

Indian Point 3  
Nuclear Power Plant  
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**New York Power  
Authority**

**L. M. Hill**  
Resident Manager

January 20, 1995  
IPN-95-005

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

**SUBJECT:** Indian Point 3 Nuclear Power Plant  
Docket No. 50-286  
License No. DPR-64  
**Code of Federal Regulations 10 CFR 50.59,  
Annual Report of Changes, Tests and Experiments**

Dear Sir:

This letter transmits the 1993 Annual Report of changes, tests and experiments conducted at the Indian Point 3 Nuclear Power Plant in accordance with 10 CFR 50.59 for the period of January 23, 1993 to January 22, 1994. The report, required by 10 CFR 50.59(b)(2), is contained as Attachment I.

The Authority has reviewed each change, test or experiment to ensure that the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the safety analysis report has not been increased, the possibility of an accident or malfunction of a different type that any evaluated previously in the safety analysis report has not been created, and the margin of safety as defined in the basis for any technical specification has not been reduced. The Authority concluded that these changes, tests and experiments did not involve any unreviewed safety question.

Should you or any of your staff have questions concerning this matter, please contact Mr. James Zach, General Manager of Operations at (914) 736-8041.

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The Authority is making no commitments in this letter.

Very truly yours,



L. M. Hill  
Resident Manager  
Indian Point 3 Nuclear Power Plant

Attachment

cc: Thomas T. Martin  
Regional Administrator  
Region I  
U.S. Nuclear Regulatory Commission  
475 Allendale Road  
King of Prussia, Pennsylvania 19406-1415

U.S. Nuclear Regulatory Commission  
Resident Inspectors' Office  
Indian Point 3 Nuclear Power Plant

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1993 ANNUAL REPORT

NSE 86-03-122 CVCS, REV. 1

EVALUATION OF THE POTENTIAL RELEASE OF NOBLE GASES  
VIA THE MONITOR TANK VENTS

Description and Purpose

This Nuclear Safety Evaluation (NSE) was performed to evaluate a potential noble gas release path from the monitor tanks and also to provide justification for using the liquid waste processing mechanisms during cold shutdown.

Summary of Safety Evaluation

Modification 86-3-122 CVCS, Rev. 0 addressed the removal of the gas stripper with boric acid evaporation system. This evaluation establishes administrative controls to preclude a release of noble gasses exceeding  $3.0 \text{ E-3 } \mu\text{Ci/cc}$ .

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1993 ANNUAL REPORT

NSE 88-03-135 CCW, REV. 2

REVISED SETPOINT FOR COMPONENT COOLING WATER (CCW) HEAT  
EXCHANGER OUTLET TEMPERATURE ALARM

Description and Purpose

The purpose of this evaluation was to determine the effect of increasing the alarm setpoint for the CCW Heat Exchanger temperature alarm from 105°F to a value of 110°F. The purpose of the temperature alarm is to inform operators of an overheating condition.

Summary of Safety Evaluation

The revised alarm setpoint does not diminish the system's safety related function.

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1993 ANNUAL REPORT

CLS 89-03-011 EDG, REV. 3

EMERGENCY DIESEL GENERATOR STARTING AIR COMPRESSORS

Description and Purpose

This evaluation reclassified the Emergency Diesel Generator Starting Air Compressors (from Quality Assurance Category I to Category M) commensurate with the equipment's safety function. This included the compressor motors, control switches and wiring, electrical power feeds, and compressor discharge piping to the air tank isolation valves (DA-1-1, DA-1-2, DA-1-3).

Summary of Safety Evaluation

This Classification allows the Authority to impose those Quality Assurance requirements which are judged to be essential and which can be reasonably met by the manufacturer for commercial grade parts and components.

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1993 ANNUAL REPORT

NSE 90-03-037 RMS, REV. 1

REPLACEMENT OF R-11/12 - CONTAINMENT PARTICULATE  
& NOBLE GAS RADIATION MONITOR

Description and Purpose

This modification replaced the existing R-11/12 radiation monitoring sampling skid with a new monitoring skid that will monitor the containment atmosphere's particulate and noble gas radioactivity. The previous R-11/12 skid had experienced multiple failures including sample dilution and inaccurate readings due to the age and design of the previous equipment.

Summary of Safety Evaluation

The safety functions of these monitors were met with the new system.

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**1993 ANNUAL REPORT**

MMP 90-03-216 SWS, REV. 0

REPLACEMENT OF SERVICE WATER SYSTEM (SWS) PIPING LINES 494 - 499

Description and Purpose

This modification removed cement-lined carbon steel pipelines which were corroded severely on sections outside containment and replaced them with stainless steel piping which is more resistive to the corrosion mechanisms that occur in service water piping than the other available piping materials would be. The areas changed included service water lines 494-499 (for the containment recirculation fan cooling unit motor coolers), the sections of lines outside containment and downstream of manual isolation valves SWN-71-1 through 5, the portion of line 494 from the end cap of the header to just upstream of support SWN-H&R-519-U and pipe supports SWN-H&R-518A-U and SWN-H&R-518B-U. U-bolts and angles were changed to accommodate smaller piping.

Summary of Safety Evaluation

This modification replaced existing corroded piping without altering the function or operation of the piping system.

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**1993 ANNUAL REPORT**

CLS 91-03-006 MULT, REV. 4

**MISCELLANEOUS CONSUMABLE COMMODITY ITEMS**Description and Purpose

The purpose of this classification was to establish the Quality Assurance (QA) controls on miscellaneous consumable items (adhesives, cements and glues, anti-seize compounds, electric joint and pipe joint compounds, cleaners and solvents, leak detectors and teflon tape) that have generic applications. This classification change ensures proper maintenance and reliable operation.

Summary of Safety Evaluation

All of the items addressed in the classification meet the definition of a commercial grade item and provide no safety related function in the operability of the host equipment nor are they an integral part of the component which satisfies a nuclear safety concern. Reclassifying these items ensures compliance with FSAR Section 17.2.8 and eliminates the need to procure the items in accordance with a full 10 CFR 50, Appendix B, QA program.

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1993 ANNUAL REPORT

MMP 91-03-161 SWS, REV. 0

INSTALLATION OF LOCAL DELTA PRESSURE GAUGES  
ON THE EMERGENCY DIESEL GENERATORS (EDG) LUBE OIL AND JACKET  
WATER HEAT EXCHANGERS (SERVICE WATER SIDE)

Description and Purpose

The purpose of this minor modification was to install local differential pressure indication on each of the three (3) Emergency Diesel Generator heat exchanger sets. These instruments provide indication of the cleanliness of the service water side of the heat exchangers.

Summary of Safety Evaluation

This gauge installation provides information so the heat exchangers can be maintained at peak performance. The gauges do not affect the operability of the Emergency Diesel Generators or the Service Water System.

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1993 ANNUAL REPORT

NSE 92-03-091 SI, REV. 2

REVISION OF FSAR SECTION, 6.2 SAFETY INJECTION SYSTEM AND  
FSAR SECTION 16.3, DEMONSTRATION OF ADEQUACY OF  
SELECTED SEISMIC CLASS I ITEMS

Description and Purpose

This evaluation ensured that the revisions to section 6.2 and 16.3 of the FSAR are consistent with their respective Design Basis Documents (DBD's).

Summary of Safety Evaluation

The revisions made to the FSAR are editorial in nature and are not safety significant.

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**1993 ANNUAL REPORT**

NSE 92-03-121 SI, REV. 2

**HIGH HEAD SAFETY INJECTION (HHSI) FLOW CHANGES**Description and Purpose

This evaluation examined changes that Westinghouse made to the HHSI flow balancing criteria and reduced HHSI flows which are used in various safety analyses to ensure that these changes did not adversely affect safe plant operation. The changes were made to minimum and maximum safeguards injection flows to support the Indian Point 3 Vantage V fuel upgrade and containment margin improvement programs.

Summary of Safety Evaluation

The HHSI Flow Changes Safety Evaluation (SECL-92-131), performed by Westinghouse, determined that flow changes would not represent an unreviewed safety question since these changes were evaluated by a revised safety analysis including: Loss of Coolant Accident analysis (LOCA), Steam Generator Tube Rupture (SGTR), Containment Integrity and Ultimate Heat Sink service water temperature effect. Also, FSAR Sections 6.2 and 14.3 required revision to reflect the new HHSI flow balancing criteria and Technical Specification Section 4.4.A.2 was revised to reflect the new calculated peak containment pressure.

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**1993 ANNUAL REPORT**

NSE 92-03-165 DCPWR, REV. 1

**REPLACEMENT OF 31 AND 32 BATTERIES**

Description and Purpose

The purpose of this modification was to replace Gould model NCX-2550 cells, in the 31 and 32 Battery configuration, with Exide Model GC-33 cells due to their expired life and also to change the cable size (from 373 MCM to 350 MCM) to conform with the new installation. The replacement cells provide an increased 8 ampere hour rate for increased loading capabilities while utilizing the existing battery space.

Summary of Safety Evaluation

The batteries and cable are both adequate for the loads listed in the FSAR.

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**1993 ANNUAL REPORT**

NSE 92-03-250 IA, REV. 1

**INSTRUMENT AIR RECEIVER REPLACEMENT, MOISTURE DETECTOR  
UPGRADE AND STAINLESS STEEL PIPING INSTALLATION  
SUPPORTING TEMPORARY MODIFICATIONS 93-00318-08, 09, AND 10**

Description and Purpose

This modification replaced the carbon steel Instrument Air (IA) receiver and its associated piping and valves with stainless steel and installed a connection for a new moisture detector that monitors dewpoint conditions.

In support of the modification installation, three temporary modifications (TM) were required to maintain IA system functionality.

TM 93-00318-08 removed a flow orifice to enhance Station Air support of IA.

TM 93-00318-09 provided filtered cross-connects at four selected locations to support IA loads.

TM 93-00318-10 made available a diesel-driven air compressor as a backup to Station Air which was connected to the IA system.

Summary of Safety Evaluation

The new stainless steel air receiver and moisture detector improves the performance characteristics of the Instrument Air system, by reducing corrosion and adding instrumentation to measure the moisture content in the system. The associated temporary modifications did not diminish the support function of the IA system.

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**1993 ANNUAL REPORT**

NSE 92-03-253 480V, REV. 0

**PRESSURIZER HEATERS PENETRATION PROTECTION**

Description and Purpose

This modification replaced each pressurizer heater 480VAC, 3-pole, 125A circuit breaker with a 100A breaker and installed three new fuse panels with seventy-eight 100A fuses to provide backup electrical protection for the three containment penetrations associated with the pressurizer heater circuits for postulated faults of the heaters or heater cables inside containment.

Summary of Safety Evaluation

The breakers and fuses interface with two plant electrical systems; the 480VAC Electrical Distribution System and the Containment Isolation System (electrical penetrations). The 480VAC circuit protection has been designed to isolate the pressurizer heater circuits on electrical faults, and the protection has been coordinated with other protective devices to prevent the loss of other equipment connected to the same distribution system due to a pressurizer heater or cable failure, thereby maintaining electrical separation. The fuses are sized in accordance with NEC requirements and coordinate with the upstream breakers to provide the short circuit protection required for the penetration conductors.

The new fire damper access door, that was installed in the HVAC system return duct, has been designed in accordance with Seismic Class I standards. The three (3) new fuse panels installed in the Upper Electrical Tunnel have been seismically supported and analyzed in accordance with Seismic Class I standards and Indian Point 3 (IP3) FSAR requirements. All cable has been installed in compliance with the IP3 electrical installation criteria and has been procured to meet IEEE 383 1974, the Five-Minute Vertical Flame Test and Bonfire Test criteria.

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**1993 ANNUAL REPORT**

NSE 92-03-262 ARM, REV. 1

**EVALUATION OF REMOVING FROM SERVICE CERTAIN  
AREA RADIATION MONITORS**

Description and Purpose

This modification removed radiation monitors (R-48D, R48E, R-48F, R-49, R-51, R-53A, R-53B, R-54A, R-54C, R-55A) from service. These monitors were located throughout the building and alarmed on the CP-4 panel of the 4th floor Administration Building.

Summary of Safety Evaluation

These radiation monitors are located in areas which have little or no radiation hazards and are redundant to radiation surveys performed on a periodic basis by Health Physics. These radiation monitors were removed because they had no control functions and were not used in any accident scenarios in the FSAR. These radiation monitors were not required by Technical Specifications, Radiological and Environmental Technical Specifications, Regulatory Guides or NUREG's.

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**1993 ANNUAL REPORT**

MMP 93-03-006 IA, REV. 0

**NITROGEN GENERATOR SYSTEM INSTALLATION  
IN STEAM WATER ANALYZER PANEL (SWAP) LABORATORY**

Description and Purpose

The purpose of this minor modification was to supply instrument air via isolation valve (IA-40-93) to the Nitrogen Generator System located in the SWAP laboratory. This minor modification also cleared Temporary Modification #1397 (the modification that installed the Nitrogen Generator) by installing permanent supports for the instrument air supply tubing.

Summary of Safety Evaluation

The installation of the Nitrogen Generator System in the SWAP laboratory is a Quality Assurance Non-Category I undertaking which will not affect any safety related systems. As a result of this modification, a minor change was made to the FSAR and is also reflected in the Instrument Air System Flow Diagram.

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1993 ANNUAL REPORT

NSE 93-03-007 PRM, REV. 1

EVALUATION OF TEMPORARY MODIFICATION 92-02789-07  
FOR REMOVAL OF R-50 FROM SERVICE

Description and Purpose

This evaluation examines leaving temporary modification 92-02789-07 in place until a permanent modification removes radiation monitor R-50, "Laundry Tank Liquid Activity," from service.

Summary of Safety Evaluation

The original intent of this monitor was to detect discharges from the laundry tanks to the Hudson river as a result of cleaning potentially radioactive laundry at Indian Point 3 (IP3). The laundry tanks and associated system are not used for potentially radioactive laundry; in fact, all laundry is cleaned offsite, thereby rendering no useful purpose for this radiation monitor.

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**1993 ANNUAL REPORT**

CLS 93-03-022 EHT 31, REV. 0

**BACKUP SERVICE WATER HEAT TRACE CIRCUIT 32**

Description and Purpose

The purpose of this classification is to classify the heat trace cable for backup service water valve pit lines 408 and 712 from Quality Assurance (QA) Non-Category I to Category I. Backup service water heat trace circuit 32 provides freeze protection for QA Category I lines 408 and 712 which has a QA Category I section in the backup service water valve pit. Since the cable ensures that the QA Category I lines will perform their nuclear safety functions, it shall be deemed QA Category I.

Summary of Safety Evaluation

This classification assures the Quality Assurance controls commensurate with the function of the cable to maintain pipe content temperatures as originally designed.

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**1993 ANNUAL REPORT**

NSE 93-03-044 VC, REV. 0

**NUCLEAR SAFETY EVALUATION FOR CONTAINMENT ELECTRICAL  
PENETRATION PROTECTION**Description and Purpose

This evaluation addressed the issues dealing with the design basis for containment electrical penetrations identified by the NRC's Electrical Distribution System Functional Inspection (EDSFI) Report 50-286/91-80. The concern was whether the containment electrical penetrations would maintain their mechanical/structural integrity when exposed to short-circuit currents under worst case operating conditions.

Summary of Safety Evaluation

Calculations were generated to establish the worst case boundary condition associated with continuous, short time, and short circuit current and operating environments. Two enveloping scenarios associated with the 6.9 KV reactor coolant pumps motors and 480VAC containment recirculation fan motors were evaluated for the ability of the penetration seals to maintain mechanical and electrical integrity based on the thermal and mechanical stresses present. It was concluded that all containment electrical penetrations will maintain the integrity of electrical and mechanical penetration seals, and therefore, maintain containment pressure boundary integrity as required under all postulated operating scenarios.

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**1993 ANNUAL REPORT**

NSE 93-03-046 MFW, REV. 0

**FEEDWATER REGULATING VALVE STROKE TIME CHANGE**

Description and Purpose

This evaluation assessed the change in stroke time (from 5 seconds to 10 seconds) for the steam generator feedwater regulating valves and ensured that the change would not adversely affect safe plant operation.

Summary of Safety Evaluation

The change in stroke time is acceptable because the peak pressure for the limiting Main Steam Line Break (MSLB) event was calculated to be 42.17 psig, which is less than the design limit of 47 psig, and less than the Integrated Leak Rate Test (ILRT) technical specification limit of 42.42 psig. Therefore, margin is maintained between the peak calculated containment pressure and the design pressure.

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1993 ANNUAL REPORT

DEM 93-03-053 PAB, REV. 0

PAB REMOVABLE DOOR

Description and Purpose

This modification replaced a removable wall in the Non-Regenerative Heat Exchanger (NRHX) cell with a removable door and two shielding supports for the purpose of reducing personnel radiation exposure when doing maintenance on the NRHX.

Summary of Safety Evaluation

The door and shielding support design do not create any detrimental interaction with safety related equipment since it was designed to be equivalent to the block wall in terms of structural integrity, area access control, and personnel radiation protection.

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**1993 ANNUAL REPORT**

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NSE 93-03-061 RCS, REV. 0

**EVALUATION OF TEMPORARY MODIFICATIONS  
93-02376-02, 03, 04, AND 05  
FOR REACTOR COOLANT SYSTEM (RCS) MID-LOOP OPERATIONS**

Description and Purpose

The purpose of this evaluation was to provide an evaluation of the following temporary modifications that provided enhancements for the draining of the RCS during the outage:

- 93-02376-02 - eliminates the drainable loop seal for the existing level column vent line.
- 93-02376-03 - prevents moisture traps and loop seals for the existing level column vent line.
- 93-02376-04 - connects reactor vessel head vent to the pressurizer establishing the same vent path as both level columns and eliminates RCS fluid buildup in the reactor head caused by unequalized venting.
- 93-02376-05 - installed a second independent level column using tygon and stainless steel tubing from the hot leg via PT-403 and vented to the pressurizer.

Summary of Safety Evaluation

Because these temporary modifications only serve to enhance RCS level indication during draindown and are only in effect during cold shutdown, they do not affect the functions of the RCS.

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1993 ANNUAL REPORT

NSE 93-03-062 FRW, REV. 1

EVALUATE CONNECTION OF OUTAGE SUPPORT  
TRAILER SPRINKLER SYSTEMS TO TURBINE  
BUILDING STANDPIPES

Description and Purpose

Temporary modifications 93-02976-28, 30, and 35 installed 1 1/2" fire hose from four Turbine Building standpipe/hose stations to the outage support trailers' internal suppression systems. This was accomplished by the installation of gated "Y" valves on the standpipes, simultaneously facilitating connection of existing attached hoselines and the trailer sprinkler systems.

Summary of Safety Evaluation

The safety analysis determined that the trailer connections did not affect the operability of the existing hose stations or inhibit manual fire fighting capability.

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**1993 ANNUAL REPORT**

NSE 93-03-063 FRW, REV. 0

**CONDENSER TUBE CLEANING FIRE WATER CONNECTIONS  
USING TEMPORARY MODIFICATION 93-00446-01**

Description and Purpose

The purpose of this evaluation was to justify the installation of a temporary modification to support condenser tube cleaning efforts at the 15 foot elevation of the Turbine Building using fire protection water supplies. This associated modification involved the installation of a "gated Y" fire connection to Hose Station 311 (Isolation Valve FP-155) and Hose Station 314 (Isolation Valve FP-161). This provides water to the Condenser Tube cleaning stations while maintaining a source of water for the Fire Brigade in the event of a fire.

Summary of Safety Evaluation

This temporary modification does not affect plant systems or fire protection from performing their function. The two affected hose stations are still capable of performing their intended functions.

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1993 ANNUAL REPORT

NSE 93-03-070 NIS, REV. 0

TEMPORARY MODIFICATION 93-02700-00 TO  
USE NEUTRON FLUX DETECTOR CABLE TO TRANSMIT A CAMERA SIGNAL  
FROM THE CONTAINMENT TO THE CONTROL ROOM (CR)  
DURING REACTOR COOLANT SYSTEM (RCS) INVENTORY

Description and Purpose

This evaluation examined the use of Neutron Flux Detection Drive cables that transmit video/camera signals between the containment and the CR and are used for monitoring RCS water level when in cold shutdown.

Summary of Safety Evaluation

The cameras are only used during cold shutdown conditions; therefore, currents produced by the camera power supply will not cause deterioration to the electrical penetration or cables. The cable routing and camera mounting are also situated so there is no hazard to the equipment in the area around or below it.

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**1993 ANNUAL REPORT**

MMP 93-03-071 IB, REV. 0

**INSTRUMENT BUS MONITOR REMOVAL**Description and Purpose

The purpose of this modification was to remove the instrument bus transient monitors and recorder from the control room (CR) because the information they provided was inaccurate and unreliable. They only provided the magnitude and duration of transients and did not prevent transients from occurring.

Summary of Safety Evaluation

Operators are able to obtain reliable information regarding duration of transients and the affected instrument buses by observing the response of instruments powered from the instrument buses and by reviewing data from the Sequence of Events recorder and the plant computer. The removal of these monitors and recorder does not have any effect on existing equipment and does not have an effect on safety.

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**1993 ANNUAL REPORT**

MMP 93-03-085 RCS, REV. 0

**REDUCED REACTOR COOLANT SYSTEM (RCS) INVENTORY (MIDLOOP)  
LEVEL INDICATION**

Description and Purpose

The purpose of this minor modification was to improve the response time and reliability of determining Reactor Coolant System level as a result of:

- GL 87-12 "Loss of RHR while RCS is partially filled,"
- GL 88-17 "Loss of Decay Heat Removal" and
- NRC commitments: IPN-87-043, IPN-87-061, IPN-89-001, IPN-89-008 & IPN-91-014.

The original design involved the use of one level column, fed through the 31 RCS intermediate leg, and it was paralleled by the Ultrasonic Level Monitoring System (ULMS). The new design uses two level columns independently supplied by the low point drain lines of the 32 and 34 RCS intermediate loop piping in addition to the existing ULMS. It also provides coverage viewable from the control room (CR).

The description of the new level columns in section 4.3.7 of the FSAR as well as figures 4.2-2A, 4.2-2B, 11-1.1A have been updated.

The addition of the two new level columns and the CR monitoring provides operators with a more predictable draindown of the RCS.

Summary of Safety Evaluation

The level columns' connection points do not alter any piping within the RCS Seismic Class I boundary. All piping supports and restraints are designed, analyzed, and installed as seismic Class I. Piping was analyzed to ANSI B31.1 Power Piping code which is consistent with plant design. The only sections of piping containing radioactive RCS fluid are limited to within the containment building including the column vents which return to the pressurizer. No new release paths are created by the implementation of this minor modification. System cables are disconnected at both ends by procedure prior to exceeding cold shutdown to maintain channel separation.

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**1993 ANNUAL REPORT**

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NSE 93-03-090 RCS, REV. 2

**EVALUATION OF THE SPECIAL REACTOR COOLANT SYSTEM (RCS)  
DRAINDOWN EVOLUTION FOR THE OUTAGE**

Description and Purpose

This evaluation addressed the special draindown evolution to ensure that both the RCS intermediate leg level column and the ultrasonic level monitoring system (ULMS) had been tested in a safe, conservative manner and to ensure that both systems have been declared operable prior to performing work in a reduced inventory.

This evaluation included evaluations of:

- Temporary Operating Procedure (TOP), TOP-76,
- Temporary Modification (TM), TM 93-02376-11 (to facilitate the venting of the RCS intermediate leg level column),
- Engineering Tests (ENG), ENG-390G,H,I that were performed to determine operability of the TM and ULMS, and
- The backseat integrity of the reactor coolant pump (RCP) shaft to prevent leakage during seal replacement.

Summary of Safety Evaluation

The TM only serves to enhance level monitoring during draindown. TOP-76 and the ENG's provide for a safe, controlled evolution prior to conducting work in a reduced inventory condition. The RCP backseat serves to prevent uncontrolled leakage in the event that the reactor coolant level is raised above the backseat.

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**1993 ANNUAL REPORT**

NSE 93-03-109 EHT33, REV. 0

**TEMPERATURE SETPOINT CHANGE JUSTIFICATION  
FOR BORIC ACID HEAT TRACE CIRCUIT 23  
USING TEMPORARY MODIFICATION 93-02539-01**

Description and Purpose

This evaluation was done to temporarily lower the setpoint temperature, from 165°F to 145°F, on boric acid heat trace (BAHT) circuit 23 because the circuit had been unable to maintain its low temperature setpoint since the plant was brought to cold shutdown and caused the BAHT low alarm to indicate in the control room (CR). The change in setpoint was documented by Temporary Modification 93-02539-01.

Summary of Safety Evaluation

BAHT circuit 23 is operating and is heating fluid to approximately 145°F. It is not necessary to maintain 165°F because the crystallization point is only 32°F. Lowering the setpoint temperature cleared the alarm in the CR and ensured that other defective BAHT could be still be detected. The temperature change does not increase the probability of system malfunction.

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1993 ANNUAL REPORT

MMP 93-03-119 AMSAC, REV. 0

AMSAC SOFTWARE REVISION

Description and Purpose

This modification replaced logic software package version 2.1 with updated version 2.3.1 on the AMSAC system. This was done to correct timer initialization problems and to prevent potential trips associated with system startup.

Summary of Safety Evaluation

This software revision allows the AMSAC system to function in accordance with its original design and does not affect any safety related equipment.

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1993 ANNUAL REPORT

NSE 93-03-129 COND, REV. 0

PREVENTING AUTOMATIC CLOSURE OF CT-LCV-1158-1 ON  
LOW LEVEL DURING DRAINDOWN OF THE CONDENSATE STORAGE TANK  
(CST) USING A TEMPORARY MODIFICATION 93-03188-00

Description and Purpose

This evaluation examined the use of an electrical jumper, Temporary Modification 93-03188-00, on LIC-1102S to prevent automatic closure of CT-LCV-1158-1 on low CST level during planned draindown of the CST in support of the removal of the CST diaphragm.

Summary of Safety Evaluation

The installation of the electrical jumper defeating the CST low level isolation signal for CT-LCV-1158-1 can be installed in order to support maintenance activities without affecting plant safety provided the plant is in a cold shutdown condition.

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**1993 ANNUAL REPORT**

MMP 93-03-137 EDG, REV. 0

**EMERGENCY DIESEL GENERATOR FUEL OIL DAY TANK LEVEL  
INDICATION UPGRADE**

Description and Purpose

This modification replaced the pneumatic level indicators with direct level measuring gauge glasses on the Emergency Diesel Generator (EDG) Day Tanks, 31, 32 and 33. This was done to eliminate incorrect and erratic level readings and to eliminate constant calibration of the indicators caused by level changes and system overflow.

Summary of Safety Evaluation

The replacement of the EDG level indicators with gauge glasses provides the indication system with more reliable information and greatly reduces maintenance. The gauge glass assembly was designed for pressure and temperature conditions far in excess of the EDG fuel oil system conditions, was dedicated Quality Assurance Category I, and was seismically analyzed by UE&C and found to be adequate.

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**1993 ANNUAL REPORT**

MMP 93-03-138 CVCS, REV. 0

**VOLUME CONTROL TANK (VCT) LC-112D PIPING UPGRADE**

Description and Purpose

The purpose of this minor modification was to raise the actuation point of level switch, LC-112D, which actuates the VCT low level alarm in the control room (CR) from 4.5" to 9.5" (VCT level) in order to obtain the alarm setpoint in accordance with the original design criteria. In addition, this modification installed two vents and an isolation valve in order to make calibration of the VCT level instrumentation easier.

Figure 9.2.1 in the FSAR has been updated to show the new valves, CH-300C, "LT-112 Vent Valve", CH-300D, "LC-112D Vent Valve", and CH-300E, "LC-112D Isolation Valve".

Summary of Safety Evaluation

The changing of this setpoint allows the alarm to actuate prior to swap over to the refueling water storage tank (RWST) which takes place at 6" (VCT level), thus providing the CR operators with an increased awareness of falling VCT level. This modification ensured that the correct sequence of events is maintained per original system design.

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1993 ANNUAL REPORT

NSE 93-03-142 SWS, REV. 0

EVALUATION OF TYING OR CROSS-CONNECTING THE SERVICE WATER  
SYSTEM HEADERS AT COLD SHUTDOWN

Description and Purpose

This evaluation examined the safety significance of allowing the essential and non-essential Service Water System (SWS) headers to be cross-connected when in a cold shutdown condition (CSD).

Summary of Safety Evaluation

Connecting the SWS headers at CSD is acceptable because the support function it provides to safety related components is maintained.

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**1993 ANNUAL REPORT**

NSE 93-03-148 IA, REV. 0

**EVALUATION OF INSTRUMENT AIR DRAIN TRAPS REPLACEMENT**Description and Purpose

This evaluation examined the piping reroutes and valve upgrades in the Instrument Air system which resulted from the instrument air (IA) drain traps replacement. Air ball float drain traps were replaced with high pressure, automatic compressed air traps. Carbon steel piping and valves (from the aftercooler/separators to the drain traps and the drain line from 31 Air Receiver tank) were replaced with stainless steel to reduce corrosive byproducts. Isolation valves (tapping into the IA supply lines), balancing lines (between both aftercooler/separators and the receiver tank), and their respective Drain All traps have also been added, as well as a 1/2" line to the traps to provide necessary flow requirements and a 2" drip leg has been added to collect and remove scale and rust deposits. FSAR Figure 9.6-13 has been updated to reflect these changes.

Summary of Safety Evaluation

The piping reroutes and valve upgrades are improvements of the system and do not change the original design basis of the system.

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1993 ANNUAL REPORT

NSE 93-03-151 DCPWR, REV. 0

EVALUATION OF 125VDC SYSTEM COORDINATION

Description and Purpose

This evaluation examined the coordination and separation issues associated with the 125VDC system to ensure that a single, random failure will not result in loss of redundant DC power and/or distribution panels due to a common mode electrical failure.

Summary of Safety Evaluation

The coordination plots, short circuit calculations and cable routings have been evaluated and it has been determined that even for the worst case scenario, a single random failure will only result in the loss of a single distribution or power panel and not result in the loss of redundant DC power and/or distribution panels.

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1993 ANNUAL REPORT

NSE 93-03-154 CL, REV. 0

BACK-UP SERVICE WATER PUMPS CHLORINATION  
BY TEMPORARY MODIFICATION 93-03547-00

Description and Purpose

This evaluation initiated a Temporary Modification to chlorinate the back-up Service Water System (SWS) to mitigate the potential for bio-fouling when the back-up SWS is in service. This Temporary Modification provides a 1/4" nipple and valve off the existing instrument tap on the discharge of back-up service water pumps, 37, 38 and 39.

Summary of Safety Evaluation

The installation of this Temporary Modification will increase the reliability of the SWS by reducing the potential for system bio-fouling and allows the back-up SWS to operate as designed.

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1993 ANNUAL REPORT

CLS 93-03-160 CM, REV. 0

FUEL STORAGE BUILDING (FSB) 40/5-TON CRANE

Description and Purpose

This classification evaluated the safety considerations of reclassifying the 40/5-ton crane and crane mounted components from Quality Assurance (QA) Category I to QA Category I with Category M boundaries.

Summary of Safety Evaluation

This evaluation used worst case scenarios and found that reclassifying the FSB crane would not increase the probability of an occurrence or consequences of an accident or malfunction important to safety previously evaluated in the FSAR.

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1993 ANNUAL REPORT

NSE 93-03-162 SI, REV. 0

ADEQUATE POST-LOCA REACTOR COOLANT SYSTEM INVENTORY

Description and Purpose

This evaluation examined the capability of the refueling water storage tank (RWST) to provide sufficient coolant to the containment sumps subsequent to a Loss of Coolant Accident (LOCA).

Summary of Safety Evaluation

This evaluation revised RWST level instrumentation setpoints and changed the basis for the Technical Specification showing the new injection volume (195,800 gallons) and recirculation volume (66,700 gallons).

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**1993 ANNUAL REPORT**

MMP 93-03-164 PW, REV. 1

**REMOVAL OF THE PRIMARY WATER STORAGE TANK (PWST) DIAPHRAGM**

Description and Purpose

This minor modification permanently removed the internal diaphragm from the existing PWST because it was found to be ineffective in preventing oxygenation of the water and had the potential to block the PWST outlet line. In addition, this modification also sealed the under-diaphragm vent to minimize air movement above the water, replaced the associated manhole gasket with a rubber gasket, and removed the bubble detector and all the associated cables and conduits.

Summary of Safety Evaluation

Based on the small percentage of oxygen entrainment and the experience that other Pressurized Water Reactors have had in operating without PSWT deoxygenation without any consequence, the removal of the diaphragm does not create a safety or operational concern.

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**1993 ANNUAL REPORT**

NSE 93-03-183 WCCPPS, REV. 2

**ADEQUACY OF THE BACKUP GAS SUPPLY TO THE WELD CHANNEL  
CONTAINMENT PENETRATION PRESSURIZATION SYSTEM (WCCPPS)**

Description and Purpose

This evaluation examined the overall capability of the WCCPPS to maintain pressure for 24 hours following the loss of Instrument Air and Station Air, and with a design basis leakage rate out of the WCCPPS.

Summary of Safety Evaluation

The accident analysis does not credit the WCCPPS supply and the postulated 10 CFR 50, Appendix J leak rate for Indian Point 3 is conservative and maintains the plant well within 10 CFR 100 requirements. The minimum operating pressures of the backup gas supply were established to maintain a WCCPPS pressure of 46 psig, above the postulated accident pressures in the Containment building.

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**1993 ANNUAL REPORT**

NSE 93-03-196 CVCS, REV. 0

**CONSTANT ENERGIZATION OF BORIC ACID HEAT TRACE CIRCUIT 36  
USING TEMPORARY MODIFICATION 93-04713-01**

Description and Purpose

This evaluation examines the temporary, constant energization of boric acid heat trace (BAHT) circuit 36. Constant energization is needed to conduct performance test, 3PT-Q38, which verifies the acceptability of the boric acid transfer pumps. The sensing line pressure indicator, PI-108, that is needed to conduct 3PT-Q38 had boric acid crystallization which prevented the gauge from indicating properly. Temporary modification (TM) 93-04713-01 installed a jumper that permitted BAHT circuit 36 to be constantly energized. This TM also removed excess heat trace to increase heat loss and prevent boiling in the sensing lines for PI-108 and PI-109. The TM replaced it with 2 wraps of temporary fiber glass shell.

Summary of Safety Evaluation

This temporary modification does not increase the probability of an accident or malfunction of equipment important to safety previously evaluated in the FSAR because constant energization of BAHT circuit 36 maintains the design which is to prevent boron crystallization in the lines.

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**1993 ANNUAL REPORT**

NSE 93-03-213 RCS, REV. 0

**EVALUATION OF TEMPORARY MODIFICATION 93-02376-17  
FOR REACTOR COOLANT SYSTEM (RCS) MID-LOOP MONITORING**

Description and Purpose

This evaluation examines temporary modification (TM) 93-02376-17 which connects the reactor vessel head vent to the pressurizer via a tap on the new level column's (LG-478) vent line. This temporary modification provides for additional venting to ensure that any trapped gasses are released and to ensure a vacuum is not created in the reactor head during draining.

Summary of Safety Evaluation

This modification only serves to enhance level monitoring of the RCS during draindown. This temporary modification will be removed prior to plant going above cold shutdown.

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**1993 ANNUAL REPORT**

NSE 93-03-219 RCS, REV. 4

**EVALUATION OF THE SPECIAL DRAINDOWN EVOLUTION  
FOR THE OUTAGE USING TEMPORARY OPERATING PROCEDURE (TOP) 80**

Description and Purpose

This evaluation examined the special Reactor Coolant System (RCS) draindown evolution that was needed to test the level columns connected to the RCS 32 and 34 intermediate legs using engineering test ENG-390K, and to test the ultrasonic level monitoring system (ULMS) using ENG-390G which were controlled by TOP-80.

Summary of Safety Evaluation

The TOP and ENG's provided a safe, controlled evolution and allowed the testing to provide operable level indicating systems prior to conducting work in a reduced inventory condition. The administrative controls applied during the evolution ensured that there was no challenge to the Residual Heat Removal System pumps' capability to maintain core cooling.

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**1993 ANNUAL REPORT**

NSE 93-03-238 SI, REV. 1

**SECOND MIDLOOP DRAINDOWN EVOLUTION WITH NEW MIDLOOP LEVEL INDICATORS FOR SAFETY INJECTION SYSTEM, AND CHEMICAL AND VOLUME CONTROL SYSTEM VALVE REPAIRS**

Description and Purpose

The purpose of this evaluation to review and discuss Plant Operating Procedure (POP) 4.2, "Operation with the RCS Drained or at Mid Loop" for safety significance and to ensure that the proper procedures were identified and that the equipment used during this second draindown evolution was operated within its design limits. The draining of the Reactor Coolant System (RCS) is qualified as an "infrequently performed evolution" requiring heightened awareness by the plant staff as the risks associated with equipment failure can have higher consequences than normal. This evaluation was performed to evaluate the associated risks.

Summary of Safety Evaluation

The manipulation of RCS levels to the midloop level and the method of providing core cooling did not revise or change the Indian Point 3 Technical Specifications. The administrative controls that were applied during the evolution ensured that there was no challenge to the Residual Heat Removal System Pumps' capability to maintain core cooling.

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**1993 ANNUAL REPORT**

NSE 93-03-241 SWS, REV. 1

SERVICE WATER SYSTEM (SWS) FLOW ISOLATION TO EMERGENCY DIESEL GENERATOR (EDG) JACKET WATER AND LUBE OIL HEAT EXCHANGERS TO SUPPORT MAINTENANCE ON SWN-FCV-1176 AND SWN-FCV-1176A

Description and Purpose

This evaluation examined the temporary isolation of SWS flow to the EDG jacket water and lube oil heat exchangers to permit maintenance and servicing of EDG service water discharge flow control valves SWN-FCV-1176 and SWN-FCV-1176A.

Summary of Safety Evaluation

The Emergency Diesel Generators were unaffected by the temporary isolation of the SW flow when the units are not running. Isolation of the SWS flow to the EDGs during the maintenance of SWN-FCV-1176 and SWN-FCV-1176A did not increase the probability of occurrence or consequences of an accident or malfunction of structures, systems or components important to safety because it did not affect the operability of the EDGs and would not have prevented the immediate response of the EDG to a safeguards actuation or a loss of offsite power initiation.

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1993 ANNUAL REPORT

NSE 93-03-250 MULT, REV. 4

ORGANIZATION CHANGES IN THE NUCLEAR GENERATION DEPARTMENT

Description and Purpose

This evaluation examined the proposed organizational changes to the Nuclear Support and The Nuclear Operations Divisions of the Nuclear Generation Department which were a result of continuing efforts to improve the overall effectiveness of nuclear power plant management and operations.

Summary of Safety Evaluation

The position of Vice President (VP) of Nuclear Support was eliminated and the groups that previously reported to VP-Nuclear Support now report to VP of Nuclear Operation.

The changes were purely administrative and did not involve hardware design or operation; therefore, they did not have an affect on safety.

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1993 ANNUAL REPORT

NSE 93-03-272 IB, REV. 4

PERFORMANCE OF STATIC INVERTER/INSTRUMENT BUS 31 TESTING

Description and Purpose

This evaluation examined testing through engineering test, ENG-530D, 31 Static Inverter and 31 Instrument Bus. The test determined why the calibration of some Foxboro instrumentation shifts when switching from the inverter to the backup power supply.

Summary of Safety Evaluation

The performance of this test did not increase the probability of an occurrence or consequences of an accident or malfunction important to safety previously evaluated in the FSAR because the loss of instrumentation from one bus will not result in the loss of any protective function.

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**1993 ANNUAL REPORT**

NSE 93-03-284 ARDG, REV. 0

**APPENDIX "R" DIESEL GENERATOR SETPOINT CHANGES**

Description and Purpose

This evaluation examined the changes implemented by design equivalent modification (DEM) 93-03-279 to the 10 CFR 50, Appendix "R" Diesel Generator's engine lube oil and jacket water temperature limits.

Summary of Safety Evaluation

The basis for the established temperature limits of 160-200°F for lube oil and 165-180°F for the jacket cooling water were based on the operating limits at the time the engine was placed in service. Since that time, it has been demonstrated that the engine can be safely run at higher temperatures. Based on this information, ALCO (the diesel engine manufacturer) recommended new operating limits of 210°F for lube oil and 190°F for jacket water. These changes maintain capability of the diesel generator to perform its design function.

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**1993 ANNUAL REPORT**

NSE 93-03-286 RWD, REV. 0

**EVALUATION OF WASTE OIL STAGING  
IN THE INTERIM RADWASTE STORAGE FACILITY**

Description and Purpose

This evaluation examined the staging of radioactive contaminated waste oil in the Indian Point 3 Interim Radwaste Storage Facility (IRWSF) while awaiting shipment to an offsite facility for ultimate disposal.

Summary of Safety Evaluation

This staging of contaminated waste oil does not increase the probability of an occurrence or consequence of an accident or malfunction of structures, systems, or components important to safety because the staging area is not near any safety related equipment, cleanup from a spill would occur in sufficient time to completely mitigate any dose consequences, and the amount of contamination released from a fire would be insignificant relative to 10 CFR 100 (less than 1.0 curie). This evaluation also revised FSAR section 11.1.3 to include waste oils in the "Solid Wastes" description.

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1993 ANNUAL REPORT

NSE 93-3-288 SI, REV. 1

EVALUATION OF RESIDUAL HEAT REMOVAL SYSTEM (RHR) SYSTEM  
OPERATION WITH SI-MOV-746, SI-MOV-747, SI-MOV-899A  
AND SI-MOV-899B DE-ENERGIZED

Description and Purpose

The purpose of this evaluation was to provide reasonable assurance that Indian Point 3 could be operated safely while the RHR system's motor operated valves SI-MOV-746, SI-MOV-747, SI-MOV-899A and SI-MOV-899B were de-energized and to provide justification to declare these valves operational for a cold shutdown condition.

Summary of Safety Evaluation

De-energizing the valves did not increase the probability of occurrence or consequences of an accident or malfunction of structures, systems, or components important to safety previously evaluated in the FSAR because the valves were still capable of performing their intended function at cold shutdown. They can be declared operable when left open and de-energized which ensures that the core decay heat removal capability is not challenged.

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**1993 ANNUAL REPORT**

NSE 93-03-296 CVCS, REV. 0

**TEMPORARY REMOVAL OF CHEMICAL AND VOLUME CONTROL SYSTEM  
(CVCS) LETDOWN RELIEF VALVE CH-203 WHILE THE PLANT IS AT COLD  
SHUTDOWN**

Description and Purpose

CVCS letdown relief valve CH-203 has had weepage problems which caused TC-129 to alarm in the control room (CR). This evaluation was done to ensure that no safety concerns existed with removing the valve for testing and replacing it with a blind flange while the plant is in the cold shutdown condition.

Summary of Safety Evaluation

Temporary removal of CH-203 does not increase the probability of an accident or malfunction of a different type than any evaluated previously in the safety analysis report since the piping will not be pressurized above its design value.

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**1993 ANNUAL REPORT**

NSE 93-03-302 SI, REV. 0

**REVISED HOT LEG SWITCH-OVER TIME AND METHODOLOGY**

Description and Purpose

This evaluation provides recommendations to the Operations department for the revision of Emergency Operating Procedures involving post-LOCA safety injection (SI) flow and switch-over times as a result of Westinghouse Letters, INT-92-660 (dated 12/22/92) and INT-93-201 (dated 1/13/93), Indian Point 3 (IP3) calculation, IP3-CALC-SI-00722 (dated 7/14/93) and SI Flow Balance Test, ENG-349 (dated 5/92).

Summary of Safety Evaluation

Implementation of the revised hot leg switchover times and safety injection flows does not increase the probability of an occurrence or consequences of an accident or malfunction of safety related structures, systems or components previously evaluated in the FSAR because the changes made bring existing procedures up to date with the IP3 LOCA model now used by Westinghouse.

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1993 ANNUAL REPORT

NSE 93-03-311 IB, REV. 0

PERFORMANCE OF 32 AND 33 STATIC INVERTERS/INSTRUMENT BUSES  
TESTING

Description and Purpose

This evaluation examined the performance of engineering tests, ENG-530H and ENG-530I, on 32 and 33 Static Inverters. The purpose of this test was to determine if the filter design is adequate to reduce instrument calibration shifts to an acceptable level.

Summary of Safety Evaluation

This test did not create the possibility of an accident or malfunction of any type other than those previously evaluated in the FSAR because the loss of instrumentation from one bus will not result in the loss of any protective function.

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**1993 ANNUAL REPORT**

NSE 93-03-312 SWD, REV. 0

**RETIREMENT OF RADIOACTIVE WASTE BALER ON 95 FOOT ELEVATION OF  
THE CONTAINMENT BUILDING**

Description and Purpose

This evaluation examined the safety significance of positioning the Containment building radioactive waste baler on the 95 foot elevation during unit operation and outages up to and including 1989 based on the 1982 FSAR revision (revision 0). This evaluation also examined the removal of the baler from Containment in 1989 and its reflection in FSAR sections, 11.1-10 and 11.1-12.

Summary of Safety Evaluation

Based on the seismic evaluation performed by the Authority's Nuclear Engineering and Design department (NED), no system interaction would have occurred during unit operation between the baler and any safety related components. The removal of the baler did not pose any safety significance and, as a result, the baler items in FSAR sections, 11.1-10 and 11.1-12, should be removed.

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1993 ANNUAL REPORT

NSE 93-03-351 IB, REV. 1

SOLID STATE CONTROLS INC. INVERTER TESTING ON 31 INSTRUMENT BUS

Description and Purpose

This evaluation examines the performance of engineering test ENG-530K and determined why the calibration of some Foxboro instrumentation shifts when switching from the Elgar inverter to the backup power supply.

Summary of Safety Evaluation

The performance of this test did not increase the probability of an occurrence or consequences of an accident or malfunction important to safety previously evaluated in the FSAR because the loss of instrumentation on one bus will not result in the loss of any protective function.

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**1993 ANNUAL REPORT**

CLAS 93-03-360 EHT31, REV. 0

**ELECTRIC HEAT RACE FOR VENT LINES TO SERVICE WATER SYSTEM  
(SWS) LINES 408 AND 409**

Description and Purpose

This evaluation classified the new heat trace cables (designated as circuits 19C and 19D) installed on the vent lines for service water lines 408 and 409 as Quality Assurance (QA) Non-Category I. Since the original circuits providing freeze protection to the vent lines and the service water valve pit were classified as QA Non-Category I, the new cables were also classified as QA Non-Category I.

Summary of Safety Evaluation

This classification did not increase the probability of occurrence or consequences of an accident or malfunction of equipment important to safety previously evaluated in the FSAR because the new heat trace cables maintain the pipe and process fluid temperatures as originally designed.

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1993 ANNUAL REPORT

NSE 93-03-369 STR, REV. 0

EVALUATION OF RADIATION SHIELDING

Description and Purpose

This evaluation examined temporary shielding that was installed without an evaluation having been performed and also examined two additional shielding applications that were installed in the Containment building while the plant is in cold shutdown.

Summary of Safety Evaluation

The use of shielding addressed in this evaluation did not increase the probability of occurrence or consequences of an accident or malfunction of structures, systems, or components important to safety previously evaluated in the FSAR because the weight of the shielding was within the structural limits of the system or supports on which they were installed.

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1993 ANNUAL REPORT

NSE 93-03-403 TSCDG, REV. 0

EVALUATION OF TECHNICAL SUPPORT CENTER (TSC)  
DIESEL GENERATOR FUEL OIL TANK CAPACITY

Description and Purpose

This evaluation examined the impact of the Technical Support Center's diesel generator fuel oil tank's reduced storage capability which resulted from new regulations that required an overfill protection feature to be added to the tank which reduced the storage capability from 4,000 to 3,800 gallons.

Summary of Safety Evaluation

This evaluation concluded that the regulatory guidance on designing the TSC facility had been met and the reduced storage capabilities of the TSC diesel generator fuel oil storage tank did not violate regulatory guidance.

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1993 ANNUAL REPORT

NSE 93-03-416 IB, REV. 0

SURESINE LINE CONDITIONER TEST ON 31 STATIC INVERTER

Description and Purpose

This evaluation examined the performance of engineering test ENG-530N which investigated a solution to the shift in calibration of Foxboro instrumentation when switching from 31 Static Inverter to the backup power supply (31 Instrument Bus).

Summary of Safety Evaluation

This test did not create the possibility of an accident or malfunction of any type other than those previously evaluated in the FSAR because the loss of instrumentation from one bus will not result in the loss of any protective function.

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**1993 ANNUAL REPORT**

TEMPORARY MODIFICATION 93-03320-00 N<sub>2</sub>

PROVIDE ALTERNATE CONNECTION OF NITROGEN (N<sub>2</sub>)  
SUPPLY TO THE STEAM GENERATOR N<sub>2</sub>  
BLANKETING SYSTEM DURING REPAIR ACTIVITIES

Description and Purpose

This temporary modification allowed an alternate connection point for the Steam Generator N<sub>2</sub> blanketing supply (N<sub>2</sub> trailer) and installed a backflow preventer while piping repairs were in progress. The N<sub>2</sub> blanketing piping was reconfigured through minor modification (MMP) 93-03-252 N<sub>2</sub>; installation of which removed the temporary modification. The alternate supply path was further documented by red-lining of plant drawing 9321-F-27233.

Summary of Safety Evaluation

The temporary modification's technical review and subsequent minor modification's safety evaluation determined that the change did not compromise plant safety.

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1993 ANNUAL REPORT

TEMPORARY MODIFICATION 93-01136-00 COND

TEMPORARY MONITORING OF 31 STEAM JET AIR EJECTOR  
PERFORMANCE

Description and Purpose

This temporary modification installed a manifold, three isolation valves and a vacuum gauge on 31 Steam Jet Air Ejector condensers to evaluate the effectiveness of the condensers' loop seal and drain regulator. Further documentation was provided by red-lining of plant drawing 9321-F-20253.

Summary of Safety Evaluation

The temporary modification's technical review determined that no adverse operability or safety concerns were created by this monitoring.

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**1993 ANNUAL REPORT****TEMPORARY MODIFICATION 93-01824-00 COND****INSTALLATION OF ORBISPHERE FLOW CHAMBERS  
ON 31, 32, AND 33 CONDENSATE PUMPS TO  
IMPROVE DISSOLVED OXYGEN (O<sub>2</sub>) SAMPLING**Description and Purpose

The installation of the flow chambers was intended to enhance O<sub>2</sub> sampling within the Condensate system and was documented as a red-line on plant drawing 9321-F-20183. The effectiveness of this alteration was such that it was made become permanent installation through minor modification (MMP) 93-03-172 COND.

Summary of Safety Evaluation

The temporary modification's technical review evaluated the installation and determined that no adverse safety conditions were created. The minor modification's safety evaluation supported this finding.

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**1993 ANNUAL REPORT**

TEMPORARY MODIFICATION 93-04087-03 RWD

CONNECTION OF CHEM NUCLEAR SYSTEM'S  
LIQUID WASTE PROCESSING UNIT TO EXISTING  
PLANT EQUIPMENT

Description and Purpose

The liquid processing skid documented by the temporary modification and red-lined on plant drawings 9321-F-27193, 9321-F-27573, and 9321-F-20353 is situated in the Fuel Storage Building and treats radioactive liquid waste. The product is drawn from Waste Holdup Tanks, processed and pumped to the Chemical and Volume Control System's (CVCS) monitor tanks for eventual release.

Summary of Safety Evaluation

The temporary modification was assessed to have no adverse plant interaction and is being made permanent through minor modification (MMP) 94-03-237 LWD.

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1993 ANNUAL REPORT

NSE 93-3-203 CVCS, REV. 1

EVALUATE TEMPORARY MODIFICATION 93-04998-01  
TO BORIC ACID HEAT TRACE

Description and Purpose

This temporary modification allowed constant energization of boric acid heat trace circuits 32 and 34 to support surveillance test, 3PT-Q38, for the boric acid transfer pumps. This permitted installation of pressure gauges on sample lines to evaluate differential pressure and pump performance.

Summary of Safety Evaluation

The constant energization of the circuits caused no new alarms and prevented boron crystallization in the sample lines.

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**1993 ANNUAL REPORT**

TEMPORARY MODIFICATION 93-04452-00 WTS

SUMP PUMP PIPING CONNECTION REMOVAL  
FROM WATER FACTORY WASTE TANK

Description and Purpose

A defective spool piece was removed from a floor drain sump pump discharge line which connected to the water treatment plant's waste neutralization tank. To maintain functionality of the tank, a blank flange was installed until the piping repair could be completed. The alteration was also documented by red-lining plant drawing 9321-F-24033.

Summary of Safety Evaluation

The temporary modification's safety assessment found no adverse effects by the change.

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**1993 ANNUAL REPORT**

TEMPORARY MODIFICATION 93-00329-19 RM

REMOVAL OF IODINE MONITOR R-29 INPUT  
TO CONTROL ROOM'S (CR) CATEGORY ALARM

Description and Purpose

Iodine monitor R-29 failed while engineering was being developed to formally retire the instrument. This resulted in a continuously alarmed CR category annunciator which deprived operators of emergent alarms from functioning radiation monitors. The R-29 alarm input was removed restoring the functionality of the category annunciator.

Summary of Safety Evaluation

Continuous iodine monitoring is not required to meet Technical Specifications or Radiological Environmental Technical Specifications, and the plant vent radiation monitors, R-27 and R-14, are deemed sufficient to permit the removal of R-29.