequences of an accident. The possibility for an accident (i) malfunction of a different type than previously evaluated was not created. The TS margin of safety was not reduced.
L6871	This modification added a note to conduit and grounding drawings and lighting drawings listed on the ECN data sheet to incorporate requirements for conduit penetration fire barrier sealing in accordance with fire protection drawings series 47W494 and fire stop penetration detail drawing 45W080-26.	No physical modifications were made as a direct result of this ECN. However, the presence of this note authorizes the sealing of any deficient penetration shown on any of the affected drawings. There were no adverse affects on any safety-related equipment. There was no reduction to any TS margin of safety.
L6874	The existing Chemelox 2-wire parallel auto heat trace was replaced with Thermon 3-wire parallel self-regulating heat trace, and modifications were made to control/distribution panels. This was done on primary and secondary circuits of 80, 83, 86, 87, 90, 101, 105, and 129.	The operability and reliability of the subject heat trace was improved and the maintenance required is minimized. There was no increase in the probability of occurrence or consequences of an accident. The margin of safety as defined in the basis for any TS was not reduced.
L6877	Carbon steel fittings and a small piece of pipe on the Unit 2 MFW load bypass between 2-FV-3-70 and 84, 2-HCV-3-70 and 84, and 2-VLV-3-580 and 581 were replaced with stainless steel. This was done to reduce erosion problems associated with this line.	This change involved a nonsafety-related portion of the MFW system. This portion is nonseismic and does not interface or interact with any safety-related system or function. TSs do not address this portion of the MFW system.
L6882	Existing Raychem splices were originally installed improperly and had to be repaired or replaced in accordance with standard procedures.	This modification corrected the deficiencies on the Raychem splices and improved the reliability of the affected circuits. There was no increase in the probability of occurrence or consequences of an accident. The TSs do not address the issue of splices in the Unit 2 restart-required electrical equipment. However, this change increased dependability and the chance of failure is minimized. Therefore, the TS margin of safety was increased.
L6887	Unit 2 cable tray support MK-27 below cl 732 in the turbine building was redesigned and replaced to clear existing pipes' thermal movement.	No safety-related equipment was degraded. The redesigned supports meet all functional requirements of the original supports. Turbine building supports are not addressed in TSs.
L7014	The existing 6-ton waste packaging crane (0-CRN-303-225) was modified to include the following applicable safety features: (1) "Youngstown" type hoist block upper limit travel switch, (2) hoist drum overspooling/overlapping protection, and (3) phase loss protection.	This modification enhanced the reliability and overall safety of the crane and was performed in accordance with the crane consistency program. The change did not involve a change in the facility or plant operating characteristics from that described in the SAR. There was no decrease in any TS margin of safety.

CHANGES IN THE FACILITY - MODIFICATIONS

ECN/DCM	DESCRIPTION SUMMARY	SAFETY ANALYSIS SUMMARY
L7042	The existing 6-ton waste packaging crane (O-CRN-303-240) was modified to include the following applicable safety features: (1) "Youngstown" type hoist block upper limit travel switch, (2) hoist drum overspooling/overlapping protection, and (3) phase loss protection.	This modification enhanced the reliability and overall safety of the crane and was performed in accordance with the crane consistency program. The change did not involve a change in the facility or plant operating characteristics from that described in the SAR. There was no decrease in any TS margin of safety.
L7108	Modifications were made to the piping from the starting air tank to the pressure switch and pressure indicator on all D/G units to improve personnel safety, serviceability, and reliability. An isolation valve and test tee were added, and the piping to the pressure indicator was replaced with stainless steel tubing.	These changes improve the safety for personnel performing maintenance on the pressure switches. There was no increase in the probability of occurrence or consequences of an accident. The margin of safety as defined in the basis for any TS remained unchanged.
L7110	Unit 2 level modifiers LM-3-148A, 156A, 164A, and 171A were replaced and relocated. Conduit and grounding drawings were revised to show the relocations. This also required rerouting of air supply lines, conduit, and cables.	This change was made to reduce vibration-induced problems. Class 1E separation requirements were maintained. Postmodification and surveillance testing ensures functional requirements are maintained. There was no increase in the probability for occurrence or consequences of an accident. No new accidents or malfunctions possibilities were created. The margin of safety as defined in the basis of TSs was not reduced.
L7117	Pulsation dampeners were added to Unit 1 TDAFW pump low suction header pressure switches 1-PS-3-121A, 121B, 121D, 139A, 139B, 139D, 144A, 144B, and 144D. This ECN made TACF 2-88-2008-03 permanent.	This modification did not impact normal system operation. Operability/reliability of the system is improved by protecting the switches from damage as a result of repetitive pressure spikes and causing wear from continuous operation. There was no increase in the probability of occurrence or consequences of an accident. TS 3.7.1.2 on operability of AFW pumps and 3.7.1.3 on CST were not violated by this modification. There was no reduction in the TS margin of safety.
L7181	The Unit 2 lower compartment coolers were upgraded to safety grade and their fan motors were upgraded to Class 1E. The fan motors were upgraded by a Buffalo Forge Rewind Program that involved changing the winding insulation from Class F to Class H. The rewind program upgraded the motors to Class 1E. The motors were also refurbished restoring them to a like new condition. The electrical system associated with the lower compartment coolers was upgraded by performance of the following calculations: cable ampacity, short circuit, penetration protection, degraded voltage, and overload.	The probability of occurrence or consequences of an accident were not increased. No new accident or malfunction of equipment was created. The TS margin of safety was not reduced.
L7222	This ECN revised the D/G load sequencing relay time delay setpoints for MDAFW pumps 1A-A and 1B-B, and CCS pumps 1A-A, 1B-B, and C-S to agree with accuracy calculations and ensured the minimum interval between load steps is greater than or equal to the minimum interval used in the load analysis.	This change ensures the D/G reliability is maintained as required. The new setpoints enable the D/G to properly accelerate the load to rated speed before the next load is sequenced onto the D/G. The modification did not alter the function of any component or system. The margin of safety as defined in the basis for any TS was not reduced.

CHANGES IN THE FACILITY - MODIFICATIONS

ECN/DCN	DESCRIPTION SUMMARY	SAFETY ANALYSIS SUMMARY
L7283	This ECN authorized the performance of physical modifications to various Unit 2 pipe supports to qualify these supports as required by all applicable design criteria. Additionally, calculation and design drawings were issued to reflect the seismic qualification of the affected supports.	The probability of occurrence or the consequences of an accident were not increased. The modifications did not alter any function of any system. The margin of safety was not reduced.
L7290	This ECN authorized the performance of physical modifications to various Unit 2 pipe supports to qualify these supports as required by all applicable design criteria. Additionally, calculation and design drawings were issued to reflect the seismic qualification of the affected supports.	The probability of occurrence or the consequences of an accident were not increased. The modifications did not alter any function of any system. The margin of safety was not reduced.
L7299	This ECN authorized the performance of physical modifications to various Unit 1 pipe supports to qualify these supports as required by all applicable design criteria. Additionally, calculation and design drawings were issued to reflect the seismic qualification of the affected supports.	The probability of occurrence or the consequences of an accident were not increased. The modifications did not alter any function of any system. The margin of safety was not reduced.
L7312	This ECN authorized the performance of physical modifications to various Unit 2 pipe supports to qualify these supports as required by all applicable design criteria. Additionally, calculation and design drawings were issued to reflect the seismic qualification of the affected supports.	The probability of occurrence or the consequences of an accident were not increased. The modifications did not alter any function of any system. The margin of safety was not reduced.
L7332	The Unit 2 inboard hydrogen analyzer CIVs were changed from fail open electro-pneumatic valves to fail closed solenoid valves (Target Rock 3/8-inch valves). The hydrogen analyzer sample lines outside primary containment were capped or plugged. Existing control air lines inside containment were capped. These lines were no longer required to provide air to the analyzer CIVs.	There was no increase in the probability of occurrence or consequences of an accident or malfunction of equipment important to safety. No new accidents or malfunction possibility was created. The TS margin of safety was not reduced.
L7333	This ECN provided the second phase of hydrogen analyzer system modifications to affect compliance with containment isolation and bypass leakage requirements. These modifications included actions such as disconnecting reagent gas line from auxiliary control air and replacing the air supply with two air bottles, adding a failed-closed flow solenoid valve to each calibration gas line, adding four test connections and two block valves to each train, removing plugs or caps previously installed by ECN L7332, etc.	This change was required to restore hydrogen analyzer instrument operability (temporarily eliminated by ECN L7332) and eliminate a potential post-LOCA secondary containment bypass leakage path to the environment, and establish a permanent containment isolation configuration. The changes brought the system into compliance with SAR commitments and TS requirements. The changes did not significantly degrade or improve the operability of the system post-LOCA. The margin of safety in TSs was not reduced.
L7342	This ECN authorized the performance of physical modifications to various Unit 2 pipe supports to qualify these supports as required by all applicable design criteria. Additionally, calculation and design drawings were issued to reflect the seismic qualification of the affected supports.	The probability of occurrence or the consequences of an accident were not increased. The modifications did not alter any function of any system. The margin of safety was not reduced.
L7343	For 1-RE-90-106, 112, 130, and 131, seal-in contacts with reset capability were added across the iodine and particulate flow switches; the ground bus was relocated at the local panel; and the local skid-mounted alarm was deleted.	This did not involve a change in the facility from that described in the SAR. There was no impact of system safety functions. The margin of safety was not reduced.

CHANGES IN THE FACILITY - MODIFICATIONS

<u>ECN/DCN</u>	<u>DESCRIPTION SUMMARY</u>	<u>SAFETY ANALYSIS SUMMARY</u>
L7356	Existing unqualified coating was removed from the exterior of the Unit 1 PRI and replaced with System SNP-N-971 or equivalent. A revision to the SAR was also required.	There was no increase in the probability of occurrence or consequences of an accident. No new accident or malfunction of equipment possibility was created. The margin of safety as defined in the basis for any TS was not reduced.
L7358	This ECN authorized the performance of physical modifications to various Unit 1 pipe supports to qualify these supports as required by all applicable design criteria. Additionally, calculation and design drawings were issued to reflect the seismic qualification of the affected supports.	The probability of occurrence or the consequences of an accident were not increased. The modifications did not alter any function of any system. The margin of safety was not reduced.
L7359	This ECN authorized the performance of physical modifications to various Unit 1 pipe supports to qualify these supports as required by all applicable design criteria. Additionally, calculation and design drawings were issued to reflect the seismic qualification of the affected supports.	The probability of occurrence or the consequences of an accident were not increased. The modifications did not alter any function of any system. The margin of safety was not reduced.
L7362	This ECN authorized the performance of physical modifications to various Unit 1 pipe supports to qualify these supports as required by all applicable design criteria. Additionally, calculation and design drawings were issued to reflect the seismic qualification of the affected supports.	The probability of occurrence or the consequences of an accident were not increased. The modifications did not alter any function of any system. The margin of safety was not reduced.
L7367	Security cages were added with exit doors to the exterior of the Unit 1 valve vaults. This allows unobstructed flood relief during MFiB and steam/pressure relief during MSLB. The doors function as emergency exits.	There was no increase in the probability of occurrence or consequences of an accident or malfunction of equipment. No new accident or malfunction possibilities were created. These doors are not covered by plant TSs.
L7377	This ECN authorized the performance of physical modifications to various Unit 1 pipe supports to qualify these supports as required by all applicable design criteria. Additionally, calculation and design drawings were issued to reflect the seismic qualification of the affected supports.	The probability of occurrence or the consequences of an accident were not increased. The modifications did not alter any function of any system. The margin of safety was not reduced.
L7385	This ECN authorized the performance of physical modifications to various Unit 1 pipe supports to qualify these supports as required by all applicable design criteria. Additionally, calculation and design drawings were issued to reflect the seismic qualification of the affected supports.	The probability of occurrence or the consequences of an accident were not increased. The modifications did not alter any function of any system. The margin of safety was not reduced.
L7392	This ECN authorized the performance of physical modifications to various Unit 2 pipe supports to qualify these supports as required by all applicable design criteria. Additionally, calculation and design drawings were issued to reflect the seismic qualification of the affected supports.	The probability of occurrence or the consequences of an accident were not increased. The modifications did not alter any function of any system. The margin of safety was not reduced.

CHANGES IN FACILITY - MODIFICATIONS

ECN/DCN	DESCRIPTION SUMMARY	SAFETY ANALYSIS SUMMARY
M00231	This modification disconnected and relocated the hydrogen analyzer Train B calibration panels into the ABSCE. All wiring and tubing connected to the calibration panel was disconnected. Local cables conduits were removed. Wiring to the new calibration panel location was done under DCN M00232, phase four of the hydrogen analyzer modifications.	The four-phase modification of the hydrogen analyzer restores system operability and containment integrity, and brings the system into compliance with 10 CFR 50, Appendix A, SAR commitments, and TS requirements. The change did not degrade or significantly improve the operability of the system post LOCA. The changes to the hydrogen analyzer system do not contribute to the probability of an accident. DCN M00231 reduces the consequences of an accident previously evaluated in the SAR. This modification did not affect the existing margin of safety as defined in the basis for the TSs.
M00250	This DCN authorized the performance of physical modifications to various Unit 1 pipe supports to qualify these supports as required by all applicable design criteria as denoted in the modification criteria. Additionally, calculations and design drawings were issued to reflect the seismic qualifications of the affected supports.	This modification did not increase the probability of occurrence or consequences of an accident previously evaluated in the SAR. No new possibility for an accident or malfunction of equipment was created. The TS margin of safety was not reduced.
M00260	Level switches for low water level in the UHI accumulator were replaced; setpoints were revised in accordance with Westinghouse reevaluation of allowable UHI injection; SAR, TS, and design criteria were revised to reflect the new levels; and instrument calibration frequency was revised to ensure that the loops stay within approved tolerance.	This modification did not affect the function or performance of the UHI system. The new switches were electrically Class 1E seismic Category I, as were the switches replaced. The maximum and minimum amounts of water injected is within the analyzed limits for safe operation. There was no increase in the probability of occurrence or consequences of an accident. No TS margin of safety was reduced.
M00271	Physical modifications were performed to Unit 1 pipe supports such as adding stiffeners, rolled steel plates, shapes, etc., and replacing component parts.	These modifications did not involve a change in the facility from that described in the SAR. They ensure that supports meet all requirements of the SAR. The modifications did not change any functional configuration.
M00289	Condenser circulating water inlet and outlet expansion joints were replaced with a modified design and superior material.	This did not involve a change in the facility (or plant operating characteristics) from that described in the SAR. This did not affect TSs or involve a USQ. The modification did not change system functional operability. TSs do not address these expansion joints.
M00302	Physical modifications, such as adding stiffeners, rolled steel plates, shapes, etc., and standard components, were performed to Unit 1 pipe supports.	Modifications did not involve a change in the facility from that described in the SAR. There was no change in the reliability, maintainability, or performance from that assumed at initial installation of the piping with supports. The margin of safety was not reduced.

CHANGES IN FACILITY - MODIFICATIONS

ECN/DCN	DESCRIPTION SUMMARY	SAFETY ANALYSIS SUMMARY
M00351	Unit 2 feedwater flow transmitters were rescaled to account for venturi fouling. The rescaling was determined by TI-2, "Calorimetric Calculation."	The rescaling ensures that the transmitters reflect actual plant conditions. The rescaling ensures that NIS power remains within plus or minus 2 percent of core power required by accident analysis. The rescaling ensures that plant protection equipment responds as assumed in the SAR. Rescaling of the feedwater flow transmitters ensures that the TS margin of safety will be maintained by causing the transmitters to accurately reflect actual plant conditions.
M00386	The valve packing on Valve 1-298A was leaking steam into the Unit 2 east valve vault. The leaking valve was repaired using Furmanite.	The modification did not affect TSs or involve a USQ. The modification did not change system functional operability. This was processed as a minor modification. The margin of safety was not reduced.
M00389	A flush and drain connection and flanges were installed in the vertical leg of circulation lines between the BAI and BIT in the CVCS.	This modification had no adverse impact on the safety function of the CVCS. The change reduces maintenance when boric acid in the vertical leg piping becomes stagnant and solidified. There was no increase in the probability for occurrence or consequences of an accident, and no new accident possibilities were created. The margin of safety as described in the basis for any TS was not reduced.
M00421	Physical modifications were performed to Unit 1 pipe supports, such as adding stiffeners, rolled steel plates, shapes, etc., and standard component parts.	This change did not involve a change in the facility (or plant operating characteristics) from that described in the SAR. The modification did not affect TSs or involve a USQ. There was no impact on system functional operability, and the TS margin of safety was not reduced.
M00457	Chesterton live-load packing was used to replace existing packing on MFP Discharge Isolation Valves 1-FCV-3-67 and 1-FCV-3-81.	This modification did not affect TSs or involve a USQ. There was no change in system functional operability. This upgrade eliminated the need for packing adjustment that helps prevent water from running down the valve.
M00547	Pipe Supports 1-H20-352 and 1-H36-111 required expansion provisions and physical modifications as a result of thermal expansion.	This modification did not affect TSs or involve a USQ. There was no change in any system function. This was considered a minor modification. The margin of safety as defined in the basis for any TS was not reduced.
M00595	Physical modifications were performed to Pipe Supports H63-435 (1RHRH0417) and H21-439 (1CSH0421) as a result of thermal expansion.	These modifications did not involve a change in the facility from that described in the SAR. The changes did not impact TSs or involve a USQ. The modification did not change system functional operability.
M00685	To reduce the vibration problems in the condensate piping, NE designed dead-weight supports, sway strut restraints (for vibration), and relocated existing supports. Calculations were performed to design for dead-weight loading and the vibration restraints were concurred with by CEB piping vibration experts.	This modification did not affect plant configuration or operating characteristics. The change did not impact TSs or involve a USQ. There was no change to system functional operability.

CHANGES IN FACILITY - MODIFICATIONS

ECN/DCN	DESCRIPTION SUMMARY	SAFETY ANALYSIS SUMMARY
M00693	Disk spring washers were added on 1-LCV-1118 between the valve actuator stem nut and the diaphragm washer to compensate for any possible shrinkage of the diaphragm thickness.	The addition of the washers prevents stem rotation of the valve and allows it to function as designed. The change did not affect the SAR or TSs in any way.
M00710	Reinforcement plates were welded over the excessively ground areas of SFP cooling and cleaning system's refueling cavity purified borated water supply pipe.	This is nonsafety-related piping. The SAR does not describe the physical configuration of piping. The welding of the reinforcement plates was a repair modification that did not alter the facility.
M00712	The setpoints related to the auxiliary oil pumps to condensate booster pumps, No. 3 and No. 7 heater drain pumps were revised. Pressure switch-settings were change to: oil pressure increasing 8.5 psig Aux Oil pump off oil pressure decreasing 8.5 psig Aux Oil pump on oil pressure decreasing 5.0 psig Cond Bstr Pump shutdown	This modification did not affect TSs or involve a USQ. There was no change in system functional operability. The subject pressure switches are nonsafety-related, nondivisional switches in the turbine building. The switches and setpoints are not mentioned in the SAR text, but setpoint values are shown in SAR figures. These were changed to reflect this modification.
M00735	The drain line of the shutdown board room chiller 1-TCV-67-158 valve was rerouted and replaced.	There was no increase in the probability of occurrence or consequences of an accident. This activity did not increase the probability of occurrence or consequences of a malfunction of equipment important to safety. The TS margin of safety was not reduced.
M00778	Modifications to support 47A435-17-2 required redesign of pipe clamps from existing P2558-10 pipe clamp to P1113 pipe clamps because of space limitations.	This modification did not affect TSs or involve a USQ. There was no change in system functional operability. The modifications did not involve a change in the facility from that described in the SAR, but it does ensure that supports meet all requirements of the SAR.
M00779	Modifications to support 47A435-17-1 required redesign of pipe clamps from existing P2558-10 pipe clamp to P1113 pipe clamps because of space limitations.	This modification did not affect TSs or involve a USQ. There was no change in system functional operability. The modifications did not involve a change in the facility from that described in the SAR, but it does ensure that supports meet all requirements of the SAR.
M00796	The entire defective valve and actuator (1-FCV-74-78) was replaced by valve and actuator from Watts Bar Nuclear Plant. The new valve was installed in the same position as the old. Existing limit switches, transducer, and pressure regulator were reused on the new valve.	There was no change in the facility from that described in the SAR. Operating characteristics of the replacement valve are the same as the original valve. There was no impact on any TS margin of safety.
M00858	Metal plates with a 5.5" x 5.5" square opening were installed over damper 1-FCO-30-203 and over damper 1-FCO-30-6. This was done to prevent the temperature in penetration room 669 A7 from exceeding 130°F following a HELB in the pipe chase.	These changes had no adverse impact on safety. There was no increase in the probability of occurrence or consequences of an accident. This change did not create the possibility of a different accident. The margin of safety was not reduced.

CHANGES IN FACILITY - MODIFICATIONS

ECN/DCN	DESCRIPTION SUMMARY	SAFETY ANALYSIS SUMMARY
M00926	The breaker long delay minimum pick up setting was changed for Unit 2 electrical board room AC Compressor B-8 to meet the requirements of Design Guide D.G.-E2-3-5 and prevent nuisance tripping during degraded voltage condition.	The change did not alter the safety function of the equipment and did not affect plant safety. The HVAC system involved is still able to perform its intended function. The margin of safety as defined in the basis for any TS was not reduced.
M00927	The breaker long-delay trip setting in compartments 1D and 3D 480V S/D Board 1B2-8 was reset above the minimum setting required to prevent tripping during degraded voltage conditions.	This change did not affect TSs or involve a USQ. There was no change to system functional operability. There was no increase in the probability of occurrence or consequences of an accident. No TS margin of safety was affected.
M00955	A permanent control air line was designed and installed to replace the temporary control air line installed under TACF 80-152-79. This TACF had installed rubber hose to supply control air to the manipulator crane gripper. The design and work under this DCN made the TACF a permanent part of the crane design.	This modification did not affect (directly or indirectly) any information presented in the SAR or deviate from the description given in the SAR. This modification did not affect TSs or involve a USQ. There was no change in system functional operability.
M00962	Elapsed Time Meters 0-11-31A-8, 0-11-31A-10, 0-11-65-23, and 0-11-65-42 were replaced with seismic Category I qualified meters. The replacement meters were identical, i.e., same mounting with no wiring change.	The elapsed time meters are not specifically discussed in the SAR. This change did not affect the facility or plant operating characteristics. The change did not affect TSs or involve a USQ.
M00966	This DCN changed the temporary power source from the hot shop 480V MCC 0-222-3 to a permanent installation for the 1-A/C units and lighting distribution panel No. LCA in the service building. This resolved TACF 0-86-007-317.	The components involved in this change are all nonsafety-related. The A/C unit is independent of any plant system and does not affect any safety system. This modification did not affect any component, equipment, or system whose breach or damage would increase the probability of or consequences of an accident. The margin of safety as defined in the basis for any TS was not reduced.
M00976	Flow diagrams 47W845-6, 47W859-2 and 47W859-4 and valve tab drawings 47A366-67-16 and 47A366-70-11 were revised to add the newly identified vendor valves. The subject valves were lagged.	Implementation of this modification did not alter the control, logic, or function of the affected systems. There was no degradation to any safety system. The margin of safety as defined in the basis of any TS was not reduced.
M01020	A restraint bar was installed in front of each row of modules in Racks 1-R-127, 128, 130 and 131 and Panels 1-L-11A and B.	The panels and racks now meet their analyzed design conditions. The change did not involve a change in the facility or the plant operating configuration. There was no change in system functional operability. The modification did not impact TSs or involve a USQ.
M01021	A restraint bar was installed in front of each row of modules in Racks 2-R-127, 128, 130 and 131 and Panels 2-L-11A and B.	The panels and racks now meet their analyzed design conditions. The change did not involve a change in the facility or the plant operating configuration. There was no change in system functional operability. The modification did not impact TSs or involve a USQ.

CHANGES IN FACILITY - MODIFICATIONS

ECN/DCN	DESCRIPTION SUMMARY	SAFETY ANALYSIS SUMMARY
M01100	Modifications were made to the Unit 2 fuel transfer cart. The bi-direction motion decoder/position counter circuit was removed and replaced with two limit switches (one limit switch on the SFP side and one on the reactor cavity side) actuated by mechanical lever at the fuel transfer cart with the limit switches mounted above water level.	This modification did not affect TSs or involve a USQ. There was no change to the functional operation of plant systems. The counter circuit that was removed had been unreliable in the past and had resulted in a bent fuel assembly. Overall reliability was improved by this modification. The margin of safety was not reduced.
M01203	This DCN involved the design and installation of communication cable raceways for non-Class 3 structures, i.e., facilities conduit and grounding. This DCN established cable raceways from the building entrance points to the building distribution frames.	Communications of voice and data were enhanced by the replacement of the old telephone system. The addition of communication cable raceways accommodated the cabling required to interface the new system with all areas of the site. This DCN did not affect TSs or involve a USQ. There was no change in any system functional operability.
M01222	An internal rubber diaphragm located in the CST A was removed (leaving the retaining hardware), thereby removing the possibility that the diaphragm could become over pressurized to the point where it could damage the CST and render it inoperable. Nitrogen sparging will continue to be used as the method to purge the tank of air. As a supplement to the nitrogen sparging, a pressure/vacuum relief vent was installed to prevent a free flow of air into the tank. This change also involved the revision of setpoints for 0-PS-77-428A and 428B (Tank A) and 0-PS-77-429A and 429B (Tank B). The manway cover was sealed to prevent excess nitrogen leakage to the environment thus reducing operating cost.	This modification required a revision to SAR Section 9.2.6.2 to delete reference to the rubber diaphragm. The affected component is not safety related. There was no impact on safety system functions. No TS margin of safety was reduced.
M01278	A drain line was added to the waste gas header to allow draining of condensation from the header which collects in the horizontal run of pipe just upstream of the waste gas compressor. The drain line was added between Check Valve 0-77-736 and PCV 0-77-789 shown on TVA Drawing 1, 2-47WB30-4, just downstream of the CVCS VCI and the BAE vent line connection to the header.	The implementation of the DCN did not adversely affect any equipment or plant system important to safety. The drain line is designed to appropriate codes to maintain position and pressure boundary retention. There was no increase in the probability of any accident previously evaluated in the SAR, and the waste gas management system operation is not significantly changed to such an extent that any new accident scenarios would be created. There was no reduction to the margin of safety defined in any TS basis.
M01312	As a result of a meeting held November 28, 1988, with NRC and TVA where the ERCW pumping station foundation and roadway cells were discussed, a limited exploratory program for the foundations was proposed by TVA to augment the available data used in the Bechtel evaluation. TVA drilled eight core holes in the ERCW pumping station foundation cells and six holes in the access roadway cells.	Drilling and re-routing did not affect the safety or operability of the plant. The reduction of weak zones of concrete by grouting did not reduce the calculated stresses in the sound concrete. The amount of concrete removed by the 3-inch diameter holes did not degrade the structural capacity of the mass concrete. Grout used to fill the cores had equal or greater strength than the concrete removed. This activity did not increase the probability for or consequences of accident or malfunction of equipment. The margin of safety as defined in the basis for any TS was not reduced.

CHANGES IN FACILITY - MODIFICATIONS

<u>ECN/DCN</u>	<u>DESCRIPTION SUMMARY</u>	<u>SAFETY ANALYSIS SUMMARY</u>
M01339	Leaking Main Steam Check Valve 1-VLV-1-623 was repaired using Furmanite.	This change did not affect TSs or involve a USQ. The modification did not change system functional operability. The valve still performs its design function.
M01346	The leaking Main Steam Check Valve 2-001-624 was repaired using Furmanite.	This change did not affect TSs or involve a USQ. The modification did not change system functional operability. The valve still performs its design function.
M01348	Leakage from Valve 2-VLV-1-818 was eliminated by Furmanite. The yoke/valve interface was peened so that the valve could be capped under the existing plant conditions of normal temperature and pressure. The manual valve operator (hand wheel) was removed and a threaded cap was installed on the threaded Kerotest valve bonnet. The threaded cap was seal welded.	This modification does not impact the ability of the system to perform its safety function. There was no increase in the probability for or consequences of an accident. No new accident possibilities were created. The margin of safety as defined in applicable TSs was not reduced.
M01349	During construction, CCS Test Valves 1-70-737 and 1-70-686A were installed in the reverse positions with respect to their locations on the design drawings. To document that the as-constructed condition is acceptable, Valve 1-70-737 (Mark No. 47W464-104) was upgraded from TVA Class C to TVA Class B, and the CCW flow diagram CCD No. 1-47W859-2 (SAR Figure 9.2.1-2) was revised to show the as-constructed positions and sizes of these valves.	This activity had no adverse impact on safety. These are test connection valves that are used for performing leak tests on a containment isolation valve. The size of these valves only affects the time required to perform the tests. The valves do not perform any active function required to mitigate accidents. There was no increase in the probability of occurrences or consequences of an accident. No new accident possibilities were created. The TS margin of safety was not reduced.
M01356	During the DBVP, several manual valves were identified that did not have unique identification numbers assigned. This modification assigned unique identification numbers to the subject valves using the format detailed in Engineering Requirement Specification ER-SQN-EEB-001. Identification tags were fabricated and installed and drawings were revised to reflect valve ID numbers.	This modification did not affect plant TSs or involve a USQ. There was no change in the functional operation of plant systems.
M01378	This DCN changed TVA design drawings and plant configuration by locking valves in their required design position. This DCN impacted 17 flow drawings and associated SAR figures as listed in the DCN.	There was no increase in the probability of an accident previously evaluated in the SAR. The systems affected by this activity perform their safety functions. All valves and documentation reflect the required design basis position. No accident scenario was changed by this activity. The locked closed CIVs serve to prevent an increase in offsite dose after an accident. No increased risk is placed upon equipment important to safety. This activity did not reduce any margin of safety as defined in the basis of any TS.
M01395	The change involved the use of furmanite to repair leaking Valve 2-VLV-3-892, main steam supply to AFW turbine check valve.	This modification did not affect plant TSs or involve a USQ. There was no change in the functional operation of plant systems.

CHANGES IN FACILITY - MODIFICATIONS

ECN/DCN	DESCRIPTION SUMMARY	SAFETY ANALYSIS SUMMARY
M01414	This DCN added a redundant fire protection water source to the D/G building. This 6-inch line into the building supplies one new fire hose rack located in the lube oil storage room.	The portion of the HPFP system that was changed serves no safety function. The addition of the fire hose station does not affect the capacity of the HPFP system. The core drilling and hanger installation necessary did not degrade the seismic qualification of the D/G building. This change had no direct impact on any safety function or safety-related system. TSs do list fire hose stations, and this new hose station necessitated the update of TS Table 3.7-5.
M01435	This DCN implemented Stages 2 and 3 of the upgrade of Unit 1 shield building vent stack effluent monitoring instrumentation. Actions taken included, but were not limited to, relocating the 1-RE-90-100 flow splitter on 1-L-398 to a location on the 1-1/2 inch sample inlet tubing, removing 1-FT-30-242 and 1-L-378, installing primary sample dual pump skid Panel 1-L-707 and associated isolation valves, and rerouting sample lines. Also, 1-FE-90-242 tubing was disconnected and 3/8-inch return tubing routed through MK124 was disconnected. These tube ends were capped. The existing Ekerline RM equipment was disconnected and removed. Sorrento RM equipment and Kurz flow monitoring equipment was installed. A Nim Bin unit was installed in the control building and 1-RM-90-455 was disconnected and removed from Panel 1-M-31. A blank plate was installed on the panel with a cut out to mount the grab sample timer, and the sample timer was installed.	This activity had no impact on safe shutdown of the plant, nor did it introduce any new radioactivity releases. The activity did not have any new failure modes. This activity had no impact on the performance of any system important to safety.
M01436	This DCN provided the design which upgraded the Unit 2 shield building vent stack effluent monitoring instrumentation. Implementation of Stage 1 installed all components at any time before Unit 2 Cycle 4 restart as constrained by TSs and SRs. This included, but was not limited to, VFE-90-4004A, B, C, and D, and their mounting assemblies (including guide cups), were installed; the existing primary sample line flow splitter was replaced with FE-90-452/flow splitter assembly; and flow splitter replacement required minor sense line tubing rework to the flow splitter. Eberline RM equipment was disconnected and removed. Sorrento RM equipment and Kurz flow monitoring equipment was installed.	This activity in no way affects the safe shutdown of the plant, nor did it introduce any new radioactivity releases. This modification had no new failure modes that will affect equipment or systems important to safety.
M01437	This modification installed a nonsafety-related temperature monitoring system in the east and west MSVVs.	This activity did not change the function, the control or the logic of the affected systems/components. The activity provides no controlling function to safety-related equipment. There was no increase in the probability for or consequences of an accident. There was no increase in the probability of equipment malfunction. No new accident possibilities were created. The margin of safety as defined in the basis of any TS was not reduced.

CHANGES IN FACILITY - MODIFICATIONS

ECN/DCN	DESCRIPTION SUMMARY	SAFETY ANALYSIS SUMMARY
M01451	This DCN involved performing a temporary leak sealing operation (Furmanite) on Unit 2 Valve 2-62-725. The purpose of this temporary change was the elimination of identified CVCS leakage (reactor coolant leakage) in the reactor building.	This process did not increase the probability of an accident. There was no increase in the consequences of an accident previously evaluated in the SAR. The required function of the valve was not impaired based on its primary safety function. The probability of a malfunction of equipment was not increased. This change did not affect safety nor did it impact or reduce the margin of safety for any TS. The Appendix R analysis was not affected.
M01501	DCN M01501 brought the S/G Pressure Loops 2-PT-1-2A, 2B, 9A, 9B, 26A, 27A, 27B, and 27B, Narrow Range Level Loops 2-LI-3-39, 55, 94, 97, 107, and 110, and Wide-Range Level Loops 3, 56, 98, and 111 (in conjunction with the Eagle 2 upgrade of the RPS isolation cabinets) into compliance with the guidelines specified in USNRC Regulatory Guide 1.97, Revision 2 for Category 1 requirements.	The systems affected by this modification are not affected to the extent that operational characteristics or compliance methods described in the SAR are affected. None of the TSs reviewed are affected by this modification. This modification was implemented within the constraints of the design requirements specified, and no new failure modes were introduced to systems and components affected by this modification.
M01537	This DCN covers the SIS CLA work that was part of the Unit 1 UHI system being permanently removed from service. DCN M01537 established higher and wider operating parameters for the CLA. This involved the adjustment of operating pressures, levels, water volumes, and setpoints of the CLAs to that required by the new 10 CFR 50 Appendix K analysis for ECCS without UHI.	This change did not alter the seismic Category I requirements for any components associated with the CLAs. The new setpoints for the CLAs ensure adequate core cooling is provided in the early stages of a LOCA considering UHI has been removed. There is no increase or expected change in the radiological consequences of any accident associated with these changes. The probability of system failure was not changed by this DCN. The margin of safety as defined in the basis for any TS was not reduced.
M01564	TVA design output documents were revised to tune the Unit 1 MFP speed control circuit. Westinghouse reviewed the FW control system setpoints on Unit 2 and recommended changes to certain setpoints.	Actual flow to the steam generators was unchanged by the tuning of the control system. The operability of the FW pumps was improved and the actual flow continued to be regulated by the FW bypass regulator valves at the low power portion of the delta P program. The operation of these valves was unchanged by the tuning of the feedpump speed controls. There was no increase in the probability of occurrence or consequences of an accident. The margin of safety as defined in the basis for any TS was not reduced.
M01582	The Unit 2 containment air mass temperature instrument loops were modified so that 18 associated thermocouple signals are processed by the Prodac P250 plant computer (System 301) rather than the Morgan Temperature Monitoring System (System 56). The P250 software was modified to monitor the 18 containment temperatures and was also modified to compute average upper and lower containment temperatures and lower containment air volume normalized to standard temperature.	There was no adverse impact on safety caused by this modification. This activity did not change the function, logic or control of the containment temperature loops. This modification resolved Human Engineering Deficiency 8138 that identified a problem with the operators being required to manually calculate upper and lower containment temperatures.

CHANGES IN FACILITY - MODIFICATIONS

ECN/DCN	DESCRIPTION SUMMARY	SAFETY ANALYSIS SUMMARY
M01645	This DCN involved the performance of a temporary leak sealing operation (Furmanite) on Unit 1 MSV 1-001-625. This is a 32-inch TVA Class B check valve located immediately downstream of MSIV 1-FCV-1-22. The packing gland that seals the valve shaft was Furmanited. A maximum of two holes per packing gland were drilled in the valve body and a 1/2-inch shutoff adaptor used to inject Furmanite materials into the valve packing area was installed. The adaptor remains permanently installed until the valve is repaired or replaced.	This change had no adverse impact on safety. Furmaniting the check valve shaft seal does not prevent the valve from performing its design function and does not degrade its seismic qualification. There are no TSs applicable to the operation of this check valve.
M01656	This DCN involved the performance of a temporary leak sealing operation (Furmanite) on Unit 1 MSV 1-001-624. This is a 32-inch TVA Class B check valve located immediately downstream of MSIV 1-FCV-1-11. The packing gland that seals the valve shaft was Furmanited. A maximum of two holes per packing gland were drilled in the valve body and a 1/2-inch shutoff adaptor used to inject Furmanite materials into the valve packing area was installed. The adaptor remains permanently installed until the valve is repaired or replaced.	This change had no adverse impact on safety. Furmaniting the check valve shaft seal does not prevent the valve from performing its design function and does not degrade its seismic qualification. There are no TSs applicable to the operation of this check valve.
M01781	This DCN was written to document qualification of 192 support calculations to the requirements of Design Criteria SQN-DC-V-24.2 and to update the analysis and support drawings as necessary. DCN M01781 was developed to complete the design work begun under ECN L6767 and the corrective action required by SCRSQNCB8619. Qualification of the design criteria resulted in the modification of ten supports.	There was no adverse impact on plant safety. This activity did not affect (directly or indirectly) or deviate from any information presented in the SAR. There was no impact on system operation, compliance to TS requirements, or on procedures outlined in the SAR.
M01823	Corrective action for CAQR SQP871724 revised the affected 47B601-43 series drawings to reflect the correct power train for the respective hydrogen analyzer system instruments. In addition, physical modifications involved the local retagging of these instruments in accordance with applicable TVA documentation, with the exception of indicators H2I-43-200 and H2I-43-210 located in the MCR. All other affected instruments are located in the auxiliary and reactor buildings.	These changes did not affect the original physical electrical separation/isolation. There was no physical effect on the reliability of the equipment, and there was no impact on the single failure criteria. This modification changed no SAR system or functional requirement and did not change SAR text, tables, graphs, or figures. There are no TS requirements for labels on the hydrogen monitoring system.
M01835	This DCN provided for new labeling of components located on Unit 1 and common control boards located in the main and auxiliary control rooms. This DCN provided the design and design changes to fabricate new nameplates to resolve labeling related to Human Engineering Deficiencies 6001, 6002, and 6003.	This modification did not affect component or system functions. There was no decrease to the margin of safety as defined in the basis for any TS.
M01855	A temporary leak sealing operation (Furmanite) was performed on Unit 2 MSV 2-001-623. This change repaired the valve by Furmaniting the packing gland that seals the valve shaft.	This repair was required to stop steam leakage and prevent a high temperature condition that could degrade the environmentally-qualified equipment in the MSIV vault. This change had no adverse impact on safety. This activity did not alter the control, logic or function of the MS system. Implementation of this modification did not reduce the margin of safety as defined in the basis for any TS.

CHANGES IN FACILITY - MODIFICATIONS

ECN/DCN	DESCRIPTION SUMMARY	SAFETY ANALYSIS SUMMARY
MO1866	This DCN involved the performance of a temporary leak sealing operation (Furmanite) on Unit 2 AFW flow element 2-FE-3-163. This change repaired the flow element by installing a clamp around the orifice flanges and Furmaniting the area between the clamp and the orifice plate.	This repair was required to stop steam leakage and prevent a high temperature condition, which could degrade the environmentally-qualified equipment in the MSIV vault. There were no adverse impact on safety. There are no TSs applicable to the operation of this flow element. Implementing the DCN did not reduce the margin of safety as defined in any TS basis.
MO1899	Leaking Globe Valve 1-VLV-3-336A was repaired using Furmanite. Pipe rupture device No. 95 was modified for access to the valve.	This change had no adverse impact on nuclear safety. The application of Furmanite is a temporary solution until the valve could be replaced during the next Unit 1 refueling outage. Reliability of the valve was not affected by the modification.
MO1901	Valves 2-VLV-1-828 and 830 were leaking through packing glands. The leaking valve packing glands were repaired using Furmanite. Furmanite procedures allowed the valves to be repaired while Unit 2 was in operation. Initial injection of Furmanite did not totally correct the problem, so the valves were reinjected.	There was no change in the functional operation of any plant system. The process is acceptable from a nuclear safety standpoint. There was no impact on the information in the SAR or on any TS margin of safety.
MO1954	This DCN involved the documentation and plant modifications to address S/G wet layup piping HELB. Auxiliary building general supply intake Temperature Switches 1-TS-30-103 and 103A and JB-2059 were relocated above 5-foot 9 inches, and all IE conduit fittings below this level were sealed with RTV.	This change did not adversely impact any design or functional requirements of any plant system. No method of TS compliance was impacted by this change. There was no increase in the probability of occurrence or consequences of an accident. The design change decreases the likelihood of a system/equipment failure by bringing the electrical design into compliance with 10 CFR 50.49 qualification requirements.
MO1955	This DCN involved documentation and plant modifications to address a S/G wet layup piping HELB. The auxiliary building general supply intake Temperature Switches 2-TS-30-104, 104A, and JB-2116 were relocated above 5 feet 9 inches and all IE conduit fittings below this level were sealed with RTV, in accordance with this DCN.	This change did not impact design or functional requirements of any plant system. This change indirectly impacted the SAR in that a previously unidentified HELB was introduced into the SQN pipe break and 10 CFR 50.49 design. No method of TS compliance was impacted by this change. The change did not increase the consequences of a malfunction of equipment. There is no potential for a new unanalyzed type of accident.
MO1978	This DCN involved physical modifications of supports, support deletions, and reconfiguration of supports for MS piping.	No TS change was needed to implement these modifications. Specifically, the margin of safety as defined in the basis for TS 3/4.7.9, "Snubbers," was not reduced. The new designs meet or exceed SAR commitments and do not deviate from any description in the SAR.
MO1979	This DCN involved physical modifications of supports, support deletions, and reconfiguration of supports for Unit 1 MS piping. These changes resulted from a piping reanalysis which was done to qualify the MS lines from the top of all four steam generators through the SCV to a flued head anchor on the valve room walls, and to the safety-relief valve headers. This DCN covered only those MS pipe supports located inside the east and west valve rooms of Unit 1.	No TS change was needed to implement these modifications. Specifically, the margin of safety as defined in the basis for TS 3/4.7.9, "Snubbers," was not reduced. The new design meets or exceeds SAR commitments and does not deviate from any description in the SAR. This activity did not involve USQ.

CHANGES IN FACILITY - MODIFICATIONS

<u>ECN/DCN</u>	<u>DESCRIPTION SUMMARY</u>	<u>SAFETY ANALYSIS SUMMARY</u>
M01988	This DCN involved the design and installation of communications equipment in the communications room located in the control building el 669.	Implementation of this modification impacted only the communication system and did not impact the control, logic or function of any safety-related system or component required to mitigate SAR Chapter 15 events.
M02064	MSIV bypass as-built piping did not agree with as-constructed piping drawing, analysis model or analysis isometric drawings. The installed configuration was qualified by rigorous analysis; no field work was required. This was a "documentation only" DCN.	This was a documentation only change. There was no adverse impact on any safety-related function or feature. There was no impact on the SAR or on plant TSs.
M02068	This DCN closed TACF 0-87-033-14 by installing a set of three permanent bag filters upstream of and in series with the high-crud filter to reduce the frequent clogging of the high-crud filter.	The new bag filters do not change the function of the high-crud filters as described in the SAR. This change did not affect the parameters such as design pressure/temperature of any of the affected systems. The margin of safety as defined in the basis of any TS was not reduced.
M02107	Valve 1-VLV-1-829 (Unit 1 west valve room) was leaking through the packing gland. Leak sealing was performed using Furmanite.	This modification did not affect (directly or indirectly) any information presented in the SAR or deviate from the description given in the SAR. The application of a leak sealant is a temporary solution until the valve can be repaired or replaced during the next refueling outage. There was no affect on operability or ability to perform the valve's design function. There was no impact on any TS margin of safety.
M02109	Valve 2-VLV-3-508 (16-inch check valve) was leaking into the valve vault. The valve was temporarily repaired using Furmanite.	This did not change the functional operation of any plant system. The application of a leak sealant is a temporary solution until the valve can be repaired or replaced during an outage. Furmaniting the valve did not prevent the valve from performing its design function. Reliability of the valve was not affected by the Furmanite. The freshwater check valves are not addressed in TSs.
M02140	This DCN involved the modification of the power supply for the telecommunications equipment in the control building communications room and the addition of electrical service to the Telecommunications Node Building.	This change was part of the overall upgrade to the telephone system. The affected systems and components are not safety related; therefore, there was no adverse impact on nuclear safety. There was no impact on the TSs. The SAR was impacted because system design or functional requirements and test table, graphs or figures were changed. The activity did not alter the function of the telephone system and did not impact the control logic, or function of any nuclear safety-related systems, structures, or components.
M02178	Based on CRDR recommendations, the lighting in the MCR was changed. This change added state-of-the-art task lighting to MCR Panels 1-M-7 through 1-M-11. Changes made under this DCN improved lighting from a human engineering standpoint and serve to enhance MCR operator responses and reaction.	All work was performed in accordance with applicable procedures. All work performed around or above the control panels in the MCR was coordinated with Operations. There was no impact on any components in the control room other than lighting. There was no adverse impact on safety. Plant operations and other system functions as described in the Sequoyah TSs were not affected.

CHANGES IN FACILITY - MODIFICATIONS

ECN/DCN	DESCRIPTION SUMMARY	SAFETY AND T'S SUMMARY
M02192	This modification installed a double acting gripper (air cylinder modification) in the SQM Unit 1 manipulator crane. This change provided compressed air for both the engage and the disengage gripper actuation functions.	The function of the manipulator crane was not altered by this change. The dual acting air cylinder modification improved the operability, productivity, and reliability of the crane. The manipulator crane pneumatics for the gripper are not detailed in SAR text or figures. The load capacity for the crane as delineated in TS 3.4.9.6 was not affected by this modification.
M02225	The No. 3 HDT LCV-6-106A and B have had numerous incidents of broken plug stems and/or pins. The valves were upgraded to reduce frequent operational and maintenance outages. This basically involved changes to valve components.	This modification did not affect any SAR figures or text, nor did it affect any T's. There was no impact on nuclear safety. The function of the LCVs was not changed. This change was acceptable from a nuclear safety standpoint.
M02251	This package modified the existing laundry area (protective clothing decontamination facility) in the service building to have a place to set up computer terminals to allow for installation of a controlled access point, RCA Access Control Station, to provide Health Physics better control of personnel entering the RCA. Laundry machines and associated support systems were removed. Duct work to the washers and dryers has been blocked, the equipment drains were capped or plugged at the floor. The service water to the laundry area was valved out at the washing machine cutoff valves. The power and control wiring were disconnected to the laundry dryers and washing machines at the disconnect switch. Then, computer terminals and associated support systems were installed.	This modification did require changes in the SAR to remove references to the laundry waste water system. And an editorial change to the TS was required in Table 4.11-1 which referred to the laundry tanks. The removal of the laundry facility and the addition of computer terminals and associated support equipment created no new failure modes. These changes did not directly or indirectly affect any existing SAR safety function. There was no degradation of any safety-related system or component. There was no reduction in any TS margin of safety.
M02468	Physical modifications were required on Unit 1 pipe supports in the ice condenser system, AFW, CVCS, ERCM and CCS. These changes included adding or deleting some supports and modifying existing supports.	The support additions and modifications were performed to bring the piping system and supports into compliance with the SAR and Design Criteria requirements. Equipment reliability was unaffected. The new designs meet or exceed SAR commitments and do not deviate from any SAR descriptions. No safety-related system covered by the T's was adversely affected by this DCN. The margin of safety as described in the basis for TS 3/4.7.9 (Snubbers) was not reduced.
M02541	This modification involved upgrading the packing arrangement on Unit 1 MSV 1-001-623, 624, 625, and 626 based on EPRI recommended design. This upgrade replaced the existing packing rings with an optimized five ring set. To help maintain a more uniform packing pressure throughout the service life of the packing, a live-loading system was utilized. Also, one of the counterweight arms for Check Valve 1-001-625 was trimmed as part of this change to avoid a structural interference. Minor differences between the as-built and as-designed counterweight arms on 1-001-624 and 625 were reconciled.	Equipment reliability was not affected by these changes. Evaluation determined that this modification has no impact on the ability of the valve to close or to maintain its integrity upon impact. There are no TS acceptance limits associated with this change and no impact on margin of safety.

CHANGES IN FACILITY - MODIFICATIONS

ECN/DCN	DESCRIPTION SUMMARY	SAFETY ANALYSIS SUMMARY
M02965	Fire protection piping was replaced for those portions of the auxiliary building and control building which were hydraulically inadequate or were less than the 1-inch minimum diameter size required by NFPA 13 for ferrous sprinkler supply piping. Hydraulic calculations were also performed to verify the adequacy of fire protection piping in the auxiliary building and control building.	This activity did not increase the probability for or consequences of an accident. There was no increase in the consequences of a malfunction of equipment important to safety. The activity did not reduce the TS margin of safety.
M03073	The manhole covers on D/G 7-day fuel oil tanks were modified to provide a method of sampling without removing the manhole covers. This involved cutting a hole in the cover and welding a 4-inch Schedule 40 pipe. The pipe is threaded on top to allow the use of a threaded cap to seal the tank. A 3/4-inch heavy nut was welded on top of the cap to provide for easy removal and installation of the cap.	This modification enhances the sampling process and did not adversely affect the ability to meet TS requirements. There was no change to any system design or functional requirements.
M03281	This change involved upgrading of Unit 1 MSVs 1-001-623, 624, 625, and 626. This included such actions as building up and resurfacing worn parts with harder materials to protect against abnormal wear; adding set screws to the disc arms to prevent shaft travel; and installing a pin through the disc stud and nut to prevent the disc nut from disengaging.	The system design and functional requirements were not affected by this upgrade. The valve function to close against reverse flow was not affected. The SAR does not describe the disc stud/nut connection, shaft/tee arm, nor the materials of construction for these valves.
M03707	Based on Control Room Design Review recommendations, the lighting in the MCR was changed. A transfer switch was installed that allows the transfer of all standby lighting load above the MCR suspended ceiling from one lighting cabinet to the other (LS2 and LS4). The feeder for standby lighting above the suspended ceiling was changed to a dedicated circuit using an existing spare circuit in both LS2 and LS4. The 20-amp spare breakers were replaced with 30 amp circuit breakers in order to carry the entire standby lighting load in the MCR. The wiring from LS2 and LS4 was changed to a larger size wire. A subpanel containing two 20-amp circuit breakers was added as extra protection in case of a fault in the standby lighting load. This modification also rewired 32 lighting fixtures (16 for Unit 1 and 16 for Unit 2) located above the suspended ceiling.	There were no effects on any components in the MCR other than lighting. Plant operations and other system functions as described in TSs were not affected. This modification had no safety analysis impact.
M03960	A bypass line was installed around 1-PCV-63-58, a nitrogen pressure regulator which supplies the cover gas to the CLAs.	There were no credible failure modes associated with this DCN. There is no interaction with safety-related equipment or components which could impair or hinder their required function(s). The change did not impact the CLA operation. There was no impact on any TS margin of safety.

CHANGES IN FACILITY - MODIFICATIONS

ECH/DCN	DESCRIPTION SUMMARY	SAFETY ANALYSIS SUMMARY
M040F ²	The Unit 2 MSV 2-001-623, 624, 625, and 626 were upgraded. Worn parts were built up to their original dimensions and resurfaced with harder materials to protect against abnormal wear. Additionally, the washers and tee arm were trimmed to provide for proper disc seating if needed. Set screws were added securing shaft to disc arm to prevent shaft travel. A pin was installed through the disc stud and nut to prevent the disc nut from disengaging. The packing arrangement was upgraded by replacing the existing packing rings with an optimized five ring set. The following changes were also made: (1) the transition radius on the disc stud where the tee arm meets the disc was increased. (2) two disc stops were added to the valve body so that the disc backstop now consists of three stops; and (3) acoustic monitors and visual indicators were installed to monitor the check valves.	The reliability of the valve was not adversely affected by the material upgrade, packing upgrade, disc stud upgrade, addition of set screws and pins, addition of disc stops, or by the live-loading of the packing. These modifications will decrease maintenance requirements for the valves and reduce the necessity for online leak sealing. The upgrade did not change the performance of the valves since no change was made to the flow characteristics of the valves. These valves are not specifically addressed within the TSs; therefore, no TS change was required.
M04073	This change involved performing a temporary leak sealing operation (Furmanite) on Unit 2 SGBD Valves 2-VLV-1-829 and 831.	This change had no adverse impact on safety. Furmaniting the leaking valve does not prevent the valve from performing its function. These valves are not addressed in TS 3/4.6.3. No margin of safety was reduced.
M04113	This DCN was issued to provide detailed information to allow modifications to Unit 1 cable tray supports. Mark Nos. 3c, 15d and 59. These modifications were necessary to bring the affected cable tray supports into long-term compliance with Design Criteria and the SAR.	No safety-related system covered by the TSs was adversely affected by this DCN. The new designs meet or exceed SAR commitments and do not deviate from any description in the SAR. There was no change in any method of ensuring TS compliance.
M04162	This DCN was issued to provide detailed information to allow modifications to cable tray supports Mark Nos. 3E, 4E, and 5. The modifications added members to the existing support structures to bring the cable tray supports into compliance with Design Criteria SQN-DC-V-1.3.4 and Section 3.10 of the SAR.	No safety-related system covered by TS was adversely affected by this modification. The new design met or exceeded SAR commitments and did not deviate from any description in the SAR.
M04507	This DCN involved changes to the drains from the Unit 1 MS dump system. The change involved adding design conditions (pressure and temperature) to the drawings. Also, some 2-inch pipe flanges were upgraded to a higher pressure rating.	System function was not affected by adding design conditions to the drawing, upgrading pipe flanges, or documenting the as-installed configuration. These changes only served to restore the drain system into compliance with the code of record for this system. SAR Figures 10.3.2-1, 10.4.2-1, and 10.4.7-1 were updated.
M04584	This DCN was issued to provide detailed information to allow modifications to Unit 2 cable tray Mark Nos. 1, 2, and 4A. The modifications required that additional members be added to the existing support structures. These modifications were required to bring the cable tray supports into long-term compliance with Design Criteria and the SAR.	No safety-related system covered by the TSs was adversely affected by this DCN. The new designs meet or exceed SAR commitments and do not deviate from any SAR description. The TS margin of safety was not reduced.

CHANGES IN FACILITY - MODIFICATIONS

ECN/DCN	DESCRIPTION SUMMARY	SAFETY ANALYSIS SUMMARY
M04664	One-inch full bore gate valves were installed into the 8-inch Schedule 40 stainless steel line directly downstream of Valve 1-FCV-63-8 and one on the horizontal run of 8-inch piping directly below FCV-72-40.	SAR Figure 6.3.2-1 required a change to show the addition of the 1-inch gate valve directly below FCV-63-8 and of the 1-inch gate valve in the 8-inch horizontal line below FCV-72-40. This modification did not increase the probability for or consequences of an accident. There was no increase in the probability of occurrence of a malfunction of equipment important to safety. TS 3/4.5.2 was not affected by this activity nor was any associated TS basis.
M04667	This modification installed valves, piping, and a vendor skid to inject morpholine instead of ammonia downstream of the condensate demineralizers in Unit 1.	Section 3/4.4.7 of the TS concerning the chemistry of the RCS was reviewed, and no changes to this section were required. Appendix B of SQM TSs for Unit 1 was not altered by this change. SAR Sections 5.5.2.3.3, 10.3.5.3 and Figure 10.3.5-1 required revision to allow the use of either morpholine or ammonia for pH control of the secondary side. The use of morpholine and boric acid in the secondary system has been evaluated. The use of morpholine and/or boric acid is consistent with the intent of the Westinghouse Secondary Water Chemistry Guidelines, 1985. This change did not adversely affect the safe operation of the plant and did not represent a potential USQ as defined in 10 CFR 50.59 criteria.
M05282	This DCN was issued to provide detailed information to allow modifications to cable tray supports Mark No. 01P, 7, 8, 21e and 8J. The modifications to these cable tray supports added members to the existing support structures, and anchor bolts were replaced on existing baseplates, to bring the cable tray supports into long-term compliance with Design Criteria SQN-DE-V-1.3.4 and Section 3.10 of the SAR.	No safety-related system covered by TSs was adversely affected by this modification. The modification did not deviate from any description in the SAR and meets or exceeds SAR commitments.
M05420	This DCN fulfilled the commitment for Unit 1 to install check valves in the RHR pump discharge lines downstream of the miniflow lines as the solution to the problem of deadheading of the RHR pumps. Also, as part of this modification, a new vent valve was added to the miniflow piping on each train to allow venting of the RHR heat exchanger when draining.	SAR revisions were required to add the new valves to Section XI testing and to add the description of the valves to the SAR. There was no increase in the probability of occurrence or consequence of an accident. No new accident possibilities were created. The margin of safety was not reduced.
M05612	This DCN was issued to provide detailed information to allow modifications to cable tray supports Mark No. 1B, 12, and 21e. The modifications to these cable tray supports added members to the existing support structures to bring the cable tray supports into long-term compliance with Design Criteria SQN-DC-V-1.3.4 and Section 3.10 of the SAR.	No safety-related system covered by TSs was adversely affected by this modification. The modification did not deviate from any description in the SAR and meets or exceeds SAR commitments.

CHANGES IN FACILITY - MODIFICATIONS

ECN/DCN	DESCRIPTION SUMMARY	SAFETY ANALYSIS SUMMARY
M05639	The straightening vanes upstream of the Unit 2 MFW pump discharge flow elements (2-FE-3-70 and 84) were removed, and the holes in the pipe that were used for holding the vanes in place were plugged.	The location of the straightening vanes were located in the turbine building, a non-safety structure. The change increases the reliability of the feedwater system and flow elements 2-FE-3-70 and 2-FE-3-84 by eliminating a failure mode. If necessary, the flow elements were recalibrated after the straightening vanes were removed. This change did not affect the operating characteristics of any system from that described in the SAR, and there was no impact on TS compliance. The margin of safety as defined in the basis for any TS was not reduced.
M05862	This DCN is the change control document that controlled the installation of a new power source for specific Unit 1 Appendix R required instrument loops. These instruments are required for a fire in the control building, and the new power source is outside the control building.	This modification was performed to ensure compliance with TS. SAR Figure 8.3.1-32 and Tables 8.1-14 and 8.1-18 were revised. There was no increase in the probability of occurrence or consequences of an accident or equipment malfunction. No new accident or equipment malfunction possibilities were created. The TS margin of safety was not reduced.
M05953	This modification replaced a 1-3/8 inch diameter bolt/stud in the manway cover flange to the high-pressure MSR on Unit 2 with a 1-1/2 inch diameter bolt/stud.	There was no impact on TSs. The change did not directly or indirectly affect any information presented in the SAR or deviate from any SAR description. System design or functional requirements were not changed by the bolt/stud size change. This change was acceptable from a nuclear safety standpoint.
M06005	This modification installed valves, piping, and a vendor skid to inject morpholine instead of ammonia downstream of the condensate demineralizers in Unit 2.	Section 3/4.4.7 of the TS concerning the chemistry of the RCS was reviewed, and no changes to this section were required. Appendix B of Sequoyah TSs for Unit 2 was not altered by this change. SAR Sections 5.5-2.3.3, 10.3.5.3 and Figure 10.3.5-1 required revision to allow the use of either morpholine or ammonia for pH control of the secondary side. The use of morpholine and boric acid in the secondary system has been evaluated. The use of morpholine and/or boric acid is consistent with the intent of the Westinghouse Secondary Water Chemistry Guidelines, 1985. This change did not adversely affect the safe operation of the plant and did not represent a potential USQ as defined in 10 CFR 50.59 criteria.
M06023	The HVAC supply duct serving the RCS pressurizer enclosure for Unit 1 was modified by installing an 8-inch branch duct with balance damper off of the existing 26-inch supply duct to provide cooling near Valve A.	The overall design air flow for the pressurizer enclosure did not change, only distributed differently. This was done in an attempt to improve cooling around Valve A (which has experienced more leaks than B or C) to reduce valve body temperature and hence operability. SAR Section 9.4, Figure 7-1 was changed to show the additional cooling outlet and damper. There was no adverse impact or any TS margin of safety.

CHANGES IN FACILITY - MODIFICATIONS

ECN/DCN	DESCRIPTION SUMMARY	SAFETY ANALYSIS SUMMARY
M06041	Three fire protection sprinkler heads (with associated piping, fittings, and hangers) were added in the Unit 2 mechanical equipment room, el 749.0-A9, in the auxiliary building. To accomplish this, an existing branch containing three heads was resized and extended to add three new heads.	The addition of these three sprinkler heads did not impact the ability of the plant or plant staff to perform required functions. These three additional sprinkler heads provides a higher level of cooling and fire suppression capability than actually required. SAR Figure 9.5.1-6, 47WB50-6, required revision to reflect the sprinkler addition as did other appropriate drawings. There was no reduction in any margin of safety.
M06043	Three fire protection sprinkler heads, with associated piping, fittings, and hangers, were added in the Unit 1 mechanical equipment room, el 749.0-A8, in the auxiliary building. One sprinkler is supplied by a short 4'9" run of new pipe, and the other two sprinklers are in an 8' 11" run of new pipe.	The addition of the piping, fittings, heads, and hangers had no direct impact on the function and operation of any safety-related systems, structures, or components. The modification enhances the capabilities of the SQN Fire Protection System. There was no reduction in any TS margin of safety.
M06080	This modification, performed in 0-L-4, corrected wiring errors in the 6.9kV Shutdown Board 1B-B and 2B-B auxiliary control room ammeter indicator circuit.	This modification did not introduce any new hardware or alter any existing operating procedural requirements. The equipment involved performs exactly as the original design intended. Equipment reliability is enhanced due to the return to a permanent nameplate configuration which should be less prone to reading or interpretation errors. These indicators are Non-IE, Non-Q-List, Non-TS, and Non-IS compliance.
M06116	Level transmitters 1-LT-77-125, 126, 410, and 411 were replaced with Rosemount Model 1153 Series D transmitters and Model 1159 remote diaphragm seals. Also, 1-LT-77-125, 126 reference leg and standpipe were vented to the existing 6-inch diameter vent, and 1-LT-77-410, 411 reference leg and standpipe were vented to existing 2-inch diameter vent which extends to 15.22 feet above the raceway floor.	This modification replaced obsolete level transmitters with new units. It was a like-for-like replacement. The involved equipment was non-Class IE, non-Appendix R, and nonsafety related. The entire modification complied to Seismic Category I(L)B requirements. There was no increase in the probability of occurrence or consequences of an accident or malfunction of equipment. The margin of safety as defined in the basis of any TS was not reduced.
M06118	This modification eliminated the electrohydraulic fluid level low turbine trip switch (1-LS-47-7B/A) and electrohydraulic fluid pressure low turbine trip switch (1-PS-47-20) from the turbine trip circuits shown in figure 10.2.2-1. MCR alarms remain active and SOIs require that specific actions be taken by the operator to resolve the alarm condition.	This change is acceptable from a nuclear safety standpoint. This modification did not change any information contained in the SAR text; however, SAR figures required revision. No procedures or instructions were created or revised that differ from the SAR or TSs, and no conflicts were created with respect to those documents. There was no increase in the probability of occurrence or consequence of an accident. The TS margin of safety was not reduced.
M06133	This DCN revised Flow Diagram 47W866-4 to show fire dampers XFD-31A-227, 228, 231, and 232 as normally closed and added a note stating that the fire barrier function of these dampers is ensured during normal operation (since they will be normally closed) and that they are required to be opened during flood mode operation. Additionally, this DCN allowed permanent removal of the turning vanes in the duct immediately in front of the fire dampers on the control building side to facilitate inspection of the fire dampers through access doors in the duct.	Implementation of this change did not impact any system requirement or functional requirement described in the SAR. This change did not impact TS compliance. No TS margin of safety was reduced.

CHANGES IN FACILITY - MODIFICATIONS

ECN/DCN	DESCRIPTION SUMMARY	SAFETY ANALYSIS SUMMARY
M06173	This DCN was issued to replace 10 level switches mounted on the Unit 1 drain pots that are located on the MS piping. Ten MS traps were replaced/modified along with discharge piping/components from the drain pots to the condenser.	There is no requirement in plant TSs for the MS traps. This modification did affect the system description of the MS supply system in that some of the components of the MS traps are stainless steel and this information must be added to the SAR. The functional requirements for the MS traps did not change. The system functions exactly as before but with increased reliability. The margin of safety as described in the basis for any TS was not reduced.
M06185	The recirculation flow rate for each MDAFWP 1A-A and 1B-B was increased from 25 to 130 gpm by upsizing the existing recirculation orifices from 25 to 30 gpm and installing a 2-inch, 135 gpm recirculation line parallel to the existing recirculation line.	There was no TS impact. The modification did not change the system design or functional requirements as presented in the SAR. There was no increase in the probability of occurrence or consequences of an accident previously evaluated in the SAR. No new accident possibilities were created. The margin of safety was not reduced.
M06194	DCN M06194A removed the nuisance alarms determined to be from abandoned equipment from the plant annunciator system. The plant annunciator is made up of nonsafety-related display alarms in the MCR.	The operability and reliability of the equipment from which the alarms were removed is unchanged by this modification. The change was designed such that it did not change or introduce any new failure modes. The alarms removed have been determined to be of no useful purpose, and the lack of the alarms poses no hazard to the remainder of the system. There was no increase in the probability for or consequences of an accident. These alarms and their associated equipment are not required for meeting TSs, and the margin of safety as defined in the basis for any TS was not reduced.
M06203	This modification applied to Unit 1 and common and was designed to eliminate those nuisance alarms that require "interlocks" (or were consequently deleted) in order to accomplish the desired results necessary to compliment the development of the "black board" concept. The modification involved the installation of non-IE, nonsafety-related interlocks that do not affect safety-related functions.	SQN TSs do not specifically address annunciators and their associated alarm circuitry. There was no increase in the probability for or consequences of an accident. No new accident possibilities were created. The margin of safety as defined in the basis for any TS was not reduced.
M06205	To correct a problem of CCS tubing being used as a step by personnel in the areas and to prevent damage to other RCPs, a protective cover was designed for all four pumps in both units. This modification installed protective covers for Unit 1, over the CCS tubing, at the point where the tubing passes through the RCPs' motor support (at the point where the tubing is used as a step).	The addition of the protective cover over the CCS tubing to protect it from personnel stepping on it did not have an adverse impact on safety. This change did not affect the operation or design requirements of the RCPs or the RCS; therefore, there is no potential for impacting TSs. The activity did not affect any information presented in the SAR or deviate from the description given in the SAR.
M06219	This modification reconfigured the annunciator circuitry associated with RM-90-1-101, 102, 103 so as to disable the acknowledgement and resetting of the annunciator high radiation alarms for each RM until the associated seal-in relays are reset. An additional relay coil was placed in series with the existing seal-in relay coils for RM-90-102 (Train A) and RM-90-103 (Train B). The annunciator system input wiring was moved to the normally open contacts of the additional relays for RM-90-102 and RM-90-103 and to a spare normally open contact on the seal-in relay on RM-90-101.	The rewiring of the annunciator input cables and the addition of two relays did not impact the TSs. The modification was a human factors engineering enhancement. The TS margin of safety was not degraded. The modification did not affect any information presented in the SAR, nor did it deviate from the description given in the SAR.

CHANGES IN FACILITY - MODIFICATIONS

ECN/DCN	DESCRIPTION SUMMARY	SAFETY ANALYSIS SUMMARY
M06227	This DCN removed interferences to allow installation of component cooling Heat Exchangers 1A1/1A2 and associated piping in later DCNs. Conduit Hanger 47A056-DV0034-001 was made modified to remove the side brace. ERCW hanger 47B450-568-22 had steel members added on it and then other steel members removed. Chilled water piping was rerouted and resupported in the vicinity of the open stairs on el 714. Chilled water piping serving AHU 2A on el 714 was rerouted.	There were no changes to any information presented in the SAR. No changes to system design or functional requirements were involved with this modification. There was no impact on TSs.
M06259	Pressure indicators were added to both sides of the station control and service air and the auxiliary control air afterfilters.	The addition of the pressure indicators did not impact any control function. They are strictly for local monitoring of the differential pressure across the afterfilters. The indicators do not perform any nuclear safety functions.
M06265	This modification affected various instruments in the MCR. These changes included such actions as: Chessell recorders in Panels 1-M-3, 1-M-4, and 1-M-6 were replaced with Yokogawa recorders; two existing Westinghouse VX252 indicators on Panel 1-M-1 were replaced with digital indicators for 1-EI-57-39 and 66; 129 various recorder and indicator scales were replaced; two square root extractors were installed to provide linear signal to their respective indicators.	All equipment added, modified, or replaced was done so on such a manner that all loop functions and qualifications were maintained. The changes performed by this modification to the various components do not change the functional or logical operations of any of the affected systems. SAR Figures 5.1-6, 6.3.2-3 and 7.1.4-1 were impacted by the addition of new instruments. There was no increase in the probability for or consequences of an accident or malfunction of equipment important to safety. No new accident possibilities were created. The TS margin of safety was not reduced.
M06277	The existing fire-rated walls above Door C23 on el 685 and above Door C53 on el 732 of the control building were modified to make these fire walls meet their initial design requirements.	The modification improved the fire resistance of the walls such that they meet the existing fire protection requirements. A fire watch was posted to provide required fire protection up to the time this modification was completed. The walls meet all seismic design criteria requirements. This modification did not conflict with or require a change in the TS or the SAR. There was no decrease in nuclear safety, and there was no safety analysis impact.
M06279	As a result of problems with spurious signals on 0-RM-90-125, an evaluation was made of other RMs that may experience spurious signals due to EMI. This evaluation identified all RMs which if affected by EMI could initiate an ESF actuation. These RMs were wrapped with EMI tape to shield cables from stray EMI fields. A note was added to the wiring diagrams to wrap the exposed signal cables from the point where the cable exits the field conduit to the radiation detector termination. This DCN covered Unit 2.	This modification did not impact TS operability and the reliability of the RMs was enhanced. This modification did not affect equipment failure modes or increase the probability of equipment failure. Nuclear safety was enhanced by reducing the potential for spurious ESF actuations.
M06280	As a result of problems with spurious signals on 0-RM-90-125, an evaluation was made of other RMs that may experience spurious signals due to EMI. This evaluation identified all RMs which if affected by EMI could initiate an ESF actuation. These RMs were wrapped with EMI tape to shield cables from stray EMI fields. A note was added to the wiring diagrams to wrap the exposed signal cables from the point where the cable exits the field conduit to the radiation detector termination. This DCN covered Unit 1 and common.	This modification did not impact TS operability and the reliability of the RMs was enhanced. This modification did not affect equipment failure modes or increase the probability of equipment failure. Nuclear safety was enhanced by reducing the potential for spurious ESF actuations.

CHANGES IN FACILITY - MODIFICATIONS

ECN/DCN	DESCRIPTION SUMMARY	SAFETY ANALYSIS SUMMARY
M06292	The CCP 1B in the CVCS was overhauled (at power operation) under LCO 3.5.2 because of high vibration and low flow conditions indicative of rotating element damage. This SA/SE evaluated the electro-mechanical effects of the installation of a stock higher head rotating element supplied by the original pump manufacturer as an equivalent (equal or better) replacement for the original lower-head rotating element. The new higher-head rotating element fit the existing pump casing without modification. An orifice was added to the discharge of CCP 1B to balance it with existing CCP 1A low-head rotating element. Piping supports were modified to allow installation of the orifice.	The probability of an accident previously evaluated in the SAR was not increased by this modification. There was no increase in the probability of occurrence of a malfunction of equipment important to safety beyond that analyzed. The margin of safety as defined in the basis for any TS was not reduced.
M06298	This modification to the Unit 1 ice condenser refrigeration system installed 3-inch flex stainless steel hose from the expansion tank vent to a vertical drain line located in the crane wall and approximately at azimuth 311° and el 775' ± 2'. To facilitate the tie-in in the metal flex hose to the existing 2-inch vertical drain line, a temporary rubber or equivalent flex hose was installed as a bypass drain line.	This activity required the revision of SAR Figure 6.5.6-2. This modification did not differ with or affect system operation characteristics from that described in the SAR text or figures, nor did it differ with or affect compliance with TSs. There was no increase in the probability for or consequences of an accident. The TS margin of safety was not reduced.
M06301	New locksets were installed in three MCR doors (C37, C53, and C60). A note was added to Drawing Series 46W454 (non-SAR figures) to allow the use of Overly brand latch in any Russwin 5000 series lockset.	The Overly locksets have been UL qualified for use on fire-rated doors. The Overly latch bolts installed in Russwin locksets maintains the doors' UL fire rating. The new locksets and latches meet or exceed the requirements of the old items. The reliability and operability of the doors did not change. The SAR was not affected by this modification.
M06331	This DCN installed shielding around the Unit 1 reactor head to reduce collective radiation doses during refueling activities. I-beam trolley assemblies were permanently installed on each of the three reactor-head-lift-rig columns. The trolley assemblies support removable lead shields that will be installed during refueling activities and removed during plant operation.	The installation of removable shielding to the reactor head lifting assembly significantly reduces the radiation exposure to personnel performing refuel activities. This modification was deemed acceptable from a seismic and dead-weight aspect with no decrease to nuclear safety. There is no threat to safety-related equipment, and there is no TS impact.
M06340	This DCN implements the corrective action of CAQR SQP890583 that identified that the accuracy calculation for instrument loops described in this DCN did not consider temperature-induced differences for the pressure gradients inside and outside containment. DCN, M06340 provided for: (1) minor circuit rewiring with the replacing of instruments within the control loop to improve loop accuracy, and (2) routing the sense line for the high-pressure side of the transmitter to the top of the reactor building before penetrating the shield building roof. Additionally, a portion of the existing high-pressure sense lines to these PdTs was removed and the existing sense lines were capped where the lines tee into the sense lines for PdT-30-148, 149 and PdS-30-148 and 149.	This DCN corrects the deficiency documented in CAQR SQP890583, thus allowing the system to operate as required via properly scaled instrumentation. These changes put the system back into its originally analyzed configuration. Consequently, there was no negative impact on safety. There was no impact on the basis of any TS sections. This DCN corrects the CAQR condition to ensure that the SAR description is satisfied. The SAR text was not impacted.

CHANGES IN FACILITY - MODIFICATIONS

ECN/DCN

DESCRIPTION SUMMARY

SAFETY ANALYSIS SUMMARY

M06355	This DCN addressed various modifications to the Unit low pressure feedwater heater replacement project for interface items and implementing the removal and rerouting of equipment and e1 706 in the turbine building.	The probability of accidents previously evaluated in the SAR was not increased by these changes. This activity affected only nonsafety-related and nonseismic equipment in the turbine building that is not included in any accident evaluation in the SAR. There was no impact on TSs. There were no TS bases affected by these changes. The margin of safety was not reduced.
M06356	This DCN made TACF 0-88-01-12 permanent. The TACF modified the SQN auxiliary boiler control system to ease the transition from manual to auto operation during start-up of the boiler and to allow the fuel/air ratio to be controlled in parallel. This consisted of disabling the fuel and fuel air flow from the fuel valve control loop. Combustion condition controls were enhanced by relocating the air/oil ratio relay controller to the input of the forced draft damper manual/auto station.	System function was not adversely affected by this modification. These modifications made the auxiliary boiler system more reliable as demonstrated through a special test. The nonsafety controllers have no impact on the safety-related auxiliary boiler system equipment or any other safety-related equipment.
M06368	This modification removed the rotameter of 1-FIT-62-142 from the primary water supply line to the boric acid blender and replaced it with a pipe segment containing an orifice plate, 1-FE-62-142. A suitable new replacement 1-FIT-62-142 transmitter and power supply 1-PX-62-142 were installed in Panel 1-L-538. The instrument loop was modified by replacement of existing test point resistor, dropping resistor, and installation of a new I/I converter module, 1-FM-62-142B, in Rack 1-R-15.	Instrument Loop 1-F-62-142 does not perform any safety-related function, receives nondivisional power, and is not TS equipment. Although the loop is listed as a TS compliance loop in TI-54, "Compliance Instruments," an evaluation determined that the loop is not used in the TI-7, "Measurement of the At-Power Moderator Temperature Coefficient," and is not required for TS Compliance determination. This modification replaced the flow indicating transmitter and alters other instruments internal to the control system, however, functionally the control system performs as before. There was no increase in the probability for or consequences of an accident. No new accident possibilities were created. The margin of safety was not reduced.
M06408	This permanent modification replaced TACF 1-90-45-241 and added relay circuitry to provide a 10 second time delay on the turbine trip function of the gas-operated relay after the deenergizing of the cooling oil pumps on the Unit 1 main transformers A, B, C, SP. The 10 second time delay feature of this modification provides an adequate margin to prevent inadvertent turbine trips.	There was no impact on nuclear safety. There was no impact on TSs. The change did not impact or change the text, tables, graphs and figures as described in the SAR.
M06419	This DCN replaced the CCP 1A-A casing. This work was implemented during Unit 1 Cycle 5 refueling outage.	This change did not affect the plant's ability to comply with any of the applicable TSs that were reviewed. The change did not change or affect the pumps normal or safety-related function. The replacement of the casing and associated parts improves the overall reliability of these pumps. There was no increase in the probability of occurrence or consequences of an accident. No new accident possibilities were created. The margin of safety was not reduced.

CHANGES IN FACILITY - MODIFICATIONS

ECN/DCN	DESCRIPTION SUMMARY	SAFETY ANALYSIS SUMMARY
M06421	This DCN implemented Unit 1 TSC computer system upgrades to increase reliability/availability. Actions taken included replacing the PDP 11/44 CPU with an 11/84 CPU, replacing existing RMO2 drives with DEC RAB1 drives, installing a Megatape subsystem for use in backup and software updates, removing the TS11 tape units, and modifying software to accommodate new hardware.	The TSC computer system will function exactly as designed to retrieve and display data, with the only apparent change being faster response and higher reliability. The system design requirements and the system functional requirements are not changed from the SAR description. The system operational characteristics are unchanged. The margin of safety as described in the basis for any TS was not reduced.
M06422	This DCN implemented Unit 2 TSC computer system upgrades to increase reliability/availability. Actions taken included replacing the PDP 11/44 CPU with an 11/84 CPU, replacing existing RMO2 drives with DEC RAB' drives, installing a Megatape subsystem for use in backup and software updates, removing the TS11 tape units, and modifying software to accommodate new hardware.	The TSC computer system will function exactly as designed to retrieve and display data, with the only apparent change being faster response and higher reliability. The system design requirements and the system functional requirements are not changed from the SAR description. The system operational characteristics are unchanged. The margin of safety as described in the basis for any TS was not reduced.
M06440	This DCN disconnected an optional feature of the annunciator circuitry for the "Flash with Manual Reset" and the "Reflash" type of sequence which allows the audible portion of the alarm to automatically silence, except in the backup control room, after a period of time. Removal of this feature requires operator action to clear an alarm. The operator must now acknowledge the sound and lamp flash rather than allowing the audible alarm to "tunc out."	The modification did not degrade nuclear safety. This change ensures that each alarm is addressed and also requires additional steps on operations to obtain a quiet board during a transient. The annunciator system is a nonsafety-related system. It provides indication only and has no control function. It is not addressed in TSs. There was no impact on any margin of safety.
M06441	This DCN disconnected an optional feature of the annunciator circuitry for "Flash with Manual Reset" and the "Reflash" type of sequence that allows the audible portion of the alarm to automatically silence, except in the backup control room, after a period of time. Removal of this feature requires operator action to clear the alarm.	The annunciator system is a nonsafety-related system. This system provides indication only and has no control function. It is electrically isolated from the system in which the alarm condition exists. The system is not specifically addressed in TSs. There was no impact on any TS margin of safety and no challenge to any limits defined in TSs. The SAR was not affected.
M06445	This modification made the changes made by TACF 0-88-17-43 a permanent plant installation. The TACF was written to close SQ-STEAR-INST-84-04. The plant was altered to set up Ion Chromatography system sample feeds.	The modifications are located in the turbine building, which is a nonseismic structure, and in the titration room, which is a nonseismic area in the auxiliary building. Therefore, nuclear safety was not degraded. The samples taken are of secondary water systems. The material used to route the samples is stainless steel and teflon tubing. The system is not used for any TS function and does not degrade nuclear safety.
M06527	This DCN replaced the Bussman NON-10 branch control power fuses in Compartment 3E of the Diesel Auxiliary Boards 1A1-A, 1B1-B, 2A1-A and 2B1-B for all D/G air compressor and aftercooler circuits with 10 amp Bussmann fusetron FRN-R-10 (250V) dual-element time-delay fuses. Also, to maintain selective coordination, the existing 30 amp upstream control bus supply fuses (Bussmann LPN-30) were replaced with FRN-R-30 dual-element time-delay fuses.	The reliability of the D/G air compressor air dryer and aftercooler circuits was enhanced by the fuse replacements. The replacement fuses were installed in the same fuse blocks as the fuses that were replaced. The D/G start air compressor, air dryer, and aftercooler systems are not specifically addressed in TSs. This modification does not affect or deviate from the system design or functional requirements as described in SAR for the involved systems.

CHANGES IN FACILITY - MODIFICATIONS

<u>ECN/DCN</u>	<u>DESCRIPTION SUMMARY</u>	<u>SAFETY ANALYSIS SUMMARY</u>
M06555	This change added flow restriction orifices in the operating vents of each of the No. 3 and No. 4 feedwater heaters for Unit 1.	This change was made to restrict the vent flow to within design values. This modification did not affect TSs. System design or functional requirements were not changed. There was no increase in the probability of occurrence or consequences of an accident. No new accident possibilities were created. The TS margin of safety was not reduced.
M06563	This DCN made a permanent change to the portion of TACF-0-90-60-043 that provided setpoint and scaling documents for instruments associated with H ₂ and O ₂ analyzers and revised the instruction. The jumper that was installed to disconnect the H ₂ alarm was removed by this DCN. This DCN also altered the internal panel wiring in Panel 0-L-206 to change the existing "OR" gate logic to "AND" gate logic. The annunciator Window 1 on Panel 0-L-206 was changed to "H ₂ /O ₂ HI", and Window 2 was left blank.	There was no increase in the probability of occurrence or consequences of an accident. There was no increase in the probability of a malfunction of equipment important to safety. The TS margin of safety was not adversely affected.
M06589	The manipulator crane was upgraded to improve reliability, safety, and operability of the fuel handling equipment by installing a 2100 pound underload safety circuit and light/heavy underload safety circuit (including programmable limit switches), and a Sensotec load system with quick disconnect plugs.	The upgrade was performed with 1(L)b qualified components. Components upgraded are functionally and electrically qualified to the original requirements for the crane. The performance of the crane was not adversely affected. It is expected that this modification will improve fuel movement reliability over the existing design. There was no impact on any TS margin of safety.
M06597	This modification changed the S/G low-low-level trip setpoints from 19 percent to 15 percent for the adverse containment value and from 13 percent to 10.7 percent for the normal environment allowance modifier containment value.	The setpoint valves are not documented in the SAR, and this change had no impact in the SAR. There was no increase in the probability of occurrence or consequences of an accident. No new accident possibilities were created. The TS margin of safety was not reduced, however, a TS change was requested.
M06608	This modification relocated the neutral grounding resistor for CTT B. This was done to avoid conflicts with fire protection piping and a new fire wall.	The CTT neutral grounding resistor is non-Class 1E and does not perform a nuclear safety function. The DCN required a change to Figure 8.2.1-2. CTT B neutral grounding resistor appears in the SAR drawing as background information and does not affect text, procedures, or other items found in the SAR. There was no increase in the probability of occurrence or consequences of an accident previously evaluated in the SAR. No new accident possibilities or probabilities of equipment malfunction were created. The margin of safety was not reduced.
M06624	A portion of the condensate demineralizer system 3-inch carbon steel neutralized waste to cooling tower blowdown piping in the yard was replaced with Acrylonitrile-Butadiene-Styrene plastic pipe.	Implementation of this change did not impact any system requirement or functional requirement described in the SAR. No system functional or design requirement was impacted in any way. This change was acceptable from a nuclear safety standpoint.

CHANGES IN FACILITY - MODIFICATIONS

<u>ECN/DCN</u>	<u>DESCRIPTION SUMMARY</u>	<u>SAFETY ANALYSIS SUMMARY</u>
M06641	This modification replaced the flow orifices (1-FE-67-61 and 62) used to measure Unit 1 ERCW Main Header A and B flows. The new orifice plates provide a better measurement at the lower flowrates required for Section XI testing.	One header at a time was worked, and the proper LCOs were entered as required for the header under work. Table 7.5-2 of the SAR required revision to indicate that the variable range for the ERCW header flow changed to 0-8000 gpm for Unit 1 headers. There was no increase in the probability of an accident or the consequences of an accident. The ERCW is still able to perform its safety functions. No new accident possibilities were created. The margin of safety was not reduced.
M06646	This DCN modified the Unit 1 west MSVV blow-out roof. The existing roof at el 765 was removed and replaced with light roof on top of the concrete wall at el 778'-6". The light roof is designed to blow off between 0.23 psid and 0.31 psid pressure without fail back.	There was no impact on TSs. SAR text was affected in the description of the high roof. The modification made no change to system design, function or operation as described in the SAR. There was no increase in the probability for or consequences of an accident previously evaluated in the SAR. No new accident possibilities were created. The TS margin of safety was not reduced.
M06647	This DCN implemented required modifications to the Unit 1 east MSVV blowout roof. The existing east MSVV high roof at el 750 was removed and replaced with light roof on top of the concrete wall at el 758.	The unit 1 TS 3/4 7.1.1 and 3/4 7.1.5 were reviewed and there is no impact because of this change. The modification did not alter information presented in the SAR. No SAR tables, graphs are involved. However, SAR text was affected in the description of the high roof. There was no increase in the probability of an accident. The modification did not increase the probability of occurrence of a malfunction of equipment important to safety. No new accident possibilities were created. The margin of safety as described in the basis for any TS was not reduced.
M06648	This DCN implemented required modification to the Unit 1 west MSVV main blowout plugs. The six concrete blowout plugs were replaced with steel hatches.	This change did not increase the probability of occurrence or consequences of any accident as defined in the SAR. Its interaction with safety-related systems, components and other structures was unchanged before the modification. The modification did not increase the probability of occurrence of malfunction of equipment important to safety. No new accident possibilities were created. This modification did not reduce the margin of safety as defined in the basis for any TS.
M06667	This modification involved relocation of the Unit 1 MSVV roof fans and their associated dampers following the replacement of the east and west MSVV roof with blow-off roofs and the raising of the roofs.	The modification did not alter information presented in the SAR. No SAR text, tables, or graphs were involved. However, SAR Figure 9.4.2-5 was affected in the elevation change shown for the MSVV fans and associated dampers. Raising the fans causes no real change to system design, function or operation as described in the SAR. This modification did not increase the probability of occurrence or the consequences of an accident. There was no impact on the possibility of a malfunction of equipment important to safety. The activity did not reduce the margin of safety as defined in the basis of any TS.

CHANGES IN FACILITY - MODIFICATIONS

ECN/DCN	DESCRIPTION SUMMARY	SAFETY ANALYSIS SUMMARY
M06675	This DCN changed the valve component identifier names on 32 valves in the D15 starting air system from FCV or PRV to PCV. These valves were inadvertently named wrong; this change corrected this error and made the valves name match their function.	The change to the valves was in name only. There was no change to operability requirements of these valves. No physical work was done other than retagging. The valves continue to perform their design function.
M06742	This DCN reviewed Unit 1 ventilating system, sampling system, RCS, nuclear instrumentation, and incore instrumentation I-Tab drawings for the appropriate PAM/Train designations. The applicable revision to the I-Tab drawings, the Q-List and the EMS documents were made to show the as-constructed identifications. The I-Tab drawing "Remarks/Power" columns were corrected to show the appropriate PAM/Train designation for the IE instruments and "ND" for the nondivisional instruments.	This modification did not affect and/or impact the safety function of any equipment or system. It, therefore, did not decrease nuclear safety in the plant.
M06743	This DCN reviewed Unit 2, ventilating system, sampling system, RCS, nuclear instrumentation, and incore instrumentation I-Tab drawings for the appropriate PAM/Train designations. The applicable revision to the I-Tab drawings, the Q-List and the EMS documents were made to show the as-constructed identifications. The I-Tab drawing "Remarks/Power" columns were corrected to show the appropriate PAM/Train designation for the IE instruments and "ND" for the nondivisional instruments.	This modification did not affect and/or impact the safety function of any equipment or system. It, therefore, did not decrease nuclear safety in the plant.
M06766	This DCN provided a qualified expansion joint detail for two auxiliary building shield walls (41N372-2) at their interface with the reactor building exterior shield walls (41N712). The joint detail is shown on Drawing 46W466-3.	There was no increase in the probability of occurrence or consequences of an accident. The modification did not introduce any new failure modes. The change was not related to any TSs. Therefore, no margin of safety as defined by any TS was reduced.
M06775	This modification installed a high-head rotating element in CCP 1A-A. The replacement element is equivalent to the existing pump casing without casing modification. This DCN also removed the flow limiting orifice in CCP 1B-B discharge line and replaced it with a spacer having an inside diameter equal to that of the discharge pipe.	All TSs directly or indirectly affected by this modification were reviewed for potential impact as a result of the changes. No impact was determined to exist. SAR Figure 9.3.4-1 was impacted and required revision. The system design and functional requirements were unchanged. The modification did not increase the probability of occurrence of an accident or malfunction of equipment important to safety. The change did not increase the consequences of an accident or malfunction of equipment important to safety. No new accident possibilities were created. The margin of safety was not reduced.
M06794	Cable 2PL6770 is a 480V supply to the Refueling Water Purification Pump B1. This modification replaced Mark No. WDB-1 (approximately 30 feet) of this cable with a new cable from Contract No. 825342-1. The existing cable was just short of making the connection after the pump motor's frame was changed out.	TSs were not impacted by this cable modification. The changeout of the power cable with another IE cable did not differ with, or adversely affect, system operational characteristics from that described in the SAR.

CHANGES IN FACILITY - MODIFICATIONS

ECN/DCN	DESCRIPTION SUMMARY	SAFETY ANALYSIS SUMMARY
M06838	Supply air to the unloader valves on the nonsafety-related Control Air Compressors A, B, C, and D was rerouted downstream of the air dryers to provide a dried air source. Load/unload setpoints for Service Air Compressor E were revised to allow Compressor E to operate as the lead compressor for the nonsafety-related station control and service air system.	The station control and service air system affected by this activity does not perform a safety-related function. There was no increase in the probability of occurrence or consequences of an accident. The margin of safety as defined in the basis of any TS was not reduced.
M06850	As a solution to the problem of Operations personnel manually venting the system to release trapped undissolved hydrogen gas, valves were installed to evaluate the possibility of venting the hydrogen from existing buildup areas to the VCT outlet piping.	This modification was performed during Unit 1 Cycle 5 refueling outage. SAR Figures 6.3.2-1 and 9.3.4-1 were affected in the changing of the vent valve configuration. No change to system design, function or operation as described in the SAR occurred. There was no increase in the probability of occurrence of an accident or malfunction of equipment. There was no increase in the consequences of an accident or malfunction of equipment. The margin of safety was not reduced.
M06933	This modification changed the temperature/pressure setpoints for the low temperature overpressure protection system. This change resulted from the Eagle 21 upgrade that occurred during the Cycle 4 refueling outage, a recent change to SQN's CSS pressure-temperature limits, and the extended effective full power years for 10 CFR 50 Appendix G from 9.2 to 16 years.	The modification did not increase the probability of occurrence or consequences of an accident previously evaluated in the SAR. This modification did not alter the hardware configuration of the plant nor invoke operation requirements on the involved instrumentation outside the scope of its design specifications. This modification did not affect the ability of any safety-related system or component to mitigate any accident for which it was designed. There was no reduction in any TS margin of safety.
M06936	This DCN installed an isolation valve in the Unit 1 bearing lube water supply line to CCW Pumps 1A, 1B, and 1C.	This change improves system reliability and maintenance. This change did not impact the TSs. The DCN did affect SAR Figure 9.5.1-12, Drawing 1, 2-47W832-1, "Flow Diagram-Raw Service Water Cooling & Fire Protection," by adding an isolation valve to the bearing lube water supply line to the Unit 1 CCW pumps. The modification did not change the design or function of the CCW system, nor that of either the RSW cooling system or the fire protection system. There was no increase in the probability of occurrence or consequences of an accident. The margin of safety as defined in the basis for any TS was not reduced.
M07144	Bored-out orifice plates previously installed on the discharge lines to the containment spray headers were removed and new orifice plates were installed with a bore sufficient to limit total CSS flow to 9500 gpm from the RWST. NE also qualified the CSS pumps with the full-size impellers that were purchased from Sulzer-Bruchsal in 1975 and the one installed in CSS Pump 1B in 1988.	This activity did not increase the probability of occurrence or consequences of an accident previously evaluated in the SAR. There was no increase in the probability of occurrence or consequences of a malfunction of equipment important to safety. No new accident possibilities were created. The activity did not reduce the margin of safety as defined in the basis for any TS.

CHANGES IN FACILITY - MODIFICATIONS

ECN/DCN

DESCRIPTION SUMMARY

SAFETY ANALYSIS SUMMARY

G06209

DCR 2634 and 3219 described problems associated with various sampling system valves presently in use, obsolete replacement parts, maintenance difficulties, and ALARA considerations contributed to a need for a suitable replacement. The subject obsolete valves, which are all air-operated Hoke valves with bellows assembly, were replaced with Copes-Vulcan valves. This is a generic DCN that allowed the valves to be replaced upon failure or when the benefit of improved plant operations became apparent.

All replacement valves and components were procured on an individual basis to meet or exceed the required specifications. The new devices did not change the functional characteristics of their associated loops and will operate within the parameter for which they were designed. There was no reduction in nuclear safety.

S07327

Since Furmanited Valve 2-VLV-1-818 had been replaced by WR B795596 with a valve identical to the original valve, this DCN was for documentation only to remove all reference to Furmaniting for documents issued by DCN M01007 and M01348.

There were no TSs impacted by this activity. This did involve deleting a note from Drawing No. CCD No. 1, 2-47W801-2 which is included in the SAR as Figure No. 10.4.8-1. There was no increase in the probability of occurrence or consequences of an accident of malfunction of safety equipment. No new accident of equipment malfunction possibilities were created. The margin of safety was not reduced.

CHANGES IN THE FACILITY - MODIFICATIONS

<u>ECN/DCN</u>	<u>DESCRIPTION SUMMARY</u>	<u>SAFETY ANALYSIS SUMMARY</u>
X00001	Leaks had occurred in some of the inlets and outlets connected to the condenser water boxes. This modification consisted of removing an internal protective ring and then coating the inside of the joint bellows with Belzona.	This modification did not affect TSs or involve a USQ. This modification did not change system functional operability. This modification has been successful for the same application at other plants.
X00018	A micro-adjustable needle valve was installed in place of the existing check/relief valve within the hydrogen analyzer.	This was a vendor recommended change. This modification did not change system functional operability. There was no impact on any TS margin of safety.
X00026	DCN X00026 separated powerhouse area sanitary water/sewage from all other sewage generated at the Sequoyah site. The existing Design Services Complex package plant and the old Office and Services Building sand filter treatment unit were deactivated. Powerhouse sewage continues to be treated by the existing aerobic treatment system located northeast of the O&PS Building. Other sewage is routed to a common collective point and then pumped offsite to the Soddy-Daisy regional sewage system.	The yard sewage system does not intertie with or affect the safety function of any safety-related system essential to safe operation of the plant. Operability of components important to safety have not been affected. There was no impact on any TS.
X00044	Vent holes were cut in dropping resistor box for Unit 2 TDAFW pump controls to dissipate heat buildup, which has caused component failure.	This modification did not affect TSs or involve a USQ. The modification did not change system functional operability. TSs do not address this level of detail.
X00066	Internal wiring of Recorders 0-TR-82-5036/1, 5036/2, 5036/3, and 5036/4 was modified to permit proper annunciator response from the recorders to existing Annunciator Window 30 on Panel M-26 in the MCR, and annunciator on Panel 0-L-4 in the auxiliary control room.	The modification did not involve a change in the facility or plant operating characteristics from that described in the SAR. There was no change to system functional operability. The modification did not affect TSs or involve a USQ.
X00070	A new 1/4-inch check valve was added to the 1/4-inch tube immediately downstream of the hydrogen analyzers (Unit 2 Trains A and B) calibration panels to stabilize calibration gas and reagent gas flow rates in accordance with vendor recommendations.	The new check valves stabilize calibration and reagent gas flow to the analyzers allowing the analyzers to be within the ± 1.5 percent accuracy requirement committed to in the SAR. This modification did not affect TSs or involve a USQ. The modification did not change system functional operability.
X00081	The setpoints for D/G day tank Level Switches 0-LS-18-62A/B through 64A/B and 77A/B through 79A/B were changed to meet the performance criteria of SMI-0-18-1, "Setpoint Verification of Diesel Generator Day Tank Level Switches." The switches had been calibrated using floor elevation level as a basis even though several of the switches are mounted at different elevations because of the nonuniformity of the floor in all D/G building locations. The setpoints to these switches were changed using the top of each tank as a basis.	This modification did not involve a change in the facility or plant operating characteristics from that described in the SAR and which could impact nuclear safety. The modification did not change system functional operability. The change did not affect TSs or involve a USQ.

CHANGES IN THE FACILITY - MODIFICATIONS

<u>ECN/DCN</u>	<u>DESCRIPTION SUMMARY</u>	<u>SAFETY ANALYSIS SUMMARY</u>
X00115	A 1/16-inch diameter hole was drilled in the spring rod to provide for cotter pin and a spacer was inserted between cotter pin and lock arm to prevent the spring rod from binding, which has interfered with proper operation of 0-TOOL-79. This tool is used to handle fuel in the SFP.	This was a minor modification to a handling tool to improve the operability of the tool. The change did not affect TSs or involve a USQ. The modification did not change system functional operability, and it did not require a change to the SAR or design criteria.
X00133	This DCN revised the logic of operation associated with the Unit 2 CCPs. A 10 second time delay was added to the CCPs' control circuitry, which allows the pumps to start 10 seconds after the manual initiation of a "START" signal. This was an input to an "OR" logic along with the lube oil pressure setpoint input.	This change did not increase the probability of occurrence or the consequences of an accident or malfunction of equipment. The time delay installed ensures the availability of the CCPs during normal and abnormal conditions. There was no adverse impact on the operability, performance, or reliability of the pumps. The modification did not affect TSs or involve a USQ.
X00140	The instantaneous overcurrent trip setting for all motors listed in proposed disposition of CAQR SQPB71238 powered by 6.9kV ERCW shutdown boards and the 480V CCS pump motors were reset to a minimum of 200 percent of the motors' locked rotor current.	This change eliminated the possibility of inadvertent breaker trips. This did not affect TSs or involve a USQ. System functional operability was unchanged.
X00155	CAQR SQP880101 identified a problem which causes a mild environment to be reclassified as harsh as a result of a postulated critical crack in the MS/FW lines. All IE equipment in Unit 2 714-A12 was reevaluated and upgraded as required.	This DCN did not affect TSs or involve a USQ. System functional operability was not changed. The change did not involve a change in the facility from that described in the SAR.
X00163	This DCN qualified Hangers 2-H3-295, 306, and 307 as existing in the field; qualified worn pipe near Hanger 2-H3-306 and 2-H3-307; qualified pipe weld ground flush at top and bottom of pipe weld near Hanger 2-H3-295.	This modification did not affect TSs or involve a USQ. There was no change to system functional operability. There was no change to the facility as described in the SAR. The margin of safety was not reduced.
X0166	The Unit 1 normal feeder breaker on 480V S/D Board IA1-A (Compartment 10B) was reset from 392 amps to 500 amps.	Increasing the long delay trip setting improves operability, reliability, and performance. Maintainability was not impacted. The change did not affect TSs or involve a USQ. There was no adverse change to system functional operability.
X00188	For the Unit 2 CVCS, Pipe Support 47A053-714 was modified to allow spring to function.	This change did not affect TSs or involve a USQ. The modification did not change system functional operability.
X00191	Valve 1-67-608B was replaced with a valve originally ordered for ECN L5009 (stainless steel changeout) to be used in this spot. Valve 1-70-743 was replaced with a valve transferred from Yellow Creek Nuclear Plant.	The new valves meet all the safety requirements of the old valves and pressure boundaries are maintained. There was no impact on nuclear safety. The replacement valves ensure that current design specifications are satisfied.

CHANGES IN THE FACILITY - MODIFICATIONS

ECN/DCN

DESCRIPTION SUMMARY

SAFETY ANALYSIS SUMMARY

X00199	The damaged breaker in S/D Board 2B1-B Compartment 4B was replaced with a spare breaker currently in S/D Board 2B2-B Compartment 3D. The breaker was reset.	This change did not involve a change in the facility from that described in the SAR. The change did not affect TSs or involve a USQ. The modification did not change system functional operability.
X00216	The loops with 10 ohm dropping resistors for TSCDS input were replaced by 100 ohm resistors. This changed the signals to a 1-5 volt range since they are in current loops. This made the input signals less susceptible to noise. In cases where both redundant SPDS points were assigned to the same multiplexor, one of the points was moved to another multiplexor.	This modification did not affect TSs or involve a USQ. The modification did not change system functional operability. There was no impact on safety.
X00247	Unit 2 containment integrity was being degraded by using a test tee with threaded cap in the sense line to PI-63-74 between the inboard and outboard CIV FCV-63-71 and FCV-63-84. The threaded cap was replaced with a manual valve, which meets the requirements for containment isolation. The valve was tagged and locked closed.	This modification did not affect TSs or involve a USQ. The modification did not change system functional operability. The change brings the plant into compliance with 10 CFR 50 Appendix A. The margin of safety as defined in the basis for any TS was not reduced.

CHANGES IN THE FACILITY-TEMPORARY MODIFICATIONS

<u>TACF</u>	<u>DESCRIPTION SUMMARY</u>	<u>SAFETY ANALYSIS SUMMARY</u>
0-91-008-039	This TACF installed a temporary differential pressure gauge across level gauge (0-LIS-39-36) on 6-Ton CO ₂ storage tank in the D/G building.	This TACF did not impact the control, logic or function of any other equipment. This modification was confined in a room from other safety-related equipment located in the D/G building. Implementation of this TACF was necessary to comply with TS 3/4.7.11.3.2 while 0-LIS-39-36 was inoperable. The TS margin of safety was not reduced.
0-91-009-028	This TACF removed Valves 0-28-505, 0-FCV-28-7, 0-28-647, and 0-28-649 and capped each line to prevent future leakage to the turbine building MWTP sump and potential deadheading of the new MWTP sump pumps.	The turbine building MWTP flow diagram, SAR Figure 9.2.3.1 was affected by this TACF. The text and tables of the SAR were not affected. The affected equipment is not addressed in TS, and this activity did not adversely affect any equipment addressed in TSs. The activity did not introduce any new failure modes. The TS margin of safety was not reduced.
0-91-011-057	This TACF installed a temporary bull hose (2-inch diameter) on the discharge side of the MCR Chiller B. This bull hose was connected from the chiller condenser discharge to the plug valve (0-TCV-67-201). The plug valve was used for throttling condenser water flow (ERCW).	The bull hose to the MCR Chiller B did not affect the possibility of any accident previously evaluated in the SAR. A compensatory measure was utilized to station an AUC at the chiller to isolate the ERCW flow when informed of the event initiation by the MCR. The AUC remained there as long as this TCF was in affect. Additionally, if the hose developed a leak, a second hose was available for installation. The TS margin of safety was not reduced.
0-91-016-027	This TACF installed temporary piping to reroute system supply headers around the new cafeteria construction area until a permanent reroute design is implemented.	This activity did not affect any safety-related equipment, and the frequency of accidents or operational transients referenced in the SAR was not increased. No new failure modes or accidents was created by this TACF. Measures were established to monitor lake level for flood protection in accordance with TS 3/4 while the tie-ins were made. The TS margin of safety was not reduced.
0-91-019-026	This TACF increased the fire protection header pressure by permitting the back pressure control valve (0-FCV-26-15) setpoint to vary from 135 to 150 psig.	This activity ensured the operability of the fire protection system and did not adversely affect any safety-related system or equipment. There was no increase in the probability of occurrence or consequences of an accident or malfunction of equipment. No new accident possibilities were created. The TS margin of safety was not reduced.
0-91-022-077	This TACF provided a hookup for directing processed liquid radwaste from the RAD DIs to the CDWE distillate tanks in addition to the monitor and cask decon collector tank. Transfer was through spent resin transfer and CDWE bottoms transfer line to CDWE distillate tanks via a temporary bull hose.	This activity did not increase the probability of any accident previously evaluated in the SAR. The TACF did not increase the probability of occurrence of a malfunction of equipment. The margin of safety was not reduced.

CHANGES IN THE FACILITY-TEMPORARY MODIFICATIONS

<u>TACF</u>	<u>DESCRIPTION SUMMARY</u>	<u>SAFETY ANALYSIS SUMMARY</u>
0-91-037-317	Eleven (11) thermocouple probes were routed through existing penetrations to monitor the temperature of the "AREA 1" locations. The thermocouple cables were connected to a data logger at a control location in the auxiliary building. The thermocouples were placed at a minimum of six feet above the floor. Cable trays were not used to route the cables.	The TACF provides a remote means of monitoring room temperature without requiring a person to physically be in the room. This eliminated the need for a continuous fire watch in these eleven high radiation area locations. The margin of safety was not reduced.
0-91-050-400 WR C053962	This TACF was written to install a small office building on Unit 1 MSR floor turbine building. The building on the Unit 2 side was being utilized by DPSO and could not accommodate any additional personnel. The TACF was approved, but not installed.	The approved TACF had no impact on any Chapter 15 accidents. The building was to be constructed outside the Category I structure where no equipment important to safety was located. No new failure modes would be created. The installation of the small office building would not impact the TS margin of safety.
0-91-055-013	Fire detection system panels 0-L-616, 0-L-613, 0-L-608, 0-L-609, and 0-L-615 have been declared inoperable because alarms from these non-TS zones were masking trouble alarms from TS zones. This TACF installed jumpers on the non-TS zone alarms to ensure operability of the fire detection system panels.	Jumping the non-TS fire pump running alarms is not of concern since Operations has indication in the MCR of fire pumps running via the hand switch lights and the MCR window. The installation on the jumpers on the non-TS header leaking alarms ensures TS operability of the panels and fire zones until CAQR SQP870921 corrective action is implemented. There was no increase in the probability of occurrence or consequences of an accident or equipment malfunction. No new accidents or malfunction of equipment possibilities were created. The TS margin of safety was not reduced.
1-91-021-041	Containment penetration X-11C was modified during the outage to allow routing of temporary service air through existing S/G layup piping. A temporary air compressor was placed in the Unit 1 additional equipment building and was hooked up via temporary flexible hose to the flange near Valve 1-503. A Class B check valve and assembly were bolted to the existing inboard penetration flange. A Class B manual valve was bolted to the outboard flange of the penetration. Air hose was installed from the valves to the existing S/G layup piping on both sides of the penetration.	This configuration was installed after the unit entered Mode 5 and was removed and the blind flange reinstalled and tested before reentry into Mode 4. This activity did not affect any system which could affect any of the DBAs addressed in the SAR. Containment closure requirements were met for this activity. No other systems were affected by this change. There was no adverse impact on safety-related equipment. The margin of safety was not reduced.
1-91-035-068 2-91-036-068	The PRT is designed to operate at 120 ^o F initial temperature. The PRTs have been operating at elevated temperatures above 132 ^o F. This was contrary to the requirement specified in the SAR, Westinghouse design criteria and S01-68.1, "Reactor Coolant Systems-Units 1 and 2." This TACF allows operation of the PRT between an approximate upper temperature of 150 ^o F to 160 ^o F for the rest of the fuel cycle. The temperature alarm and annunciation were set at 155 ^o F by these TACFs.	The PRT is not safety-related equipment. The use of the PRT is not discussed in Chapter 15 accident analysis of the SAR. The failure of the PRT will not impact any safety system. There was no increase in the probability of occurrence of consequences of an accident or malfunction of equipment important to safety. The PRT is not safety-related, therefore, TS bases were not affected.

CHANGES IN THE FACILITY--TEMPORARY MODIFICATIONS

<u>TACF</u>	<u>DESCRIPTION SUMMARY</u>	<u>SAFETY ANALYSIS SUMMARY</u>
1-91-038-201 1-91-042-088	Additional cooling capacity was required during the UIC5 refueling outage to reduce the temperature inside containment to allow outage work to be performed. Increased cooling capacity was accomplished by supplying chilled water to the cooling coils of the two permanent lower compartment coolers, LCC 1A and LCC 1C, using a temporary system of water chiller packages, valves, and hoses connected to the LCC ERCW supply and return piping and using the LCC fans to circulate containment air as it passes over the coil structure.	The systems affected by this activity are not required to be operable during Modes 5 and 6, except for containment isolation capabilities of penetrations X-108, and X-109 during a flood warning, fuel handling activities, or midloop activities. Appropriate measures were established to ensure containment integrity and isolation were maintained during a flood warning, core alterations, and midloop activities. The ERCW system was realigned and restored before entering Mode 4. Appropriate special requirements ensured equipment important to safety was not adversely affected. The margin of safety was not reduced.
1-91-039-030 1-91-040-030	These TACFs disconnected the feeder cables to CRDM Fans 1A-A and 1B-B and utilized these power circuits as a temporary source of 480V, 3-phase power inside Unit 1 primary containment during the UIC5 refueling outage. The CRDM fans were restored to normal and the TACFs closed before Unit 1 entered Mode 4 at the completion of the outage.	CRDM fans are not covered by TSs. The CRDM fans are needed to support normal plant operation only. The TACFs were in place only in Modes 5 and 6. There was no increase in the probability of occurrence or consequences of an accident or malfunction of equipment. The margin of safety was not reduced. SAR Figure 8.3.1-13 and 8.3.1-15 were revised to reflect this plant configuration while the TACFs were in place.
1-91-057-201	During the performance of DCN E07713 on 480V S/D Board 1B2-B, a fault was imposed on the main bus causing damage to the board. This board was rendered inoperable, and power was lost to the polar crane during refuel operations. This TACF provided power to the polar crane. The required power was provided from 480V S/D 1B1-B by installing a temporary cable from compartment 5D to a splice in Cable 1PL4610.	The operating characteristics of the polar crane were not affected by this TACF. The operation and capabilities of the 480V S/D Board 1B1-B were not affected by this change. When 480V S/D Board 1B2-B was restored to operability, this TACF was closed. There was no increase in the probability of occurrence or consequences of a previously evaluated accident or malfunction of equipment. No new accident or equipment malfunction possibilities were created. The margin of safety as described in the basis for any TS was not reduced.
1-91-058-201	During the performance of DCN E07713 on 480V S/D Board 1B2-P a fault was imposed on the main bus causing damage to the board. This board was rendered inoperable, and power was lost to the MCR AHU B-B. This TACF provided power and limited control functions to MCR AHU B-B. The required power was provided from 480V S/D 1B1-B by installing a temporary cable from Compartment 10C to a splice in Cable 1PL4510B.	The operation and capabilities of the 480V S/D Board 1B1-B were not affected by this change. When 480V S/D Board 1B2-B was restored to operability, this TACF was closed. There was no increase in the probability of occurrence or consequences of a previously evaluated accident or malfunction of equipment. No new accident or equipment malfunction possibilities were created. The margin of safety as described in the basis for any TS was not reduced.

CHANGES IN THE FACILITY-TEMPORARY MODIFICATIONS

<u>TACF</u>	<u>DESCRIPTION SUMMARY</u>	<u>SAFETY ANALYSIS SUMMARY</u>
1-91-059-056	This TACF removed Morgan Temperature Monitoring Unit 1-TM-56-2 from Rack 112 in the auxiliary instrument room and replaced it with a Fluke 2286 with an expansion chassis or equivalent.	There was no adverse impact on any TS. The temperature monitoring system is not mention in the SAR, but the TACF did change the pin and panel locations for the affected temperature elements. This did affect various control drawings which affected SAR figures. There was no increase in the probability of occurrence or consequences of an accident or malfunction of equipment. No new accident possibilities were created. The margin of safety was not reduced.
2-91-032-056	This TACF removed 2-TM-56-2 from Rack 112 in the auxiliary instrument room and replaced it with a Fluke 2240C. The MCR annunciator on Panel 2-M-6 is enabled from this system as before, but because of compatibility problems, the data from the Fluke monitor is not available from the remote printer located in the Control Panel 2-M-10. The Fluke 2240C has a local printout, which is available in the auxiliary instrument room.	There are no design basis accidents affected by this change. The temperature monitoring equipment replaced by this TACF is not required for plant safety and is not part of the engineered safety systems. No new accidents or equipment malfunctions were created. The TS margin of safety was not reduced.
2-91-051-026	This TACF allowed the HPPF system to be the source of suppression water for temporary trailers stationed on el 732 of the turbine building floor and on the Unit 1 side weather deck.	TSs 3.7.11.1 and 3.7.11.4 were reviewed and no conflict was found. There was no impact on TSs. There was no change in any functional requirements of system design requirements presented in the SAR. However, since the TACF did change several valve positions that are shown in SAR Figure 9.5.1-1, a change to the SAR was required of the duration of the TACF. This activity did not adversely affect any safety-related equipment. The probability of an accident or malfunction of equipment important to safety was not increased. No new credible failure modes or accidents were created. The margin of safety was not reduced.

Previously Reported TACFs Remaining Open December 31, 1991

1-85-0070-030
1-90-0035-0062

2-90-0034-062
2-90-0049-241

0-87-0004-234
0-88-0018-317
0-89-0032-062
0-90-0026-078

PROCEDURE REVISIONS

PROCEDURE NO.	DESCRIPTION SUMMARY	SAFETY ANALYSIS SUMMARY
0-SI-ICC-043-500.0 ICF 91-0018	<p>CHANNEL CALIBRATION OF WASTE GAS DISPOSAL SYSTEM OXYGEN AND HYDROGEN ANALYZERS LOOPS 0-O₂-43-5000 AND 0-H₂-43-5001</p> <p>This ICF was written to revise the SI-243 (now 0-SI-ICC-043-500.0) to include the O₂ alarm setpoint at a maximum allowable value of 2 percent by volume. It incorporated setpoints on the waste gas analyzer and deleted H₂ alarm verification in accordance with IACF 0-90-60-043, LER 50-327/90025 corrective action, and issued setpoint and scaling documents. Detailed calibration instructions for all waste gas analyzer loops in accordance with vendor manual SQN-VTM-W120-3170 were incorporated.</p>	<p>Superseding SI-243 with 0-SI-ICC-043-500.0 resolves the procedural issues identified in the LER. This procedure revision and the TACF ensure that the alarm function on Panel 0-L-2 provides indication of potentially explosive H₂-O₂ gas mixtures in the gas decay tanks. These activities ensure the required O₂ alarm function is not masked by normally occurring H₂ levels above 4 percent. There was no adverse impact on the control, logic, or function of any component or system outside the scope of the SA/SE. The TS margin of safety was not reduced.</p>
0-SO-62-4 Rev. 0	<p>HOLDUP TANK OPERATION</p> <p>0-SO-62.4 describes operation of the HUTs including recirculation through the BAE feed ion exchangers via the gas stripper feed pumps; transfer between tanks; and recirculation through the HUT recirculation pump.</p>	<p>This activity did not increase the probability of occurrence or consequences of an accident previously evaluated in the SAR, and the probability of occurrence or consequences of a malfunction of equipment important to safety was not increased. No new unanalyzed accident or equipment malfunction possibilities were created. TS 3/4.11.1.4 was reviewed, and it was determined that the activity did not reduce the margin of safety or impact the TS basis.</p>
0-SC 250-1 Rev. 1 PCF91-0296	<p>125 VOLT DC VITAL POWER SYSTEM</p> <p>The normal power to the Vital AC Power Transfer Switch II was lost as a result of a failure of its 480V supply. The FVB was proposed to be used to supplement the current to 125V Vital Battery Board II. 0-SO-250-1 provides instructions for aligning the FVB charger to a selected battery board. The difference between this procedure and the current procedure for placing the FVB in service for substituting for one of the primary vital batteries is that the tie breaker from the FVB board to the FVB is open and the tie breaker to the FVB charger is closed.</p>	<p>There was no increase in the probability of occurrence or consequences of an accident previously evaluated in the SAR. The probability of occurrence or consequences of a malfunction of equipment important to safety was not affected. No new accident possibilities were created. The margin of safety as defined in the basis for any TS was not reduced. This procedure did not constitute a USQ.</p>
1-SI-SXH-068-001.0 Rev. 1	<p>HYDROSTATIC PRESSURE TEST OF REACTOR COOLANT SYSTEM</p> <p>This instruction provides detailed steps to perform a system hydraulic pressure test on the Unit 1 RCS piping and components, as required by ASME Section XI. During this test, ECCS systems (RHR, SIS, CVCS) remain operable as do sampling and boration control. Revision 1 added instructions on notifying the ANI/ANII, and removed the testing of the piping between the secondary check valves and the cold leg accumulators.</p>	<p>There was no increase in the probability of an accident previously evaluated in the SAR. This activity with its administrative controls and no other deviation in normal equipment operation did not create the potential for equipment malfunction. No new accident or equipment malfunction possibilities were created. By complying with all applicable LCOs, the margin of safety was not reduced.</p>

PROCEDURE REVISIONS

PROCEDURE NO.	DESCRIPTION SUMMARY	SAFETY ANALYSIS SUMMARY
1-SO-63-5 Rev. 3 2-SO-63-5 Rev. 1	EMERGENCY CORE COOLING SYSTEM EMERGENCY CORE COOLING SYSTEM This change added instructions to: <ol style="list-style-type: none">1. Vent the CCPIT discharge piping between CCP outlet isolation valves (FCV-063-25 and FCV-063-26) and the high-head safety injection secondary check valve (VLV-063-581). The venting is to be performed by opening the test header isolation valve (FCV-063-174) and the test header containment isolation valves (FCV-063-71 and FCV-063-84). This will provide a flow path to the HUT.2. Vent the CCPIT discharge piping between CCPIT outlet isolation valves (FCV-063-25 and FCV-063-26) and the high-head safety injection primary check valves (VLV-063-586, VLV-063-587, VLV-063-588, and VLV-063-589). The venting is to be performed by opening the test header isolation valve (FCV-063-24) and the test header containment isolation valves (FCV-063-71 and FCV-063-84). This will provide a flow path to the HUT.	An SE was performed because SAR Subsection 6.3.2.17, <u>Manual Actions</u> states: "No manual actions are required during the injection phase." This procedure change requires FCV-062-24 or FCV-062-174 to be closed upon initiation of an SI or CIS. This manual action is in conflict with the SAR. This SE determined that there was no increase in the possibility of occurrence or consequences of an analyzed accident or malfunction of equipment. No new accident or equipment malfunction possibilities were created. The TS margin of safety was not reduced. This change did not involve a USQ.
2-SI-ICC-068-067.4 Rev. 0 ICF 90-0627	CHANNEL CALIBRATION OF DELTA T/Tavg CHANNEL IV, RACK 13, LOOP 1-68-67 (T-441/442) This ICF updated the instruction to reflect latest delta T values recorded during the performance of TI-2, "Calorimetric Calculation - Units 0, 1 and 2," on December 5, 1990.	This ICF was reviewed against the SA/SE for DCN M02034, upgrading the steam generator loops to meet PAM Category I requirement - Unit 2. There was no adverse impact on nuclear safety.
0-TI-SXXX-000-016.0	BREACHING THE SHIELD BUILDING, ABSCE, OR CONTROL ROOM BOUNDARIES This instruction provided requirements for breaching the ABSCE, shield building, and the emergency control room pressurization boundary. The breaching requirements only address the integrity of the various ventilation boundaries and do not supplement any other procedures or requirements specified within those procedures.	These revisions did not increase the probability of occurrence or consequences of an accident or malfunction of equipment. The probability of an unanalyzed accident or equipment malfunction was not created. The margin of safety as defined in the basis for any TS was not reduced.
Rev. 3	Revised to include results of the MCR pressurization tests 0-SI-SFT-031-144.A and 144.B dated March 1991 to evaluate the acceptability of breaching the MCR pressurization boundary for temporary maintenance or modification activities.	

PROCEDURE REVISIONS

<u>PROCEDURE NO.</u>	<u>DESCRIPTION SUMMARY</u>	<u>SAFETY ANALYSIS SUMMARY</u>
Rev. 4	Included the opening of process components or piping in the breach definitions. Revised Step 6.5 (2B) to define immediately as 45 seconds. (Step 6.5 [2B] is consistent with Step 6.5 [2C]). Added notes to all performance sections stating that SA/SE special requirements be addressed in work documents. Added SOS concurrence on PHYSI-13 steps and made minor editorial and reference changes.	
AI-27 Rev. 11	SHIFT TECHNICAL ADVISOR This was a general revision to delete all text that implemented STD-7.1.9, "Shift Technical Advisor Training," which is directly implemented in SSP-4.51, "Shift Technical Advisor (STA) Training." The source and interface documentation section was updated to reflect current references. The instruction was revised to include the use of a degreed SRO that has completed the STA training to perform the function of the on-shift STA. The requirement for the STA to complete a dedicated STA daily journal was deleted, and Attachment 1 was deleted which outlined the duties of the STA following a reactor trip. The revision also included an annotation for NUREG 0737 in accordance with AI-4, "Preparation, Review, Approval and Use of Site Procedures/Instructions."	These changes did not impact the requirements of TS since the requirement of TS is for the STA to "serve in and advisory capacity to the SOS on matters pertaining to the engineering aspects of assuring safe operation of the unit." This requirement is unchanged. The change was not a change to plant systems and did not affect any of the procedural requirements stated in TS. An SE was performed because this does deviate from NUREG 0011, I.A.1.1. The SE determined that this change did not involve a USQ.
AI-30 Rev. 33	NUCLEAR PLANT CONDUCT OF OPERATION General revision to this AI updated references, deleted redundant information, added the Operations Manager to the list of individuals who may relieve the SOS, enhanced the description of the duties of the ASOS, etc. These general changes were addressed in the safety assessment. The revision addressed by the SE included changing the title of the operator responsible for the "at the controls area" of the MCR and extending Zone 1 and the impact of this change on safety and on SAR Section 13.5.1.1 and Figures 13.4.1-2 and 13.5.1-3.	Changing the title of the operator responsible did not increase the probability of the design basis accidents occurring. This procedural change did not modify equipment important to safety. The revision enhanced the control room operator's ability to monitor equipment. There were no new accident possibilities created. TS 6.2.2 defines the number of operators that must be present in the MCR. This procedure change did no affect this or any other TS.
AOI-15 Rev. 16	LOSS OF COMPONENT COOLING WATER - UNITS 1 AND 2 This revision was prepared then reviewed by the on-shift Operations personnel before Heat Exchanger A was removed from service by DCN M06225. This instruction provided the prerequisites, precautions, instructions, and realignment of the CCS and ERCW systems to allow for removal of the CCS Heat Exchanger A from service and its replacement with CCS Heat Exchanger 1A1/1A2.	This revision was made in conjunction with DCN M06225. Revising the procedure did not impact nuclear safety. There was no increase in the probability of occurrence or consequences of an accident. The TS margin of safety was not reduced.

PROCEDURE REVISIONS

PROCEDURE NO.	DESCRIPTION SUMMARY	SAFETY ANALYSIS SUMMARY
ES-1.2 Rev. 11	<p>TRANSFER TO RHR CONTAINMENT SUMP, UNITS 1 AND 2</p> <p>This revision reinstated a previously cancelled procedure. Deleted Step 6 which was applicable to U-2 due to BIT inleakage. Revised Step 6 of Appendix A to include actions of Step 7 in ES-1.2, Revision 9. Deleted note following Step 6, Appendix A. Renumbered subsequent steps. Revised Step 13 of Appendix A to its original format in ES-1.2, Revision 8; this change is needed since ECN L6474 on "C" CCS heat exchanger is complete. Revised Appendix B to incorporate changes due to DCNs M1533 and M1541 for Unit 1 and DCNs 2644 and 2645 for Unit 2 and TS change 89-26 (BIT renamed CCPIT). Updated instruction numbers to those presently in effect. This instruction replaces 1-ES-1.2 for Unit 1 and 2-ES-1.2 for Unit 2.</p>	<p>There was no increase in the probability of occurrence or consequences of an accident or equipment malfunction. No unanalyzed accident or equipment malfunction possibilities were created. The TS margin of safety was not reduced.</p>
IMI-85-RSL Rev. 4 PCF 91-0106	<p>ROD CONTROL SYSTEM - AUTOMATIC SPEED PROGRAM - UNITS 1 AND 2</p> <p>The procedure was changed to include online removal and replacement of rod speed module. The rod trip function and RPI will still be operable during this time. Testing of the replacement module to ensure operability can be accomplished online. Westinghouse concurs that online replacement does not degrade plant safety.</p>	<p>The probability of occurrence or the consequences of an accident or malfunction of safety equipment was not increased. No safety-related equipment was affected by this change. The possibility of a new, unanalyzed accident was not created. The TS margin of safety was not reduced.</p>
SI-40.1	<p>CENTRIFUGAL CHARGING PUMP CASING AND DISCHARGE PIPING VENTING - UNITS 1 AND 2</p> <p>SI-40.1 was revised to reflect the impact of TACF 2-90-034-062 which connected a vent hose to allow venting suction piping to the CCPs into the HUT. Without venting to the HUT, the auxiliary building can become airborne as a result of gases released.</p>	<p>Revision of the procedure did not impact nuclear safety. No TS margin of safety was adversely affected.</p>
SI-166	<p>SUMMARY OF VALVE TESTS FOR ASME SECTION XI - UNITS 0, 1 AND 2</p>	<p>This activity affected PORV block valve which is not addressed directly pertaining to a design basis accident or transient. The activity did not affect any components that could result in increasing the probability of occurrence of a malfunction of equipment important to safety. The operability of the PORVs and their block valves was not adversely affected. NE/Westinghouse calculation verified that the valve would close from the backseated position, and the performance of SI-166 verified that the backseating had no adverse affect on the valve's operability. The TS margin of safety was not reduced.</p>
SI-166.1.1	<p>FULL STROKING OF CATEGORY "A" AND "B" VALVES REQUIRED IN ALL MODES - UNITS 1, 2, AND COMMON</p> <p>This revision to SI-166 and SI-166.1.1 was made to backseat PORV block valves to reduce or eliminate packing leaking through the valve stem leakoff of the PRT. SI-166 was revised to allow 2-FCV-068-332 to be backseated (torqued to a maximum of 225 in-lbs at the handwheel nut), stroke time tested, and then placed back on the backseat.</p>	

PROCEDURE REVISIONS

<u>PROCEDURE NO.</u>	<u>DESCRIPTION SUMMARY</u>	<u>SAFETY ANALYSIS SUMMARY</u>
SI-180	FIRE PUMP START TEST This SI was revised to document the 0-PCV-26-15 setpoint change from 135 to 150 psig in conjunction with TACF 0-91-0019-026.	The procedure change reflected the new pressure setpoint incorporated by the TACF, but it did not affect the acceptance criteria of the SI or the applicable TSs. There was no adverse impact on any safety-related system or component. The probability of occurrence or the consequences of an accident did not increase. No new accident possibilities were created. The margin of safety was not reduced.
SI-180 Rev. 2	FIRE PUMP START TEST This revision changed the procedure to reflect the new setpoint established for 0-PCV-26-15 by TACF 0-91-019-026.	This revision reflected the setpoint incorporated by this TACF but did not affect the acceptance criteria of this procedure or TS Section 3/4.7.11. This activity did not adversely affect safety-related equipment and did not impact or create any DBAs or anticipated operational transients. The margin of safety as defined in TS was not reduced.
SOI-62.4 Rev. 27	CVCS PURIFICATION SYSTEM This change added Sections J and K for placing mixed bed Demineralizers A and B in service for RCS deboration. Before this change, RCS deboration by a mixed bed had been accomplished by this instruction. This change enhances the instruction by adding specific sections for this activity. Sections D and E for placing mixed bed demineralizer in service previously contained a note stating "at EOL the mixed bed may be placed in service to deborate the RCS." Sections B.1 and C.1, borating the mixed beds for standby, previously contained a note stating, "Instead of diluting to maintain power, the inlet valve will be throttled open and closed to maintain power at desired level until bed is finished being borated." This change created separate Sections J and K, to eliminate confusion in how and when the mixed beds are to be placed in service for deboration of the RCS as well as established guidelines for reduction of RCS boron concentration and flow through the bed.	This change did not violate any TS constraints, limits, or assumptions. The change did provide guidance for Operations personnel for reactivity control, which will provide for more accurate reactivity changes. The SAR contains a detailed procedure for boron dilution utilizing addition of primary makeup water while diverting letdown to the HUT. The change to SOI-62.4 offers an alternative method not presently described in the SAR. There was no increase in the probability of occurrence or consequences of an accident previously analyzed in the SAR. This change did not impact operating characteristics of safety equipment, nor result in equipment design specifications being affected; therefore, the probability of occurrence of a malfunction of equipment was not increased. No new accident possibilities or equipment malfunctions were created. TS bases do not address RCS dilution except in the refueling mode of operation. Additionally, the reactivity control systems required to be operable by the TS are not affected. Therefore, margin of safety was not reduced.
SOI-68.1 Rev. 64	REACTOR COOLANT SYSTEM This revision added a RCDT pump manual start method to Section D, Pressurizer Relief Tank. This method was validated during the performance of STI-86, "FCV-68-310 FUNCTIONAL TEST." Revision 64 incorporated a change to the Unit 1 and Unit 2 PRT high temperature operating limit. The limit was 132°F, but TACF 1-91-35-068 and 2-91-36-068 raised the annunciator setpoint to 155°F.	STI-86 proved that the RCDT pump will not cavitate if it is started before the Suction Valve FCV-68-310 is indicating fully open position. The performance of this SOI, or any malfunction of the RCDT pump that might occur as a result of this SOI, cannot increase the probability of an accident previously evaluated in the SAR. The RCDT pumps do not perform a safety function. The bases for SQN TSs were reviewed, particularly those associated with Section 3/4.11, and no margin of safety of any TS was reduced or compromised by the performance of this SOI.

PROCEDURE REVISIONS

PROCEDURE NO.	DESCRIPTION SUMMARY	SAFETY ANALYSIS SUMMARY
SOI-70.2	<p>COMPONENT COOLING HEAT EXCHANGER CHANGEOUTS</p> <p>SOI-70.2 was revised then reviewed by the on-shift Operations personnel before Heat Exchanger A was removed from service by DCN M06225. This instruction provided the prerequisites, precautions, instructions, and realignment of the CCS and ERCW systems to allow for removal of the CCS Heat Exchanger A from service and its replacement with CCS Heat Exchanger 1A1/1A2.</p>	<p>This revision was made in conjunction with DCN M06225. Revising the procedure did not impact nuclear safety. There was no increase in the probability of occurrence or consequences of an accident. The TS margin of safety was not reduced.</p>
SQA-134 Rev. 29	<p>CRITICAL STRUCTURES, SYSTEMS AND COMPONENTS (CSSC) LIST</p> <p>SQA-134 was revised to delete certain systems based on approved Q-lists for each of these systems. This revision also fully replaced the CSSC list with the Q-list.</p>	<p>This revision required that SAR Chapter 17 be revised to delete portions of the CSSC list as they were replaced with the Q-list. No TSs were impacted by this procedure revision. The implementation of the Q-list for these systems did not change the operational use or qualification level of any equipment utilized in accident analyses.</p>
SQE-22 Rev. 13	<p>SEQUOYAH NUCLEAR PLANT CHEMISTRY PROGRAM</p> <p>This revision upgraded the pH control methodology for reactor coolant, included TS Change 89-25 and 89-26, and included additional parameter measurements in plant systems.</p>	<p>TSs do not address the changes to the pH control measures and the additional sampling analyses to the BAE, CCS, and heater drains. Changes involving RWSI and CLA boron and deleting LHI and BIT comply with the approved TS changes. There was no increase probability of occurrence or consequences of an accident or malfunction of equipment. No new accident or equipment failure possibilities were created. The margin of safety was not reduced.</p>
SSP-8.2 Rev. 0 SI-1 Rev. 28	<p>SURVEILLANCE TEST PROGRAM</p> <p>SURVEILLANCE PROGRAM UNITS 0, 1 AND 2 (CANCELLATION)</p> <p>Chapter 13.0 of the FSAR describes the types of written instructions that SQN uses. Section 13.5.1.4, "Surveillance Instructions," (SAR Update 7) described all tests defined by the surveillance test program as outlined in SI-1, Rev. 27. At that time, no conflict existed between the SAR and SI-1 or SSP-2.3 since the SAR did not distinguish SIs from PIs. However, Update 8 of the SAR added Section 13.5.1.16, "Periodic Instructions," and did not define PIs or SIs as already described in SSP-2.3 and SI-1. Therefore, a change to the SAR descriptions in Sections 13.5.1.4 and 13.5.1.16 was required for consistency.</p>	<p>This was an administrative change and did not affect the performance of any test. Both PIs and SIs are scheduled and tracked in the SI data base. Changing the definition in the SAR would clarify the types of tests and therefore did not increase the probability of an accident previously evaluated in the SAR. There was no increase in the probability of occurrence of a malfunction of equipment important to safety previously evaluated in the SAR. Sections 6.5.1A and 6.8.1 of the TSs require all written procedures to be reviewed by qualified reviewers, evaluated for 10 CFR 50.59 consequences, and approved by PORC/responsible manager. Changing the SAR description of PIs and SIs clarified the requirements such that only SIs may be used to satisfy TS SRs and PIs used for all other requirements (e.g., SAR, NPDES permit, NFPA Code). Therefore, this change did not decrease the margin of safety as defined in the basis for any TS.</p>

PROCEDURE REVISIONS

PROCEDURE NO.

DESCRIPTION SUMMARY

SAFETY ANALYSIS SUMMARY

TI-54
Rev. 17

COMPLIANCE INSTRUMENTS

This instruction defines a list of process instruments and P-250 computer points C.I that are used to obtain data or used to satisfy standard TS requirements. This instruction is for Units 0 and 1 and is required by the Nuclear Quality Assurance Plan, TVA NQA-PL89-A. This revision incorporated the list of P-250 computer points used by the plant to satisfy or verify TS compliance. This is a corrective action for LER 328/91004, Commitment NCO910077004. Changed corrective action plan reference from CAQR to PER and referenced AI-4 to SSP 2.3. Also, in conjunction with DCN M06368, an evaluation was performed to determine if F-62-142 (nonsafety related) needed a demonstrated and required accuracy calculation. The evaluation indicated F-62-142 was not required for use in TI-7 as indicated in TI-54 and 54.2. This position further substantiated via a memorandum from Technical Support. Therefore, this SA/SE deleted TI-7 as a procedure requiring the use of F-62-142. This procedure change was necessary to preclude confusion in the future with regards to determining if demonstrated and required accuracy calculations are required for this instrument loop. SSP 9.1, Section 3.1 requires a demonstrated and accuracy calculation for all instrument loops used for TS compliance.

There was no increase in the probability of occurrence or consequences of an accident. No new accident or equipment malfunction possibilities were created. The TS margin of safety was not reduced.

TI-54.2
Rev. 12

COMPLIANCE INSTRUMENTS

This instruction defines a list of process instruments and P-250 computer points that are used to obtain data or used to satisfy standard TS requirements. This instruction is for Unit 2 and is required by Nuclear Quality Assurance Plan, TVA-NQA-PLN 89-A. This revision incorporates the list of P-250 computer points used by the plant to satisfy or verify TS compliance. This is a corrective action for LER328/91004, Commitment NCO 910077004. Changed corrective action plan reference from CAQR to PER and referenced AI-4 to SSP-2.3. Also, in conjunction with DCN M06610 and DCN M06368, an evaluation was performed to determine if F-62-142 (nonsafety related) needed a demonstrated and required accuracy calculation. The evaluation indicated F-62-142 was not required for use in TI-7 as indicated in TI-54 and 54.2. This position further substantiated via a memorandum from Technical Support. Therefore, this SA/SE deleted TI-7 as a procedure requiring the use of F-62-142. This procedure change was necessary to preclude confusion in the future with regards to determining if demonstrated and required accuracy calculations are required for this instrument loop. SSP 9.1, Section 3.1 requires a demonstrated and accuracy calculation for all instrument loops used for TS compliance.

There was no increase in the probability of occurrence or consequences of an accident. No new accident or equipment malfunction possibilities were created. The TS margin of safety was not reduced.

SUMMARY OF SPECIAL TESTS

STI	DESCRIPTION SUMMARY	SAFETY ANALYSIS SUMMARY
STI-84	<p>D/G 2B-B AMBIENT START WITH DEGRADED AIR START PRESSURE</p> <p>This STI reestablished "as found" conditions for 2B-B D/G, which were identified when an ADO found 2B-B D/G low air pressure alarm in and air pressure in engine No. 1 air tank at 140 psig (alarm setpoint is 200 psig). The STI also initiated a D/G start signal and verified diesel start time; established 140 psig air pressure in one of the normally aligned D/G air start tanks, started its air compressor and timed the tank recovery to 180 psig; and established the air receiver bleed down rate.</p>	<p>During the performance of this STI, the D/G was declared inoperable and appropriate LCDs were entered. Also, opposite train equipment was verified OPERABLE before beginning the STI and appropriate PMT was performed before the D/G was returned to service. This was all within the boundaries of TSs. There was no increase in the probability of occurrence or consequences of an accident or equipment malfunction. No new accident possibilities were created. The TS margin of safety was not reduced.</p>
STI-86	<p>FCV-68-310 FUNCTIONAL TEST</p> <p>This STI was performed to prove that the PRT Drain Valve FCV-68-310 is not required to be in the fully indicated open position before the RCDT pump can be started. This STI remotely obtained the data which was necessary to diagnose the problem and confirm there is no detrimental effect upon the system performance. Data was also taken which could be used to help determine movement is linear in relationship to the "indicated" response of the valve from the full close to the full open position.</p>	<p>Performance of this special test, or any malfunction of the RCDT pump that might occur as a result of this test, could not increase the probability of an accident previously evaluated in the SAR. The RCDT pumps are not performing a safety function. The performance of this STI did not create an interaction with any system important to safety previously evaluated in the SAR. The TS margin of safety was not reduced.</p>
STI-135	<p>STEAM VALVE VAULT TEMPERATURE SURVEY</p> <p>This test measured hot spot and ambient temperatures throughout the vault to verify the effectiveness of the upgraded insulation system in reducing temperatures to acceptable levels. The test also provided interim monitoring of the exhaust air temperatures from all four valve vault fans as part of the corrective action for CAQH SQP 880390 R0. This was a long-term test and continued until notified by NE that sufficient test data had been collected.</p>	<p>There was no increase in the probability of occurrence or consequences of an accident or malfunction of equipment important to safety. No new accident possibilities or malfunctions of equipment were created. The TS margin of safety was not reduced.</p>
STI-142	<p>HIGH VOLTAGE DC TEST FOR SELECTED LOW VOLTAGE CSSC CABLES</p> <p>This STI performed high-voltage DC tests on low voltage cables installed in conduits identified by NE. The STI is generic and was implemented by a WK. NE provided the specified nominal test voltage and identified if the cables must be submerged in water during the test. IEEE 383-1974 was used by NE as a guideline for determining the required nominal test voltage.</p>	<p>The performance of STI-142 was within the existing limits and restrictions provided in the TSs. No permanent system modification was involved. There was no increase in the probability of occurrence or consequences of an accident or equipment malfunction. No new scenarios for accidents or equipment malfunction were created. The TS margin of safety was not reduced.</p>

SUMMARY OF SPECIAL TESTS

STI	DESCRIPTION SUMMARY	SAFETY ANALYSIS SUMMARY
STI-143	<p>CHEMICAL INJECTION AND PLANT PROCESS SAMPLING FOR USE IN MAIN FEEDWATER FLOW AND STEAM GENERATOR MOISTURE CARRYOVER DETERMINATION</p> <p>This STI provided documentation on the connection of CE supplied chemical injection and sample carts to the condensate and MFW piping and the collection of MFW, MS, and SGBD samples which were analyzed by CE for determination of MFW flow and S/G moisture carryover via the CE Chemtrac process.</p>	<p>There was no increase in the probability of occurrence of any previously evaluated accident. The probability of occurrence of a malfunction of equipment important to safety previously evaluated in the SAR was not increased. No new accidents or malfunctions were created. The TS margin of safety was not reduced.</p>
STI-144	<p>CCS TRAIN B FLOW BALANCE VERIFICATION WITH ONE CCS HX ISOLATED</p> <p>This STI was performed to determine that the required flow rates to the safety-related components in the Train B CCS system can be obtained with one of the CCS heat exchangers removed from service. This STI also included the isolation/draining of the CCS heat exchanger for maintenance.</p>	<p>There was no increase in the probability of occurrence or consequences of an accident or malfunction of equipment. No unanalyzed accident or equipment malfunctions were created. The TS margin of safety was not reduced.</p>
STI-146	<p>CONTROLLER TEST FOR THE MAIN CONTROL ROOM AND/OR ELECTRIC BOARD ROOM A/C SYSTEM TCVS</p> <p>The purpose of this special test was to determine if a FISHER controller with an anti-reset wind-up feature or a direct action MASONELAN controller could respond more quickly to temperature control valve operation or a refrigerant machine (minimum of any one of the MCR or electrical board room machines) that has been idle for a minimum of 24 hours whereby the machine would not trip on high condenser pressure and control at setpoint.</p>	<p>The performance of this test did not impact any system operational parameters identified in the SAR. There was no increase in the probability of an accident or the occurrence of a malfunction of equipment. No new accident possibilities or equipment malfunction possibilities were created. The TS margin of safety was not reduced.</p>
STI-147	<p>SYSTEM 26 HYDRAULIC PERFORMANCE</p> <p>This STI provided detailed steps to determine the hydraulic performance of the Fire Protection System in accordance with Chapter 5, Section 11 of the <u>Fire Protection Handbook</u>. This test established simulated raw service water flows then measured static pressure, residual pressure, and velocity pressure for selected portions of the auxiliary, control and D/G buildings. STI-147 was revised following its performance to add a square root symbol that was inadvertently omitted in Rev. 0. The steps were then recalculated.</p>	<p>There was no increase in the probability of occurrence or consequences of an accident or of equipment malfunction. No new accidents or malfunctions of equipment were created. The TS margin of safety was not reduced.</p>
STI-148	<p>FULL STROKING OF MAIN STEAM ISOLATION VALVES</p> <p>This STI provided detailed steps to obtain full stroke time information using a single train of actuation for the MSIVs in Mode 3, 4, or 5. This test was performed on Unit 1.</p>	<p>The probability of any accident discussed in the SAR was unchanged by this activity. Closing one MSIV does not change the probability that any other MSIV will close on demand. There was no increase in the probability of failure of other safety-related equipment. There was no increase in the consequences of an accident previously evaluated. This activity did not modify the function of any safety-related equipment. No new accident or equipment malfunction possibilities were created. The activity was consistent with the TSs. The test did not reduce the margin of safety as defined in the basis for any TS.</p>

OTHER SAFETY EVALUATIONS

DESCRIPTION SUMMARY

SAFETY ANALYSIS SUMMARY

89-0401	This SE was prepared to address the significance of minor leakage in peripheral systems connected to the RCS. Specifically, slight leak in the leak-off line for RHR valve 2-FCV-74-35, a slightly larger leak through the drain valves for Unit 2 RHR heat exchanger 2A, and a small leak through the leak-off line for Containment Spray Valve 2-FCV-72-20.	These leaks were repaired with Unit 2 in Mode 4. There was no increase in the probability of occurrence or consequences of an accident or malfunction of equipment important to safety. No new accident possibilities were created. The margin of safety as defined in the basis for any TS was not reduced.
89-0403	This SE addressed the revision to GOI-2, "Plant Startup from Hot Standby to Minimum Load - Units 0, 1 & 2," which raises the steam generator water level at low power (0 to 20 percent) from 33 percent to 44 percent of narrow range mean. This SE was applicable to both Units 1 and 2.	This change did not impact the safety function of any of the affected systems or components. The change in the nominal water level at low power (0 to 20 percent) was needed to provide margin between the steam generator low-low level setpoint and nominal water level. This change reduced the probability of steam generator low-low level reactor trips due to fluctuations in steam generator level inventory during low power operation. There was no increase in the probability of occurrence or consequences of an accident or malfunction of equipment. No new accident possibilities were created. The TS margin of safety was not reduced.
89-0404	This SE evaluated GOI-5, "Normal Power Operation," Revision 39, that provided the UO with guidance on maintaining 100 percent reactor power. It requires that thermal power be monitored using an eight-hour shift average determined from hourly thermal power calculations. The revision instructs the UO not to exceed the thermal power value of 3411 MW and requires that the turbine governor valve limiter be set to limit secondary side operational transients which could result in power excursions above 3411 MW.	There was no increase in the probability of an accident previously evaluated in the SAR. There was no increase in the consequences of an accident previously evaluated in the SAR. No new accidents or malfunction of equipment possibilities were created. The margin of safety was not reduced.
89-0405	This SE provided technical justification for the steps added in SOI-68.2, "Reactor Coolant Pumps - Units 1 and 2," Revision 36, which disables the RCP ground fault relay (50G) trip function. The relay trip function is disabled during the transfer of 250V DC control power from the alternate to normal or from normal to alternate supply. This change prevents inadvertent actuation of the 50G relay, which will result in RCP trip and possible unit trip.	There was no increase in the probability of occurrence or consequences of an accident or malfunction of equipment. No new accidents or equipment malfunctions were created. The margin of safety was not reduced. There were no USQs.
89-0602	This SE addressed ERCW foundation and roadway cells. The evaluation concluded that the ERCW foundation and roadway cells are structurally adequate and will function as intended under their design loads. However, a limited exploratory program for the foundations was proposed by TVA to augment the available data used in the Bechtel evaluation.	The drilling and grouting necessary for the exploratory program does not affect the safety or operability of the plant. The drilling and grouting was recommended only to ensure the conditions assumed in the Bechtel evaluation actually exist. All activities were performed in accordance with established procedures. There was no increase in the probability of occurrence or consequences of an accident or malfunction of equipment important to safety. No new accident possibilities were created. The margin of safety was not reduced.

OTHER SAFETY EVALUATIONS

DESCRIPTION SUMMARY

SAFETY ANALYSIS SUMMARY

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| 89-0607 | <p>This SE addressed the deletion of the PORC oversight section functions, which were found in AI-48, "Plant Operations Review Committee (PORC) Charter." The reason for deleting this function had been created by the TVA Nuclear Power reorganization at Sequoyah. The new organization did not include a PORC oversight section; therefore, these functions were transferred or deleted.</p> | <p>These changes to AI-48 only affected administrative functions and the oversight of SEs. These changes did not impact safety and did not degrade the Independent Qualified Review process. There was no increase in the probability of occurrence or consequences of an accident or malfunction of equipment important to safety. No new accident or equipment malfunction possibilities were created. The TS margin of safety was not reduced.</p> |
| 89-0704 | <p>This SE analyzed the use of SOI-63.3, "RWST Leakage Identification," for identifying the source of water leakage from the RWST by removing one ESF pump from service at a time. The testing is permitted only if the redundant train meets the minimum conditions for operation required by applicable plant TSs.</p> | <p>The performance of this SOI does not adversely affect the safety of the plant since provisions in the procedure ensure that minimum ESFs are available. Compliance with the action statements of applicable TSs provide assurance that the performance of SOI-63.3 does not degrade the safety of the plant. The activity did not alter the control, logic, or the function of the affected components. There was no increase in the probability of occurrence or consequences of an accident or malfunction of equipment. No new accident or equipment malfunction scenarios were created. The margin of safety, as defined in the basis for any TS was not reduced.</p> |
| 89-0705 | <p>This SE provided technical justification for the issuance and performance of GOI-9.1, "6900V and 480V Shutdown Board Ground Location and Isolation." This procedure provides general instructions, prerequisites and precautions to search for and isolate ground(s) on the 6900V and 480V shutdown board 125V DC control buses.</p> | <p>There was no increase in the probability of occurrence or consequences of an accident or malfunction of equipment. No new accident or equipment malfunction possibilities were created. The margin of safety was not reduced. No USQ existed for this activity.</p> |
| 89-0707 | <p>This SE evaluated Revision 7 to SI-185, "Fire Hose Connection Control Valve Operability Test," that changes the test procedure for the fire hose connection control valve operability test. The test instruction change was made to allow the SI on the reactor building annulus fire hose valves to be performed in any operating mode. The revised test requires breaching the reactor building secondary containment through the fire protection preaction Valve 26-231 trim piping.</p> | <p>There was no increase in the probability of occurrence or consequences of an accident or malfunction of equipment important to safety, and no new accident or equipment malfunction was created. The margin of safety was not reduced. The systems will perform as intended during normal plant operation or during accident conditions as designed.</p> |
| 89-0708 | <p>This SE considered the RCS leakage that had increased from approximately 0.3 to 0.8 gpm between July 20-25, 1989. AI-58, "Maintaining Cognizance of Operation Status - Configuration Status Control - Units 0, 1 & 2," Appendix E, isolates the BIT to BAT recirculation flow path to determine if the increased leakage was due to seal leakage through 2-FCV-63-39 or 40 to the BIT and BAT. Initially, the flow path to the HUT via 2-FCV-63-24, 71, and 84 was opened. If the BIT did not pressurize in this configuration, than 2-FCV-63-24 would be closed.</p> | <p>These actions did not increase the probability of occurrence or consequences of an accident or equipment malfunction. No new accident or equipment malfunction possibilities were created. The TS margin of safety was not reduced.</p> |

OTHER SAFETY EVALUATIONS

DESCRIPTION SUMMARY

SAFETY ANALYSIS SUMMARY

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| 89-0801 | <p>TACF 0-87-033-14 installed a strainer/filter to bypass the high crud filter. This SE was required after CAQR SQQ-89-0360 was written identifying inconsistencies between operational procedures, piping configuration, and supporting documentation. Previous safety evaluations and screening reviews were written to allow use of the bag filter but did not allow discharges via the cooling tower blowdown. This SE specifically addressed the impact of discharging the condensate polishing demineralizer system regeneration waste to either the cooling tower blowdown or the turbine building sump.</p> | <p>There was no increase in the probability of occurrence or consequences of an accident or malfunction of equipment important to safety. No new accident or equipment malfunction possibilities were created. The margin of safety as defined in the basis for TS 3/4.11.1.1 was not reduced.</p> |
| 89-0802 | <p>This SE provided the 10 CFR 50.59 review of the changes to AOI-6, "Small Reactor Coolant System Leaks (Modes 1, 2, or 3) or Shutdown LOCA (Mode 4 or 5)." These changes were made to allow decisionmaking, depending on plant conditions, to be made by the designated leak search coordinator in conjunction with the SOS and the ASOS/SRD so that an RCS leak source can be determined.</p> | <p>This AOI revision did not result in any modification to the affected systems. The change provides the ability to identify an RCS leak source using the process of isolating trains and/or components. Implementation of the procedure change did not alter the control, logic, or function of any of the systems affected. There was no increase in the probability of occurrence or consequences of an accident or malfunction of equipment. No new accident or equipment malfunction possibilities were created. All TS LCOs were adhered to. The margin of safety was not reduced.</p> |
| 89-0821 | <p>Performances of SI-137.2, "Reactor Coolant System Water Inventory," with 2-FCV-63-24 closed had indicated that the leakage through the BIT discharge isolation valves had decreased. This procedure isolated the BIT to BAT recirculation flow path and closed 2-FCV-63-24, 71, and 84 to further determine if the BIT discharge isolation valves were still leaking through.</p> | <p>Removing the BIT to BAT recirculation from service did not adversely affect safety since the BIT temperature was maintained at $\geq 165^{\circ}\text{F}$ and before returning the BIT to operable status the boron concentration, temperature, and water volume were verified to be within specifications. There was no increase in the probability of occurrence or consequences of an accident or malfunction of safety-related equipment. No new accident possibilities were created. There was no decrease in the TS margin of safety.</p> |
| 89-0903 | <p>The SE was written to revise the SAR to specify a range of 45 to 55 percent glycol in the ice condenser cooling system. The existing specification required glycol concentration be exactly 50 percent. Revision of the SAR to state a range rather than an exact value ensures that glycol specifications can be practically maintained.</p> | <p>There was no increase in the probability of occurrence or consequences of an accident or malfunction of equipment, and no new possibilities were created. The margin of safety was not reduced. No USQ was involved as the result of this activity. The ice condenser refrigeration system performance was not adversely impacted.</p> |

NUMBER OF PERSONNEL AND MAN-REM BY WORK JOB FUNCTION
 TOTAL NUMBER OF INDIVIDUALS

NUMBER OF PERSONNEL (<) 100 M-REM) TOTAL MAN-REM

MO=REACTOR OPS SURVEILLANCE

GROUP	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT AND OTHERS	TOTAL PERSONS	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT AND OTHERS	TOTAL M-REMS
MAINTENANCE PERSONNEL	257	3	13	273	6.121	0.011	0.601	6.733
OPERATING PERSONNEL	39	2	2	43	6.789	0.113	0.008	6.910
HEALTH PHYSICS PERSONNEL	55	1	95	151	5.380	0.007	11.074	16.461
SUPERVISORY PERSONNEL	28	4	10	42	1.997	0.605	0.405	3.057
ENGINEERING PERSONNEL	48	19	9	76	3.216	1.209	0.417	4.902
MO	427	29	129	585	23.503	2.055	12.505	38.063

MO=ROUTINE MAINTENANCE

GROUP	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT AND OTHERS	TOTAL PERSONS	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT AND OTHERS	TOTAL M-REMS
MAINTENANCE PERSONNEL	554	10	13	577	87.542	2.312	1.316	91.170
OPERATING PERSONNEL	33	2	0	35	0.210	0.000	0.000	0.210
HEALTH PHYSICS PERSONNEL	130	1	94	225	45.775	0.000	5.313	51.088
SUPERVISORY PERSONNEL	27	4	9	40	1.443	0.019	0.286	1.748
ENGINEERING PERSONNEL	68	22	142	232	5.427	0.825	14.378	20.630
MO	812	39	258	1109	140.397	3.156	21.293	164.846

MO=IN-SERVICE INSPECTION

GROUP	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT AND OTHERS	TOTAL PERSONS	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT AND OTHERS	TOTAL M-REMS
MAINTENANCE PERSONNEL	116	1	0	117	13.827	0.299	0.000	14.126
OPERATING PERSONNEL	4	0	0	4	0.069	0.000	0.000	0.069
HEALTH PHYSICS PERSONNEL	67	0	52	119	21.935	0.000	20.513	42.448
SUPERVISORY PERSONNEL	8	0	26	34	0.528	0.000	4.425	4.953
ENGINEERING PERSONNEL	12	37	175	224	3.366	19.889	98.573	120.828
MO	207	38	253	498	39.725	19.103	123.511	182.424

MO=SPECIAL MAINTENANCE

GROUP	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT AND OTHERS	TOTAL PERSONS	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT AND OTHERS	TOTAL M-REMS
MAINTENANCE PERSONNEL	388	4	12	404	108.468	0.622	2.173	111.263

NUMBER OF PERSONNEL AND MAN-REM BY WORK JOB FUNCTION
 TOTAL NUMBER OF INDIVIDUALS

	NUMBER OF PERSONNEL () 100 M-REM				TOTAL MAN-REM			
	OPERATING PERSONNEL	HEALTH PHYSICS PERSONNEL	SUPERVISORY PERSONNEL	ENGINEERING PERSONNEL				
	18	1	0	19	0.171	0.001	0.000	0.172
	54	0	82	136	4.116	0.000	25.603	29.719
	26	0	11	37	2.510	0.000	0.487	2.997
	56	15	129	200	13.332	1.183	82.857	97.372
MO	542	20	234	796	128.597	1.806	111.320	241.723

MO=WASTE PROCESING

GROUP	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT AND OTHERS	TOTAL PERSONS	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT AND OTHERS	TOTAL M-REMS
MAINTENANCE PERSONNEL	76	0	1	77	2.632	0.000	0.030	2.662
OPERATING PERSONNEL	3	0	2	10	0.078	0.000	1.798	1.876
HEALTH PHYSICS PERSONNEL	79	0	18	97	5.566	0.000	0.486	6.052
SUPERVISORY PERSONNEL	9	2	2	13	0.182	0.024	0.013	0.219
ENGINEERING PERSONNEL	6	3	0	9	0.161	0.051	0.000	0.212
MO	178	5	23	206	6.619	0.075	2.327	11.021

MO=REFUEL

GROUP	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT AND OTHERS	TOTAL PERSONS	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT AND OTHERS	TOTAL M-REMS
MAINTENANCE PERSONNEL	255	5	3	263	13.295	0.010	0.015	13.320
OPERATING PERSONNEL	78	1	0	29	0.497	0.008	0.000	0.505
HEALTH PHYSICS PERSONNEL	99	0	38	137	7.632	0.000	7.067	14.699
SUPERVISORY PERSONNEL	9	0	4	13	1.312	0.000	0.514	1.826
ENGINEERING PERSONNEL	29	12	37	78	0.255	1.714	15.402	17.371
MO	420	18	82	520	22.991	1.732	22.998	47.721
	2586	149	979	3714	363.832	28.012	293.954	685.798

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 RUN DATE: 02-14-92
 RUN TIME: 13:44:46

TENNESSEE VALLEY AUTHORITY
 SQN RADIATION EXPOSURE SYSTEM

PAGE 1

NUMBER OF PERSONNEL AND MAN-REM BY WORK JOB FUNCTION
 TOTAL NUMBER OF INDIVIDUALS

GROUP	NUMBER OF PERSONNEL () 100 M-REM				TOTAL MAN-REM			
	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT AND OTHERS	TOTAL PERSONS	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT AND OTHERS	TOTAL M-REMS
MAINTENANCE PERSONNEL	1646	23	42	1711	231.885	3.254	4.135	239.274
OPERATING PERSONNEL	130	6	4	140	7.814	0.122	1.806	9.742
HEALTH PHYSICS PERSONNEL	484	2	379	865	90.404	0.007	70.256	160.667
SUPERVISORY PERSONNEL	107	10	62	179	7.972	0.698	6.130	14.800
ENGINEERING PERSONNEL	217	108	492	819	25.757	23.931	211.627	361.315
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	2586	149	979	3714	363.832	28.012	293.954	685.798

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 RUN DATE 02-14-92
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T E N O C S S I E A S L N E F A J I J T F
 SON RADIATION EXPOSURE SYSTEM

NUMBER OF PERSONNEL AND MAN-REM BY WORK JOB FUNCTION
 TOTAL NUMBER OF INDIVIDUALS

GROUP	STATION	UTILITY	CONTRACT	TOTAL
MAINTENANCE PERSONNEL	551	11	19	361
OPERATING PERSONNEL	39	2	2	43
HEALTH PHYSICS PERSONNEL	110	1	92	203
SUPERVISORY PERSONNEL	25	5	28	49
ENGINEERING PERSONNEL	75	37	176	388
	801	57	317	1175