Indian Point 3
Nuclear Power Plant
P.O. Box 215
Buchanan, New York 10511
914 739.8200

New York Power Authority

IP3-89-080
IP3-89DJC-263H

December 26, 1989

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

Mr. William T. Russell, Regional Administrator
Region 1
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, Pennsylvania 19406

Dear Mr. Russell:

Subject: Code of Federal Regulations 10CFR50.59
Changes, Tests and Experiments

The following constitutes the 1988 Annual Report on changes, tests and experiments for Indian Point 3 Nuclear Power Plant as required by 10CFR50.59.

The Code of Federal Regulations, 10CFR50.59 (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 the 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 3 Nuclear Power Plant for the period of January 22, 1988 to January 22, 1989 and a summary of the safety evaluations of each are contained in Attachment I.

A047
1/1

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, or 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 do not constitute any unreviewed safety questions.

Sincerely,

J. E. Russell
Resident Manager
Indian Point 3 Nuclear Power Plant

JER/DJC:jm:02:89JR

Enclosure: Attachment I

cc: U. S. Nuclear Regulatory Commission (Original)
Documents Control Desk
Mail Station P1-137
Washington, D. C. 20555

IP3 Resident Inspector's Office

MOD 85-03-014 SG, Rev. 1 - Steam Generator Hydraulic Restraint Access Platforms

Description and Purpose

Two platforms were added near steam generator hydraulic restraints to facilitate inspection and maintenance. One was added to service the #33 and #34 Steam Generator and the other platform to service restraints for #31 and #32 Steam Generators.

Revision 1 added sub-platforms and ladders to the main platforms for the purpose of easier access for inspection and repair. The sub-platforms and ladders are supported from existing Vapor Containment (VC) building concrete and steel structures.

Summary of Safety Evaluation

These platforms have been evaluated for a postulated seismic event and will not impact any safety related structures, systems or components inside the VC. The design of the platforms has considered the thermal movement of the steam generator support structure for cold shutdown to 100% power operation.

The newly installed ladders which are supported from the main platforms do not compromise the seismic Class I integrity of the main platforms.

MOD 85-03-096 SA, Rev. 0 - Station Air to House Service Boiler

Description and Purpose

The Administration Building Instrument Air System supply could not supply the House Service Boiler. The station air system has sufficient capacity to supply air flow to the House Service Boiler, hence a tie was made between both systems.

Summary of Safety Evaluation

The tie-in for station air is deemed Non-Category I and is not required for safe shutdown of the plant. This modification did not effect the function of safety related equipment and was designed in accordance with the original station air piping specifications. The station air system has adequate capability to supply the additional load.

MOD 86-03-137 MULT, Rev. 0 - Extension to Local Sampling Taps on Refueling Water Storage Tank (RWST), Primary Water Storage Tank (PWST), and the Spray Additive Tank

Description and Purpose

This modification addressed the installation of valves, tubing, and fittings on existing sampling points off three Category I tanks: RWST, PWST, and Spray Additive Tank. The purpose of this modification was to extend existing sample points off various Category I storage tanks in order to provide better control of flow.

Summary of Safety Evaluation

The installed valves and tubing exceed the pressure/temperature rating of the existing systems. The installation of these valves and associated pipe, fittings, and tubing was in compliance with the existing plant piping specification for service with Primary Water, Refueling Water, and Sodium Hydroxide associated with the Spray Additive tank.

The weight of the additional isolation valves and tubing is negligible and does not violate the seismic integrity of the existing root stop connections.

MOD 86-03-146 MULT, Rev. 0 - Sampling Taps on Vapor Containment (VC) Sump Effluent and Refueling Water Purification Pump Discharge

Description and Purpose

This modification addressed the installation of two new sampling points. One point was installed in the Auxiliary Coolant system on the discharge side of the refueling water purification pump and the other was installed in the Liquid Waste Disposal System on the line downstream of the Containment Isolation valves. The purpose of this modification was to provide an efficient method of sampling.

Summary of Safety Evaluation

The lines are Non-Category I, non safety related. The pipe, tubing and fittings used in this modification are in compliance with applicable piping specifications and consistent with existing system design. The refueling water purification pump tap allows water from the RWST to be tested for compliance with station Technical Specifications requirements.

The sample tap on the Containment Sump Pump discharge line allows samples to be taken of the VC sump water in the Primary Auxiliary Building (PAB). In the event of a leak from systems within the Containment Building, the sample tap will allow determination of the leak's origin.

MOD 87-03-079 MULT, Rev. 0 - Revision of FSAR Equipment Classification

Description and Purpose

The FSAR safety classification of Emergency Operating Procedure (EOP) instrumentation and the Boiler Feed System Leading Edge Flow Meter (LEFM) were revised. The instrumentation required by the EOP was reclassified from Category I to Category M (which refers to components important to safety and requires a modified QA program). The LEFM was reclassified to Non-Category I. The purpose of this evaluation was to ensure the application of a quality program is commensurate with the level of importance to safety.

Summary of Safety Evaluation

The failure of the components that are being reclassified would not affect any components or systems that are used for accident analysis. The surveillance and operability requirements of the instrumentation were not affected by the reclassification. The instrumentation that was reclassified did not impact Environmental Technical Specifications.

The LEFM does not trip the plant, maintain safe shutdown or mitigate an accident. It is not safety related and is not required by the operator to execute EOP's. The design basis of the plant was not changed by the FSAR revisions.

MSE 87-03-117 CCW, Rev. 0 - New Corrosion Inhibitor for the Component Cooling Water (CCW) System

Description and Purpose

Component cooling closed loop water system's corrosion inhibitor potassium chromate or dichromate were replaced with a molybdenum nitrate triazole compound. The purpose of this evaluation was to approve an acceptable substitute which does not pose a waste disposal concern.

Summary of Safety Evaluation

Reviews of other operating plants experience has shown that sodium molybdate corrosion inhibitors are effective in controlling corrosion of carbon, alloy, and stainless steels. Triazole compounds have been combined with sodium molybdate to control nonferrous corrosion with good results. Activation of sodium ions has not been a problem with sodium molybdate corrosion inhibitors, and molybdenum has not been shown to be an environmental hazard, unlike other heavy metals. The State Department of Environmental Conservation has approved the compound for use at Indian Point concerning the environmental permit.

MOD 87-03-166 SWN, Rev. 1 - Installation of Metering Valve in Line 1096 and Restoration of Automatic Control Function Associated With FCV-1176 and FCV-1176A.

Description and Purpose

A metering valve was installed to limit the maximum Service Water flow through the Emergency Diesel Generator Cooling Loop. This was necessary to limit the required Service Water flow and make it available for other cooling needs. Due to a previous modification, the automatic control functions of valves FCV-1176 and FCV-1176A were removed. As a result of this modification, FCV-1176 and FCV-1176A have been restored to their original design by reinstating the automatic control function.

Summary of Safety Evaluation

This modification was designed to limit the maximum service water flow through the Emergency Diesel Generator cooling water loop, following a safeguards signal or high temperature in a jacket water or lube oil cooler, by the installation of a 10" metering valve with its wafer disc drilled with four holes. The total area of the holes was sized to provide suitable service water for all conditions of diesel operation.

This modification did not change the overall concept for operation of the Diesel Generator Cooling loop. The installation of the metering valve was beneficial to overall Service Water System reliability. An analysis ensured that the installation was adequate for maximum loadings, including seismic. In the event of a safeguards signal or high temperature in any jacket water or lube oil cooler, FCV-1176 and FCV-1176A would go to full open positions. Each valve can supply the full flow requirements and therefore meet single failure criterion.

RECLAS 88-03-002 RMS, Rev. 0 - Sewage Treatment Facility Radiation Monitor (R56)

Description and Purpose

The sewage treatment monitor was reclassified to Category M. This will ensure a modified QA program is applied to the system. The purpose of this reclassification was to ensure the application of a quality program is commensurate with the level of importance to safety.

Summary of Safety Evaluation

This monitor was not listed in the Technical Specifications nor was it required for operation by Radiological and Environmental Services procedures. It is highly unlikely that liquid wastes from the nuclear side of the plant would enter the Sewage Treatment Facility. Engineering review showed no possibility of an accidental discharge of contaminated liquid whose concentrations would be in excess of 10CFR20 MPC limits.

MOD 88-03-040 RCS, Rev. 0 - Raising Top Head of Pressurizer Missile Shield Enclosure

Description and Purpose

The top head of the Pressurizer Missile Shield Enclosure was raised 4 inches by the installation of new, longer studs and pipe stanchions. This revision ensured that the temperature in the upper pressurizer compartment would not reach the design temperature for Environmentally Qualified equipment in the compartment.

Summary of Safety Evaluation

Analyses of postulated generated missiles within the Pressurizer enclosure were performed. The results of a qualitative analysis showed that the incorporation of a 4" perimeter air gap will be sufficient to prevent any significant missiles within the shield from escaping. The 4" perimeter air gap did not have any affect on the overall design, nor did it introduce any additional concerns resulting from changes in seismic accelerations and movements.

MOD 88-03-072 RHD, Rev. 0 - Removal of Reheater Drain Tank Sight Glasses

Description and Purpose

The level gauge/sight glasses were removed from the six reheater drain tanks. Level indicators were present in the Control Room therefore the sight glasses are not required. The gauge glasses had caused recurring leakage problems and, therefore, their removal was beneficial.

Summary of Safety Evaluation

Since the level control system on the Reheater Drain Tanks are not safety related, the removal of the gauge glass had no impact on the safety of the plant. The materials used in this modification were in accordance with the original pipe specifications.

MSE 88-03-095 FP, Rev. 1 - Replacement of #39 Fire Hydrant

Description and Purpose

Fire hydrant #39 was replaced with a new hydrant which meets current industry standards. The new hydrant matches system connection with a standard 5 1/4" bottom valve with flanged connections. The purpose of this evaluation was to provide a suitable replacement hydrant.

Summary of Safety Evaluation

The new hydrant meets current industry specifications for fire hydrants (i.e. Underwriters Laboratories Standard 246 and Factory Mutual Class 1510 Dry Barrel Hydrants) and is considered acceptable for the Fire Protection System requirements. The Fire Protection System is a seismic class III system.

NSE 88-03-114 SWS, Rev. 1 - Operation with Service Water Temperature of 87°F

Description and Purpose

This Nuclear Safety Evaluation was performed because at high Hudson River water temperature. The service water temperature exceeded the original 85°F design temperature for the system.

Summary of Safety Evaluation

An evaluation was performed and showed that the post-DBE containment pressure would remain within the design pressure and that all components required to alleviate an accident would perform their intended function in the proper manner with the service water temperatures up to 87°F. The design case for an initial containment temperature of 120°F and service water temperature of 87°F was evaluated. The peak containment pressure was below 40.6 psig. This is well below the 47 psig design pressure of the containment building.

The component cooling system and the equipment cooled by it shows it would remain operable to perform their safety related function during a design basis event at the elevated temperature of 87°F.

A service water system evaluation demonstrated that the emergency diesel generators remained operable with service water supply temperatures up to 90°F. The fan coolers were also evaluated and it was determined that they would remain operable during a design basis event for the elevated service water temperature.

NSE 88-03-117 SWS, Rev. 0 - Operation with Service Water Temperature of 90°F

Description and Purpose

This Nuclear Safety Evaluation was performed because of high Hudson River water temperature. The temperature at the circulating water inlets was recorded and the average of those temperatures represented the temperature of the water entering the service water system. The service water temperature reached 90°F which exceeded the original design temperatures for the system.

Summary of Safety Evaluation

Since a Service Water temperature of 90° would affect the Fan Cooler Unit's (FCU) performance, various analyses were performed. An evaluation showed that the post-Design Basis Event (DBE) containment pressure would remain within the design pressure and all components required to alleviate an accident would successfully perform their intended function with the service water temperatures up to 90°F.

The design case for an initial containment temperature of 120°F and service water temperature of 90°F was evaluated. Peak containment pressure was less than 40.6 psig. This was well below the containment building design pressure of 47 psig.

The emergency diesels were evaluated and it was concluded they would remain operable with the service water temperatures up to 90°F. The Fan Coolers were also evaluated and it was determined that they would remain operable during the course of a design basis event for the elevated service water temperature. An evaluation performed on the component cooling water system and the equipment it cools shows it would remain operable to perform the safety related function during a design basis event at the elevated temperature of 90°F.

NSE 88-03-135 CCW, Rev. 0 - Revised Setpoint for the Component Cooling Water (CCW) Heat Exchanger Outlet Temperature Alarm

Description and Purpose

The alarm setpoint for the CCW Heat Exchanger Temperature Alarm was reduced from 120°F to 105°F. The CCW provides cooling water for the components in the Primary Auxiliary Building and the Containment Building. The reduction in setpoint was a result of large increases in river water temperature that caused the outlet temperatures of the heat exchangers to increase. It was necessary to closely monitor the outlet temperatures. The change in setpoint temperature would alert the operator sooner that the temperature limit of the components are being approached.

Summary of Safety Evaluation

The reduction in the setpoint temperature from 120°F to 105°F alerts operators that the temperature limit of components is being approached and corrective action could take place earlier, than if the setpoint remained at 120°F. With operators closely monitoring, there is greater assurance that the CCW system temperature would be maintained below allowable limits during abnormal conditions. Since the CCW Heat Exchanger discharge temperature would be monitored, any subsequent discharge to the river would be lower than established standards. This modification ensures the operability and safety of the CCW loop by informing operators when discharge temperature reaches set limits.

MOD 88-03-198 CA, Rev. 0 - Relocation/Replacement of Condenser Air Ejector Effluent Diversion Valve

Description and Purpose

Three diversion valves were replaced with one larger diversion valve to maintain Radiation Monitor R-15 in the Condenser Air Ejector effluent flow path. This modification was necessary to allow for constant monitoring and sampling during diversion to containment to determine primary to secondary leak rates. This new valve performs the same function as the existing valves did; therefore, the changes made in control wiring were limited to the wiring, conduit and terminal box to each valve. A manual handwheel was installed as an aid in operation of the diversion valve in case of malfunction.

Summary of Safety Evaluation

The installation of the new valve insured that the flow from the ejectors would be constantly monitored when diverting it to containment. This also eliminated the need to release to the environment in order to determine the primary to secondary leak rates. The new valve was sized to ensure that the back pressure would not increase above the values of the 3 valves that were removed. The installation of this equipment did not affect any safety-related equipment.

MOD 88-03-212 RMS, Rev. 0 - Installation of Radiation Monitor R-15A

Description and Purpose

As an interim modification, a new Radiation Monitor (R-15A) was installed to provide data for comparison with Radiation Monitor R-15 to aid the operator in early detection of a primary to secondary leak. This monitor would function if there was a malfunction of monitor R-15 and indicate activity in the Steam Jet Air Ejector (SJAE) exhaust at increased sensitivity. The instrument and a logging printer were installed locally in the 53' turbine hall.

Summary of Safety Evaluation

The connection of new instrumentation did not interfere with the function of the existing circuits. The new hardware that had to be supported did not degrade the structural integrity of the plant components and did not create seismic hazards. This modification will not degrade designed safety or instrument functions of the plant equipment. This modification did not change any stated constants or setpoints.

RECLAS 88-03-228 FW, Rev. 0 - Reclassification of Steam Generator Feed Flow, Steam Flow and Level Recorders

Description and Purpose

Narrow Range Steam Generator Level Feed Flow and Steam Flow recorders were reclassified from Category I to Category M. By being reclassified as Category M the subject recorders were still under a Quality Assurance Program. The purpose of this reclassification was to ensure the application of a quality program is commensurate with the level of importance to safety.

Summary of Safety Evaluation

The parameters that are monitored by these recorders are Steam Generator Level, Feed Flow and Steam Flow. These recorders provide only a trend of Steam Generator level, feed flow, and steam flow and warranted the reclassification to Category M as they perform no safety related function. These recorders are not relied upon to mitigate an accident as defined in the accident analysis of the FSAR. The corresponding Steam Generator Level, Feed Flow, and Steam Flow Indicators which are located on the same panel as the recorders, remain classified as Category I.

NSE 89-03-002 MULT, Rev. 0 - Evaluation for Operation of the Condensate Polisher Facility (CPF) Waste Collection Tanks Discharge As A Liquid Radwaste Release Point

Description and Purpose

As a result of a primary to secondary steam generator tube leak, suspended radioactive materials were deposited in the Condensate Polisher Facility (CPF) resin beds. During regeneration, backwash transported the materials to the CPF Waste Collection Tanks. This has been designated as a new release path for radioactive liquids and hence had to be evaluated.

Summary of Safety Evaluation

The overall operation of the plant and/or the Condensate Polisher Facility is unchanged and the new release point design is justified on (a) the basis of 10CFR20 requirements, for normal operations and for any transient situation that might be anticipated to occur, and (b) the basis of 10CFR100 dosage levels guidelines for potential reactor accidents of exceedingly low probability of occurrence.

Radioactive liquid waste equipment is part of Technical Specification Appendix B "Environmental"; the use of the CPF waste collection tanks discharge as a liquid radwaste release point conforms to the basis in Technical Specification Appendix B.

The Condensate Polisher regenerant waste is routinely analyzed for radioactivity. The monitoring program for this release point is consistent with the direction set forth in NRC IE Bulletin 80-10. Should the system become radioactive, releases from this system will be in accordance with the requirements for batch waste release tanks listed in the Radiological Environmental Technical Specifications (RETS).

Environmental Impact Evaluation 88-03-241 has been performed, demonstrating compliance with all applicable procedures, commitments, and regulations. The review and analysis also shows that this additional release point does not increase the total discharges from Indian Point 3.

RECLAS 89-03-004 HPC, Rev. 0 - Reclassification of the Hot Penetration Blowers #31, 32, 33, 34

Description and Purpose

The hot penetration blowers were reclassified from Category I to Category M. The Hot Penetration Cooling System supplies cooling air to eliminate high temperatures that would adversely effect the containment concrete. The purpose of this reclassification was to ensure the application of a quality program is commensurate with the level of importance to safety.

Summary of Safety Evaluation

The blowers are not required for safe shutdown or for mitigation of an accident scenario. The blowers function during normal plant operations and are routinely monitored by Operations personnel. In the case of any failure, an alarm in the Control Room would sound. Corrective action could be taken before any detrimental effects occur because the concrete heats up slowly. The hot penetration blowers are not required to be safety related, therefore, the reclassification to Category M was justified.

RECLAS 89-03-006 INST, Rev. 1 - Reclassification of LT-181A and LT-181B

Description and Purpose

The CVCS Monitor Tank level transmitters were reclassified from Category I to Category M. These tanks store water processed by the Waste Disposal System.

Summary of Safety Evaluation

The monitor tank and its transmitters are not necessary for the safe shutdown of the plant or for alleviation of an accident. In the event of failure, the monitor tank would not release radioactivity that exceeds NRC limits. The level transmitters are not safety related and are not to be controlled under the Category I requirements of the Quality Assurance Program. The reclassification to Category M was supported by Nuclear Safety Evaluation 87-03-079 which states that the monitor tank level instrumentation is required to maintain Technical Specifications Limits and that it should be classified Category M.