POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT NO. 3 NUCLEAR POWER PLANT
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June 6, 1980
IP-CMC-8847

Docket No. 50-286
License No. DPR-64

Boyce H. Grier, Director
Office of Inspection and Enforcement
Region 1
U. S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, Pennsylvania 19406

Code of Federal Regulations
10 CFR 50.59
Changes, Tests and Experiments

Dear Mr. Grier:

The following constitutes the annual report on changes, tests and experiments for Indian Point 3 Nuclear Power Plant as required by 10 CFR 50.59.

The Code of Regulations 10 CFR 50.59 a. specifies that changes to the facility as described in the safety analysis report, changes in the procedures as described in the safety analysis report and conduct of tests or experiments not described in the safety analysis report may be made without prior Commission approval, provided the proposed change, test or experiment does not involve a change in the technical specifications incorporated in the license or constitute an unreviewed safety question.

A description of such changes, procedures and tests performed at Indian Point Unit 3 and a summary of the safety evaluations of each for the period of March 8, 1979 to March 7, 1980 are included. Each has been reviewed 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 for an accident or malfunction of a different type than any evaluated previously in the safety analysis report has not been created, nor the margin of safety as defined in the basis for any technical specification has not been reduced. It was concluded that the changes, tests and experiments did not constitute an unreviewed safety question.

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Very truly yours,

S. S. Zulla
Resident Manager

CMC/bam
Attachment

cc: Director, Office of Inspection and Enforcement (39 copies)
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I. CHANGES

A. Modifications and Evaluations

78-03-022 RHR - Install Filter for Refueling Cavity Return to the RWST

This modification was installed to minimize contamination of the refueling water storage Tank (RWST), Reactor Coolant Drain Tank (RCDT) and the RCDT pumps resulting from refueling operations.

The installation provides a path for pumping refueling cavity contents through the existing containment penetration for the RCDT pump discharge, and includes a new back flushable metal edge filter, located in the primary auxiliary building, before returning to the RWST. In addition to the filter a nitrogen Tank, Backwash Tank, and Backwash Tank transfer pump are also installed in the PAB to support the filtration cycle and complete the ultimate transfer of corrosion products to solid waste. This offers the capability to filter the return of water from the refueling cavity to the RWST and also eliminates the need of draining the refueling cavity to the RCDT (with subsequent transfer by the RCDT Pumps) by providing a refueling cavity drain pump specifically for the purpose of cavity pump-down to the RWST.

Through various cross connections, the modification also provides the flexibility to utilize the filter in conjunction with the existing RHR pumps, RCDT pumps, or the new RWST recirculating pump installed as a part of this modification.

Welding on the modification has been accomplished using appropriate plant specific procedures based on applicable codes. The modification has been designed considering both seismic and thermal growth factors. The modification has been fabricated using standards equal or better than the original installation. The modification has therefore been deemed to not involve an unreviewed safety question.

78-03-041 MSR - Installation of Vent Chambers in each MSR Tube Bundle for better reliability of operation

Scavenging steam vent chambers have been installed in the main steam reheaters to cover select tubes on the entrance half (bottom six rows of tubes) of the tube sheets. This transforms the two pass heat exchangers into four pass heat exchangers.

This modification will improve the long term reliability of the MSR's by maintaining a higher exit quality of steam in the steam/condensate mixture from the tubes, thus reducing the temperature stratification in the tubes.

Welding on the modification has been accomplished using appropiate plant specific procedures based on applicable codes. The modification has been designed considering original separation criteria thus maintaining the integrity of electrical separation. The modification has been fabricated using standards equal or better than the original installation. The modification has been therefore deemed to not involve an unreviewed safety question.

MOD 79-03-01 FP - Fire Protection - CO_2 System

This modification involves the installation of a low pressure CO_2 system which will provide fire protection for the turbine generator bearings. Presently only the mains for the CO_2 system are installed.

Welding on the modification has been accomplished using appropriate plant specific procedures based on applicable codes. The modification has been designed considering original separation criteria thus maintaining the integrity of electrical separation. The modification has been fabricated using standards equal or better than the original installation. The modification has therefore been deemed to not involve an unreviewed safety question.

79-03-014 FHS - Manipulator Mast Pulley Bushing Changeout

The modification involved the direct replacement of the lower oillite bushing with a lubrite bushing, and in addition, the replacement of the upper bushing with a bearing to facilitate ease in operation of the sheave assemblies. This modification was recommended by the manipulator Crane Manufacture who supplied parts and expertise to facilitate installation, it has therefore been deemed to not involve an unreviewed safety question.

79-03-018 SG - Steam Generator Wrapper Split Ring Attachment

This modification involved the replacement of a new design bolted tube lane blocking device to facilitate maintenance on the steam generator. This new type device eliminated the necessity for grinding and welding required during removal and installation of the existing tube lane blocking device. This modification did not change the ability of the steam generator to perform its design function as described in the FSAR.

The modification was recommended by the steam generator manufacturer, Westinghouse, who supplied the parts and made available expertise to facilitate installation. Welding on the modification has been accomplished using appropriate plant specific procedures based on applicable codes. The modification has been designed considering both seismic and thermal growth factors. The modification has been therefore deemed to not involve an unreviewed safety question.

79-03-019 COMM - UHF Radio For Emergency Plan and UHF Radio For Security Plan

The modifications involved the installation of an audio console, transceiver, antenna and power supply for 2 UHF radio systems. The installation of the cables is in either in conduit, or run in trays. The antennas are mounted on the Turbine Building roof and the heliax cable connecting the antenna and the transceiver was run along building steel. The power for the emergency plan radio comes from an instrument bus and the power for the security radio comes from a lighting panel.

The modification has been designed considering original separation criteria thus maintaining the integrity of electrical separation. The modification has been fabricated using standards equal or better than the original installation. The modification has been therefore deemed to not involve an unreviewed safety question.

79-03-021 CVCS - Charging Pump Suction and Discharge Pulsation Dampeners

In order to reduce hydraulic pulsations created by the positive displacement Boric Acid Charging Pumps #31, 32, and 33. This modification involves the installation of pulsation stabilizer/separators in 4" suction lines and the installation of pulsation dampeners in 3" discharge lines. Presently the stabilizers/separators portion of the modification is installed.

Welding on the modification has been accomplished using appropriate plant specific procedures based on applicable codes. The modification has been designed considering both seismic and thermal growth factors. The modification has been fabricated using standards equal or better than the original installation. The modification has been therefore deemed to not involve an unreviewed safety question.

79-03-024 FHS - Relocate and Install New Tool Hangers in the Fuel Storage Building

Due to the installation of new spent fuel racks, it was necessary to relocate the existing fuel handling tool hanger. Also, additional new tool hangers was installed.

The modification has been fabricated using standards equal or better than the original installation. Welding on the modification has been accomplished using appropriate plant specific procedures based on applicable codes. The modification has been therefore deemed to not involve an unreviewed safety question.

79-03-026 SWS Replace Service Water Piping

The modification involved the replacement of a section of 10" pipe consisting of two 150 lb flanges, two elbows and one tee. The existing pipe is cement lined and the replacement is 304 and/or 304L stainless steel.

The replacement of the carbon steel cement lined pipe with stainless steel will not degrade the service water system in any way. The new material is capable of withstanding any analyzed accident that the original pipe was designed in accordance with.

Welding on the modification has been accomplished using appropriate plant specific procedures based on applicable codes. The modification has been designed considering both seismic and thermal growth factors utilizing original or an upgrade of original fabrication practices. The modification has been therefore deemed to not involve an unreviewed safety question.

MOD 79-03-027 EL - Provide Battery and Inverter to Power Instrument Bus Fed by Outside Power

The purpose of the modification is to install battery, inverter, DC distribution panel, auxiliary and associated equipment in order to have Instrument Bus 34 be fed by a battery backed inverter system. Presently, portions of this modification has been installed allowing completion without the need for a plant outage.

Welding on the modification has been accomplished using appropriate plant specific procedures based on applicable codes. The modification has been designed considering original separation criteria thus maintaining the integrity of electrical separation. The modification has been fabricated using standards equal or better than the original installation. The modification has been therefore deemed to not involve an unreviewed safety question.

MOD 79-03-028 RCS - Provide Manual Isolation Valves for Pressurizer Spray Valves

Manual isolation valves have been installed on both sides of each of the two pressurizer spray valves, PCV-455A and PCV-455-B. An equalizing bypass line and access platforms have also been installed for each valve.

The piping system and pipe supports were designed and analyzed to ANSI-B-31-1 requirements. A seismic analysis was performed and supports have been upgraded to assure the integrity of the pressurizer spray system. The access platforms are also designed to resist seismic loads in accordance with applicable criteria for seismic Class 1 structure.

The installation of this modification has greatly improved the task of valve maintenance allowing complete isolation of one pressurizer spray valve at a time from the remainder of the system. The modification of the system is as a minimum equal to the standard of the original system; in most cases this modification is representative of an upgrading of design material fabrication, and Quality Assurance. Welding on the modification has been accomplished using appropriate plant specific procedures based on applicable codes. The modification has been designed considering both seismic and thermal growth factors. The modification has been therefore deemed to not involve an unreviewed safety question.

MOD 79-03-029 PW - Install Demineralized Water Header Inside Containment

The installation of the demineralized water header will provide a system for both hot (decontamination), cold (Hydrostatic Testing and Flushing) water and standby fire protection capabilities. Major piping associated with this modification has been installed.

This modification enhances the fire protection system and does not degrade the security plan or system integrity. Welding on the modification has been accomplished using appropriate plant specific procedures based on applicable codes. The modification has been designed considering both seismic and thermal growth factors. The modification has been designed considering original separation criteria thur maintaining the integrity of electrical separation. The modification has been fabricated using standards equal or better than the original installation. The modification has been therefore deemed to not involve an unreviewed safety question.

79-03-032 SG - Secondary Side Steam Generator Temperature Indication

The modification consisted of the installation of a resistance termperature detector (RTD) and well assembly in a lower secondary side handhold cover on each of the four (4) steam generators. The original handhold cover was replaced with a new cover fabricated to the applicable ASME Code. The system is used to measure the temperature different between the Reactor Coolant System and the steam generator secondary side termperature prior to starting a reactor coolant pump.

The Modification has been designed considering both seismic and thermal growth factors utilizing original or an upgrade of original fabrication practices. The modification has been designed considering original separation criteria thus maintaining the integrity of electrical separation. The modification has been fabricated using standards equal or better than the original installation. The modification has been therefore deemed to not involve an unreviewed safety question.

79-03-033 AFW - Auxiliary Boiler Feed Pumps Recirculation

This modification was made to reduce the vibrations of the motor driven auxiliary feed recirculation lines and to increase the flow through the pump during recirculation.

The modification involves increasing the recirculation line to 2", removal of flow restricting fixed orifices, resizing of the pressure reducing control valves, shut off isolation valves, check valves and rerouting pipes to minimize bends. The control valves are designed to fail close.

Welding on this modification has been accomplished using appropriate plant specific procedures based on applicable codes. The modification has been designed considering both seismic and thermal growth factors utilizing original or an upgrade of original fabrication practices.

The modification has been designed considering original separation criteria thus maintaining the integrity of electrical separation. The modification has been fabricated using standards equal or better than the original installation. The modification has been therefore deemed to not involve an unreviewed safety question.

79-03-045 FHS Raise Control Rod Drive Shaft Storage Support Cups

This modification raised the control rod drive shaft storage support cups to facilitate the handling and supporting of the control rod drive shafts when necessary.

Welding on this modification has been accomplished using appropriate plant specific procedures based on applicable codes. The modification has been fabricated using standards equal or better than the original installation. The modification has been therefore deemed to not involve an unreviewed safety question.

79-03-046 FHS Modify Manipulator Thyristor Circuits to Include Fuses

This modification installed fuses and fuse blocks in the Manipulator Control Center. The fuses have indicators built into them to indicate visually that they have operated. The addition of the fuses to the thyristor circuits was made to protect the thyristors from excessive current.

The modification has been designed considering original separation criteria thus maintaining the integrity of electrical separation. The modification has been fabricated using standards equal or better than the original installation. The modification has been therefore deemed to not involve an unreviewed safety question.

79-03-047 FP - Fire Protection System - Fire Pump House and Loop Piping

This modification involves the installation of new fire loop piping and modifications to the existing fire loop to provide a tie-in to the new fire pumps and fire water storage tanks. Also included in the scope of this task is the installation of the fire pumps, pneumatic tank and all associated piping and components.

The 10" underground fire protection loop will be isolated from the Con Edison fire loop and a new portion on the north side of IP-3 will be installed within the Power Authority's boundary lines, to close the loop. Tie-ins between IP-3 Fire loop and Con Edison's loop are provided for emergency use.

All piping meets the requirements of the standard code of pressure piping ANSI-B31-1 and has been hydrotested per NFPA requirements. Welding on the modification has been accomplished using appropriate plant specific procedures based on applicable codes. The modification has been designed considering original separation criteria thus maintaining the integrity of electrical separation. The modification has been therefore deemed to not involve an unreviewed safety question.

79-03-049 SWS Relocate FCU Inlet Piping Drain Discharge

This modification relocated the fan cooler inlet drain discharge to a point downstream of TCV-1103 to facilitate drain down of the header.

Welding on this modification has been accomplished using appropriate plant specific procedures based on applicable codes. The modification has been designed considering both seismic and thermal growth factors. The modification has been fabricated using standards equal or better than the original installation. The modification has been therefore deemed to not involve an unreviewed safety question.

79-03-053 ESS - Modify Pressurizer Low Pressure/Low Level ECCS Actuation Logic

This modification changed the coincident low pressurizer pressure/low pressurizer level safeguards initiation logic to a 2 out of 3 low pressurizer pressure logic.

An analysis of the events that occurred at Three Mile Island and a review of postulated breaks and valve failures associated with the pressurizer indicate that for certain postulated accidents, pressurizer level would not decrease therefore prohibiting an engineered safeguards system actuation.

By removing the pressurizer level from the actuation logic an engineered safeguards actuation will occur on low pressurizer pressure, regardless of pressurizer level. Also the low pressure logic was changed to a two out of three matrix and as such it prevented a spurious single failure to actuate the engineered safeguards system.

This logic change has been reviewed by Westinghouse and the NRC and they have concurred with this modification and subsequently issued a Technical Specification change.

The modification has been designed considering original separation criteria thus maintaining the integrity of electrical separation. The modification has been fabricated using standards equal or better than the original installation. The modification has been therefore deemed to no involve an unreviewed safety question.

79-03-057 CF Inject Boric Acid Into Steam Generators

This proposed modification involves the installation of piping, valves, etc., from the existing chemical feed system to the main feedwater headers. This will allow addition of boric acid into the steam generators via the main, as well as, auxiliary feedwater headers.

Westinghouse Electric Corporation has recommended the addition of boric acid to steam generators to reduce the rate and extent of steam generator tube denting being caused by corrosion.

Welding on this modification has been accomplished using appropriate plant specific procedures based on applicable codes. The modification has been designed considering both seismic and thermal growth factors, the modification has been designed considering original separation criteria thus maintaining the integrity of electrical separation. The modification has been fabricated using standards equal or better than the original installation. The modification has been therefore deemed to not involve an unreviewed safety question.

79-03-063 CS Drains Upstream of FCU Filter Dousing Valves

This modification involved the replacement of piping elbows upstream of the FCU dousing valves with tees equipped with drain valves to allow spray header draining.

Welding on this modification has been accomplished using appropriate plant specific procedures based on applicable codes. The modification has been designed considering both seismic and thermal growth factors. The modification has been fabricated using standards equal or better than the original installation. The modification has been therefore deemed to not involve an unreviewed safety question.

79-03-066 FHS Instrument Port Conoseal Column Transparent Cover Assembly

This modification involved the installation of transparent side walls on the existing conoseal column covers which allows for convenient inspection of seals so coolant leaks may be detected swiftly keeping exposure time to a minimum.

Installing transparent side walls increases the structural rigidity of the covers while in no way hindering or changing the function of the existing system. All necessary gaskets was installed using Ethlene Propylene Elastomer in accordance with the original Westinghouse specification. All glass are Corning Fused Silica #7940 which has been shown to resist discoloration when exposed to extremely large doses of radiation.

The modification has been fabricated using standards equal or better than the original installtion. Welding on the modification has been accomplished using appropriate plant specific procedures based on applicable codes. The modification has been therefore deemed to not involve an unreviewed safety question.

79-03-072 Mult. Replacement of Safety Related Limit Switches

This modification replaced existing limit switches inside of Containment Building with new seismically and environmentally qualified limit switches and to add an alarm for the pressurizer PORVs to alarm when the valves are not fully closed.

The existing limit switches and the new limit switches are NAMCO switches. The difference between the new and old switches is that the new switches have been qualified by type testing to LOCA accident profiles.

The modification has been designed considering original separation criteria thus maintaining the integrity of electrical separation. The modification has been fabricated using standards equal or better than the original installation. The modification has been therefore deemed to not involve an unreviewed safety question.

79-03-082 FP Fire Protection System - Loop Piping

This modification involved the installation of a new 6" fire line, hydrant, and post indicating valves to the existing fire loop piping, west of the new Administrative Services Building.

This modification satisfies three major concerns regarding the overall fire protection scope.

1. To have a completely independent Fire Protection System for the IP-3 Site.
2. To comply with NRC Branch Technical Position 9.5.1.
3. To comply with requests of American Nuclear Insurers (ANI)

The underground piping system meets the requirements of the National Fire Protection Association (NFPA) Standard No. 14 and 24 and the Branch Technical Position B.T.P.9.5.1. Fabrication of piping meets the requirements of the standard Code for Pressure Piping ANSI-B31-1. New portions of the Fire Loop are designed to be compatible with the existing portion of the loop. Welding on the modification has been accomplished using appropriate plant specific procedures based on applicable codes. The modification has been therefore deemed to not involve an unreviewed safety question.

79-03-094 FP - Main Transformers Deluge System Modification

This installation involved modifications to both the transformer deluge system, and to part of the generator metering installation. A relay has been wired to potential transformers on the generator output. Contacts of this relay are interlocked with the main transformers Deluge System such that as long as the transformers are energized the Deluge System will not be allowed to automatically actuate to spray the main transformers. Once they are deenergized the relay will trip thus completing half of the interlock and allow the deluge to operate off the thermostats. The Deluge System can still be manually actuated regardless of the generator voltage.

The modification has been fabricated using standards equal or better than the original installation. The modification has been designed considering original separation criteria thus maintaining the integrity of electrical separation. The modification has been therefore deemed to not involve an unreviewed safety question.

79-03-096 RCS Saturation Alarm and Recorder

This modification installed a saturation recorder and two associated alarms. It involved a calculating device to develop a saturation curve, an alarm duplex bistable, isolating amplifier and a summing unit to form a difference signal between reactor coolant pressure and saturation pressure.

The modification has been designed considering original separation criteria thus maintaining the integrity of electrical separation. The modification has been fabricated using standards equal or better than the original installation. The modification has been therefore deemed to not involve an unreviewed safety question.

79-03-121 IA Instrument Air Pipe Coupling

This modification was installed to repair leaks at threaded fittings on Instrument Air Valve IA-54. A pipe coupling was installed to allow tightening of the leaky fitting. The modification has been fabricated using standards equal or better than the original installation. The modification has been therefore deemed to not involve an unreviewed safety question.

79-03-122 COMM - Installation of CCR Meteorological Read Out in Control Room and Shift Supervisor's Office

This modification provided a means to monitor and record pertinent meterological conditions at the site, i.e., wind speed, direction and Pasquill Category.

The modification involved the installation of conduit and signal cable from existing telephone terminal in the cable spreading room. A signal was transmitted from the existing meteorological tower to the meteorological display unit mounted on the demand metering panel in Control Room.

The modification has been designed considering original separation criteria thus maintaining the integrity of electrical separation. The modification has been fabricated using standards equal or better than the original installation. The modification has been therefore deemed to not involve an unreviewed safety question.

79-03-123 EL - Isolation Modification of Safety Related Components for Fire Protection

This modification is being made in response to NRC Fire Protection position. These positions, basically, required modifications which will assure a safe shutdown capability in case of fire damage to cables in the Switchgear Room or the Cable Spreading Room in the Control Building.

The modifications consist of fire retardant barriers installed between cable trays, isolating switches to isolate the control circuits of Diesel Generator No. 31 and the control circuits for feeder breakers to 480 volt busses 2A and 3A and the tie breaker between the two busses.

At this time cables, conduits, and junction boxes were installed associated with this modification. The conduit and cable installations observes separation criteria thus maintaining electrical integrity. The installation of the Fire Retardant Barriers takes into consideration the seismic criteria of the cable trays. The modification has been designed using standards equal or better than the original installation. The modification has been therefore deemed to not involve an unreviewed safety question.

79-03-125 RCS - Acoustical Monitoring of Pressurizer Safety & Relief Valve Position

This modification involved the installation of an Acoustical Monitoring System manufactured by Technology for Energy Corp. (TEC). This system which is designated as the "TEC Model 914 Valve Flow Monitor Module", is used to monitor operation of the pressurizer safety and relief valves. The modification satisfies NRC requirements under NUREG 0578 (Item 2.1.3a) for pressurizer safety and relief valve position or reliable flow indication.

The modification has been designed considering original separation criteria thus maintaining the integrity of electrical separation. The modification has been fabricated using standards equal or better than the original installation. The modification has been therefore deemed to not involve an unreviewed safety question.

79-03-126 ESS Containment Isolation Valves Reset Circuitry

This modification modified the circuitry for Containment Isolation Valves to comply with position 2.1.4 of NUREG 0578 in that when the isolation signal is reset these valves will not automatically reopen.

The design for this modification is two-fold depending upon system and circuitry configuration. The two types of modifications are based on the valve function and circuit configuration. Those valves that are involved with individual equipment components have the new push-button electrically installed in parallel with the valve open limit switch and the coil of the solenoid in series with the same limit switch. The

second type of circuit modification has been used for the Steam Generator Blowdown, Steam Generator Blowdown Sample, and Containment Building Equipment and Personnel locks valves. In this case, a number of valves receive one isolation signal. For this modification, the signal is now put in series with a relay and a parallel combination of the push button and a seal- in contact. A contact from the new relay replaces, electrically, the isolation relay contact which used to serve as the isolation function.

The modification has been designed considering original separation criteria thus maintaining the integrity of electrical separation. The modification has been fabricated using standards equal or better than the original installation. The modification has been therefore deemed to not involve an unreviewed safety question.

79-03-128 VENT - Replacement of Containment Pressure Relief Valves PCV 1190, 1191 and 1192

The Indian Point No. 3 containment pressure relief system has three 10" diameter isolation valves designated PCV 1190, 1191 and 1192.

The modification replaced the existing valves with improved adjustable seating valves. In order to replace the valves, it was necessary to disconnect the electrical and pneumatic lines going to the valve operators. Also, the ductwork had to be shortened to accommodate the larger width of the new valves.

Welding on this modification has been accomplished using appropriate plant specific procedures based on applicable codes. The modification has been designed considering original separation criteria thus maintaining the integrity of electrical separation. The modification has been fabricated using standards equal or better than the original installation. The modification has been therefore deemed to not involve an unreviewed safety question.

79-03-129 RCS - R.C.S. Post Accident Sampling System (TMI)

This modification provides a means to sample the Reactor Coolant System by a remote method with minimum exposure to personnel while evaluating accident severity.

The sample taps originate from the existing quick disconnects installed in the sampling system thus replacing the hot leg sample vessel. The following analyses can be performed in the event of an accident condition;

1. Dissolved hydrogen
2. Dissolved Oxygen
3. Chloride
4. Boron
5. Isotopic Analysis

6-8 Supplementary Analysis: Total gas, liquid and gas isotopic are a by-product of this sampling method.

Welding on this modification has been accomplished using appropriate plant specific procedures based on applicable codes. The modification has been designed considering both seismic and thermal growth factors utilizing original or an upgrade of original fabrication practices. The modification has been designed considering original separation criteria thus maintaining the integrity of electrical separation. The modification has been fabricated using standards equal or better than the original installation. The modification has been therefore deemed to not involve an unreviewed safety question.

79-03-131 ESS Containment Ventilation Isolation Reset Modification

This modification prevents the blocking of an auto containment isolation ventilation signal via a high radiation signal.

The original circuit arrangement was such that if a high radiation signal exists and the operator chose to bypass the closure signal to the purge and pressure relief valves, then this action would also bypass another auto containment ventilation isolation signal initiated by Engineered Safeguard's
System.

The new circuit arrangement closes the purge and pressure relief valves upon a high radiation signal however, resetting must be accomplished by raising the high radiation setpoint. The reset buttons on the supervisory panel only reset the valves if a auto ventilation isolation signal occurs.

The modification has been designed considering original separation criteria thus maintaining the integrity of electrical separation. The modification has been fabricated using standards equal or better than the original installation. The modification has been therefore deemed to not involve an unreviewed safety question.

80-03-001 RMS Containment and Plant Sampling Modification (TMI)

This modification was to provide a means to analyze containment atmosphere and plant stack sample by a remote method with minimum radiation exposure to personnel in response to N.R.C. - T.M.I. Lessons Learned Requirements.

This modification consists of the addition of stainless steel tubing, from the existing containment atmosphere and stack sampling lines, to a remote area of the Primary Auxiliary Building.

With the addition of this modification, it will be possible for plant personnel to obtain samples in less than one hour following a postulated accident. Both sample lines will connect to a shielded radiological and chemical analysis system capable of providing quantification of the following:

1. Noble Gasses, Iodines and Cesiums and non-volatile isotopes.

2. Hydrogen levels in the containment atmosphere in the range 0-to-10 volume percent.

Welding on this modification has been accomplished using appropriate plant specific procedures based on applicable codes. The modification has been designed considering original separation criteria thus maintaining the integrity of electrical separation. The modification has been fabricated using standards equal or better than the original installation. The modification has been therefore deemed to not involve an unreviewed safety questions.

80-03-004 COND - Temporary Tie-In for Alternate Demineralized Water Supply to the Condensate Storage Tank and Condensate System

This modification provides an additional source of demineralized water which will be advantageous in maintaining the condensate storage tank above the required level as outlined in the Technical Specifications and at a water quality consistent with existing plant specifications.

Existing branch connections in the condensate system have been utilized to tie into demineralizers, brought temporarily on site, which will process city water. This allows filling of the condensate storage tank either directly or via the condenser hot wells.

This modification does not effect safety related system and hence is deemed not to involve an unreviewed safety question.

MOD 80-03-008 VENT - Purge & Relief Valve Manual Stops

The Fisher Controls Company has supplied an analysis stating that the 10" Containment Pressure Relief Valves, #PCV-1190; PCV-1191, and PCV-1192 must be limited to a maximum opening angle of 40o to ensure the valves will under accident conditions.

In order to accomplish the above, travel stops, supplied by Fisher Controls have been installed on the three containment relief valves.

Since this modification has been designed by the valve manufacture and will ensure the containment isolation system will perform its function, it has been deemed not to involve an unreviewed safety question.

80-03-009 EL - Additional Facilities Electrical Power Supply

The additional facilities (Administration Building, Hot Machine Shop, Sewage Treatment Plant, etc) has been designed and evaluated to ensure their new 6.9 KV switch gear and associated 480 volt leads do not affect the plant safety related power system. In some cases segregation between switchgear must be achieved, being accomplished via proper isolation devices. The modification has therefore been deemed not to involve an unreviewed safety question.

MOD 80-03-010 SSS - Main Steam Sampling for Contaminated Main Steam Dumps

Existing chemical sampling lines in the Auxiliary Feedwater Building have been extended to a common header which allows extraction of a common steam sample from all main steam lines downstream of the mainstream isolation valves. This is necessary since the original taps are upstream of the mainsteam isolation valves which will be closed during a safeguards initiation.

Tie-ins to the existing chemical sampling lines, up to and including the new isolation valves, have been designed to Seismic Class I criteria preventing any degradation of existing systems. Welding on the modification has been accomplished using appropriate plant specific procedures based on applicable codes. The modification has been designed considering both seismic and thermal growth factors. The modification has been fabricated using standards equal or better than the original installation. The modification has been therefore deemed to not involve an unreviewed safety question.

MOD 80-03-015 MTG - Turbine Repair/Modifications

Originally, the purpose of the turbine overhaul was to accomplish replacement of the L-3 and L-4 blading with newly designed blades as recommended by Westinghouse. In conjunction with blade replacement, the L-3 and L-4 serrations were inspected for cracks. Numerous radial cracks were found in both the Governor End and Generator End No. 3 Discs of the No. 1 LP Spindle. Attempts to grind out these cracks were unsuccessful and based on Westinghouse calculations it was decided to remove all blades from these discs and replace the stationary blades with pressure plates. Radial cracks found on the Governor End, No. 3 LP Spindle were ground out successfully and the spindle rebladed.

A UT examination found several cracks in the keyways of LP Rotor Discs No. 2 and 3 of No. 1 spindle.

Based on the measurements of crack dimensions the following repairs and modifications were performed in order to secure safe turbine operation.

1. Both No. 3 Discs of No. 1 LP Spindle were completely removed and collars installed to maintain spindle geometry during operation.

2. Cracks in the No. 2 Disc of No. 1 LP Spindle were removed by drilling and reaming the keyways to a larger dimension and installing larger diameter keys.

3. Westinghouse performed calculations based on fracture mechanics to determine remaining #2 disc life on No. 2 and No. 3 LP Spindles. The results are as follows:

	No. 2 LP	No. 3 LP
Gov. End	--	26 Months
Gen. End	29 Months	--

No. 2 and 3 spindles were also UT inspected with the following results:

#2 Spindle, No. 2 Disc Generator end keyway cracks were found which will be reinspected during a scheduled outage.

#3 Spindle, No. 2 Disc both generator and governor ends - keyway cracks were found which will be reinspected during a scheduled outage.

#3 Spindle, No. 3 Disc Generator end - Rim cracks were found and ground out. Further inspection of this are will be performed during a scheduled outage.

Analysis has been done to demonstrate that the spindles are suitable for satisfactory operation until the next inspection, which is not to exceed thirteen months operation. However, the turbine will be removed from service in the Fall 1980 to reinspect the LP spindles. Based on these modifications and evaluations the modification has been deemed not to involve an unreviewed safety question.

MOD 80-03-016 WDS-L Modify Waste Transfer System

A new sump pump of a submersible design has been installed in the waste hold-up tank pit. The discharge of this pump was tied into the inlet to waste hold up Tank 31 as well as the waste transfer line to Indian Point No. 1 waste treatment facilities.

The above described modifications will enhance the operation of the waste disposal system by providing redundant means to transfer and dispose of waste water from waste hold-up tank 31 or the waste hold-up tank pit sump. A rupture or failure in the new system will not result in any further additional radioactive contamination since the waste would drain to the sump. The modification has been therefore deemed to not involve an unreviewed safety question.

80-03-023 WDS-L - Waste Disposal System

The holdup capacity of the Liquid Waste Disposal System at certain times have been exceeded. It has been determined that the activity of the liquid was such that if it was directly discharged, no regulatory limits would have been exceeded.

A temporary modification for rectifying the above described problem is as follows:

Water from the waste hold-up tank will be pumped to the temporary demineralizer system. The demineralizer system consists of a shielded pre-filter/roughing demineralizer, a shielded main demineralizer, and a pump to deliver water to the monitor tanks.

Radioactivity levels in the waste hold-up tank water will be in the range of 10-3 uCi/ml and will not present any direct radiation hazard during flow through temporary demineralizer tie-ins. All places where radioactivity may concentrate (pre-filter and demineralizer) will be shielded and administratively restricted. The subject temporary demineralizing system will expand the capability of the waste disposal system by providing a redundant means of processing waste hold-up water.

The piping used to accomplish the tie-ins of this temporary system is seismic Class III. The above ground portion of influent piping, from the existing waste transfer line, will be adequately shielded to avoid the possibility of personnel exposure.

The effluent piping, returning processed water to the monitor tanks, which is seismic Class II, will be heat traced and insulated for freeze protection. This piping will have flanged, (mechanical joint), connections to the monitor tanks; downstream of the monitor tanks isolation valves.

Welding on the modification has been accomplished using appropriate plant specific procedures based on applicable codes. The modification has been fabricated using standards equal or better than the original installation. The modification has been therefore deemed to not involve an unreviewed safety question.

Additional Facilities Modifications

An Auxiliary Boiler Building, Radioactive Machine Shop (RAMS) Building, and a Services Administration Building has been added to the facility. The RAMS and the Administration building are designed the Seismic II criteria to prevent it from damaging the Primary Auxiliary building and Diesel Generator building respectively. The auxiliary boiler building has been designed to Seismic Class III criteria.

II Procedures - There were no special procedures required to be reported during this period.

III Tests and Experiments - There were no special tests or experiments required to be reported during this period.