February 16, 1990

Docket No. 50-286

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Mr. John C. Brons
Executive Vice President - Nuclear Generation
Power Authority of the State of New York
123 Main Street
White Plains, New York 10601

Dear Mr. Brons:

SUBJECT: ISSUANCE OF AMENDMENT (TAC NO. 71587)

The Commission has issued the enclosed Amendment No. 92 to Facility Operating License No. DPR-64 for the Indian Point Nuclear Generating Unit No. 3. The amendment consists of changes to the Technical Specifications in response to your application transmitted by letter dated December 8, 1988.

The amendment revises the Technical Specifications related to the auxiliary feedwater pumps to more closely reflect the applicable Limiting Conditions for Operation provided by the Westinghouse Standard Technical Specifications.

A copy of the related Safety Evaluation is enclosed. A Notice of Issuance will be included in the Commission's next regular bi-weekly Federal Register notice.

Sincerely,

ORIGINAL SIGNED BY:

Joseph D. Neighbors, Senior Project Manager
Project Directorate I-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 92 to DPR-64
2. Safety Evaluation

cc: w/enclosures
See next page

OFC	PDI-1	PDI-1	PSB	OGC	PDI-1		
NAME	CVogan	JNeighbors:rc	CMcCracken		RCapra		
DATE	1/8/90	1/23/90	1/23/90	1/29/90	2/16/90		

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

POWER AUTHORITY OF THE STATE OF NEW YORK

DOCKET NO. 50-286

INDIAN POINT NUCLEAR GENERATING UNIT NO. 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 92
License No. DPR-64

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Power Authority of the State of New York (the licensee) dated December 8, 1988, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-64 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 92 , are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance and shall be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION

Daniel G. McDonald

Acting for Robert A. Capra, Director
Project Directorate I-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical Specifications

Date of Issuance: February 16, 1990

ATTACHMENT TO LICENSE AMENDMENT NO. 92

FACILITY OPERATING LICENSE NO. DPR-64

DOCKET NO. 50-286

Revise Appendix A as follows:

Remove Pages	Insert Pages
3.4-1	3.4-1
3.4-2	3.4-2
3.4-3	3.4-3
3.4-4	3.4-4

3.4 STEAM AND POWER CONVERSION SYSTEM

Applicability

Applies to the operating status of the Steam and Power Conversion System.

Objective

To define conditions of the turbine cycle steam-relieving capacity. Auxiliary Feedwater System operation is necessary to ensure the capability to remove decay heat from the core.

Specification

A. The reactor shall not be heated above 350°F unless the following conditions are met:

(1) A minimum ASME Code approved steam-relieving capability of twenty (20) main steam valves shall be operable (except for testing). With up to three of the five main steam line safety valves per steam generator inoperable, heat-up above 350°F and power operation is permissible provided:

a) Within four hours,

the inoperable valve(s) is restored to operable status.

or

the Power Range Neutron Flux High Trip Setpoint is reduced per Table 3.4-1.

b) Otherwise the reactor shall be in hot shutdown within the next six hours and in cold shutdown within the following 30 hours.

(2) Three out of three auxiliary feedwater pumps must be operable.

(3) A minimum of 360,000 gallons of water in the condensate storage tank.

(4) System piping and valves directly associated with the above components operable.

(5) The main steam stop valves are operable and capable of closing in five seconds or less.

(6) Two steam generators capable of performing their heat transfer function.

(7) City water system piping and valves directly associated with providing backup supply to the auxiliary feedwater pumps are operable.

B. Except as modified by E. below, if during power operations any of the conditions of 3.4-A above, except Items (1) and (2), cannot be met within 48 hours, the operator shall start to shutdown and cool the reactor below 350°F using normal operation procedures.

C. If during power operations, the requirement of 3.4.A.2 is not satisfied, the following actions shall be taken:

1) With one auxiliary feedwater pump inoperable, restore the pump to operable status within 72 hours or be in hot shutdown within the next 12 hours.

2) With two auxiliary feedwater pumps inoperable, be in hot shutdown within 12 hours.

3) With three auxiliary feedwater pumps inoperable, maintain the plant in safe stable mode which minimizes the potential for a reactor trip and, immediately initiate corrective action to restore at least one auxiliary feedwater pump to operable status as soon as possible.

D. The gross turbine-generator electrical output at all times shall be within the limitation of Figure 3.4-1 or Figure 3.4-2 for the application conditions of turbine overspeed setpoint, number of operable low pressure steam dump lines, and condenser back pressure as noted thereon.

E. The reactor shall not be heated above 350°F unless both valves in the single auxiliary feedwater supply line from the Condensate Storage Tank are open. If, during power operations, it is discovered that one or both of the valves are closed, the following action shall be taken:

1) Immediately place the auxiliary feedwater system in the manual mode,

2) Within one hour either:

a) reopen the closed valve(s),

or

b) open the valves to the alternate city water supply,

and

3) Once a water supply has been restored, return the system to the automatic mode.

If the above action cannot be taken, then:

a) maintain the plant in a safe stable mode which minimizes the potential for a reactor trip,

and

b) continue efforts to restore water supply to the auxiliary feedwater system,

and

c) notify the NRC within 24 hours regarding planned corrective action.

Basis

A reactor shutdown from power requires removal of core decay heat. Immediate decay heat removal requirements are normally satisfied by the steam bypass to the condensers. Thereafter, core decay heat can be continuously dissipated via the steam bypass to the condenser as feedwater in the steam generator is converted to steam by heat absorption. Normally, the capability to feed the steam generators is provided by operation of the turbine cycle feedwater system.

The twenty main steam safety valves have a total combined rated capability of 15,108,000 lbs/hr. The total full power steam flow is 12,974,500 lbs/hr.; therefore twenty (20) main steam safety valves will be able to relieve the total steam flow if necessary. The total relieving capacity of the twenty main steam line safety valves is 116% of the total secondary steam flow at 100% rated power (3025 Mwt). The specified valve lift settings and relieving capacities are in accordance with the requirements of Section III of the ASME Boiler and Pressure Code, 1971 Edition. The operability of the twenty main steam line safety valves ensure that the secondary system pressure will be limited to within 110% of the design pressure of 1085 psig during the most severe anticipated system operational transient.

Startup and/or power operation with inoperable main steam line safety valves is allowable within the limitation of Table 3.4-1. Operation with less than five safety valves operable for each steam generator is permissible if the reactor power level is limited to the relief capacity of the remaining safety valves. This is accomplished by restricting the reactor power level such that the energy transfer to the most limiting steam generator is not greater than the available relief capacity in that steam generator. The reduction in reactor power level is achieved by reducing the power range neutron flux high setpoint. The reactor trip setpoint reductions are derived on the following basis:

$$SP = \frac{(X) - (Y)(V)}{X} \times (109)$$

Where:

SP - Reduced reactor trip setpoint in percent of rated power
V - Number of inoperable safety valves per steam line (most limiting steam generator).
(109)- Power Range Neutron Flux-High Trip Setpoint for (4) loop operation
X - Total relieving capacity of all safety valves per steam line (3,777,000 lbs/hr).
Y - Maximum relieving capacity of any one safety valve (823,000 lbs/hr).

In the unlikely event of complete loss of electrical power to the station, decay heat removal would continue to be assured by the availability of either the steam-driven auxiliary feedwater pump or one of the two motor-driven auxiliary steam generator feedwater pumps and steam discharge to the atmosphere via the main steam safety valves and atmospheric relief valves. One motor-driven auxiliary feedwater pump can supply sufficient feedwater for removal of decay heat from the plant. The minimum amount of water in the condensate storage tank is the amount needed for 24 hours at hot shutdown. When the condensate storage supply is exhausted, city water will be used.

Two steam generators capable of performing their heat transfer function will provide sufficient heat removal capability to remove core decay heat after a reactor shutdown.

The limitations placed on turbine-generator electrical output due to conditions of turbine overspeed setpoint, number of operable steam dump lines, and condenser back pressure are established to assure that turbine overspeed (during conditions of loss of plant load) will be within the design overspeed value considered in the turbine missile analysis.[2] In the preparation of Figures 3.4-1 and 3.4-2, the specified number of operable L.P. steam dump lines is shown as one (1) greater than the minimum number required to act during a plant trip. The limitations on electrical output, as indicated in Figures 3.4-1 and 3.4-2, thus consider the required performance of the L.P. Steam Dump System in the event of a single failure for any given number of operable dump lines.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 92 TO FACILITY OPERATING LICENSE NO. DPR-64

POWER AUTHORITY OF THE STATE OF NEW YORK

INDIAN POINT NUCLEAR GENERATING UNIT NO. 3

DOCKET NO. 50-286

INTRODUCTION

By letter dated December 8, 1988, the Power Authority of the State of New York (the licensee) requested an amendment to Facility Operating License No. DPR-64. This amendment would revise the Technical Specifications related to auxiliary feedwater pumps.

DISCUSSION AND EVALUATION

The requirement of the existing Technical Specifications is that three auxiliary feedwater pumps must be operable. If not, they must be made operable within 72 hours or the reactor shall be placed in hot shutdown within the next 12 hours.

This wording renders the specification applicable to all possible conditions, independent of the number of the inoperable auxiliary feedwater pumps. The Westinghouse Standard Technical Specifications provide Limiting Conditions for Operation (LCOs) which are dependent on the number of inoperable auxiliary feedwater pumps. The proposed change will revise Technical Specification 3.4 to reflect the applicable LCOs provided by the Westinghouse Standard Technical Specifications.

The licensee has provided the following description of the proposed changes with an evaluation of each:

> "When one auxiliary feedwater pump is inoperable, the Westinghouse Standard Technical Specifications requires that if the pump is not restored to operable status within 72 hours, the plant must be in hot shutdown within 12 hours thereafter. Therefore, for one auxiliary feedwater pump inoperable, the existing Technical Specification 3.4.B requirement is equivalent to that provided by the Westinghouse Standard Technical Specifications.
>
> When two auxiliary feedwater pumps are inoperable, the Westinghouse Standard Technical Specifications require the plant to be in hot shutdown within 12 hours. A literal interpretation of existing Technical Specification 3.4.B would allow 72 hours of continued operations in which to restore the two pumps to operable status, and if

that is not accomplished, the plant must be in hot shutdown within 12 hours thereafter. This literal interpretation of the Indian Point 3 Technical Specification allows 72 hours of subsequent plant operations not provided for by the Westinghouse Standard Technical Specifications. The proposed change will revise Technical Specifications 3.4 to reflect the more stringent requirements of the Westinghouse Standard Technical Specifications.

When three auxiliary feedwater pumps are inoperable, the Westinghouse Standard Technical Specifications require that immediate corrective action be undertaken to restore at least one auxiliary feedwater pump to operable status as soon as possible. While this provision does not have a plant shutdown requirement, it is implicit that when one pump is restored to operable status, the plant will be shut down in accordance with the LCO for the two inoperable pump condition. The rationale for not requiring immediate plant shutdown when the three auxiliary feedwater pumps are inoperable is that continued plant operations is a safer mode of operation than undergoing plant shutdown with no operable auxiliary feedwater pumps. Therefore, if none of the three inoperable pumps could be restored to operable status within 72 hours, a literal interpretation of Technical Specification 3.4.B would result in a reduction in the level of safety. Hence, the proposed change will revise Technical Specification 3.4 to reflect this Westinghouse Standard Technical Specification requirement."

We have reviewed the proposed changes to the Technical Specifications and conclude that the proposed change with one pump inoperable is equivalent to the existing Technical Specifications, that the proposed provision with two pumps inoperable is more stringent than the existing Technical Specifications, and that continued operation is a safer mode than commencing shutdown when three pumps are inoperable. In this case one pump would be restored as soon as possible and the plant shut down under the two pumps inoperable provision. The changes reflect similar requirements to those of the Westinghouse Standard Technical Specifications.

ENVIRONMENTAL CONSIDERATION

This amendment involves a change in a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, this amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR Sec 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of this amendment.

CONCLUSION

We have concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (2) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Dated: February 16, 1990

PRINCIPAL CONTRIBUTOR:

Joseph D. Neighbors