

DISTRIBUTION:

AEC PDR
 Local PDR
 Docket
 ORB#3 Rdg
 OGC
 RO (3)
 NDube
 BJones (w/4 encls)
 RVollmer
 JSaltzman (w/o TS)
 SATEets
 PBERickson
 GLear
 SKari (w/o TS)
 WOMiller
 BScharf (15)
 TJCarter

PCollins
 SVarga
 CHEbron
 RSchemel
 ACRS (16)
 extra cps
 EPA

SEP 23 1974

Docket No. 50-247

Consolidated Edison Company
 of New York, Inc.
 ATTN: Mr. William J. Cahill, Jr.
 Vice President
 4 Irving Place
 New York, New York 10003

Gentlemen:

The Commission has issued the enclosed Amendment No. 8 to Facility License No. DPR-26 for the Indian Point Nuclear Generating Station Unit 2. This amendment includes Change No. 5 to the Technical Specifications and is in response to your request dated November 7, 1973.

This amendment provides for revision of the setpoints for the high steam line flow limits and redefines cold shutdown conditions. As a result of our discussions with your staff, we have not reviewed items 3 through 6 of your request; we understand that these items will be resubmitted at a later date.

Copies of the related Safety Evaluation and the Federal Register Notice are also enclosed.

Sincerely,

151

Karl R. Goller, Assistant Director
 for Operating Reactors
 Directorate of Licensing

Enclosures:

1. Amendment No. 8 and Change No. 5
2. Safety Evaluation
3. Federal Register Notice

cc: See next page

bcc: HJMcAlduff
 JRBuchanan
 TBAbernathy

~~ARosenthal~~
~~NGoodrich~~

B111060173 740923
 PDR ADDCK 05000247
 P PDR

lh

OFFICE →	ORB#3	ORB#3 <i>BRK</i>	ORB#3	OGC <i>KARMAN</i>	L:AD/ORS
SURNAME →	SATEets: <i>SA</i>	PBERickson: <i>BRK</i>	GLear <i>GL</i>	<i>KRG</i>	KRGoller <i>KRG</i>
DATE →	8/30/74	8/30/74	9/2/74	9/11/74	9/20/74

William J. Cahill, Jr.

- 2 -

SEP 23 1974

cc: w/enclosures

Leonard M. Trosten, Esquire
LeBoeuf, Lamb, Leiby & MacRae
1757 N Street, N. W.
Washington, D. C. 20036

Honorable George Segnit
Mayor, Village of Buchanan
188 Westchester Avenue
Buchanan, New York 10511

Mrs. Kay Winter, Librarian
Hendrick Hudson Free Library
31 Albany Post Road
Montrose, New York 10548

Dr. William E. Seymour
Staff Coordinator
New York State Atomic Energy Council
New York State Department of Commerce
99 Washington Street
Albany, New York 12210

~~Mr. August LaRocco
Public Health Librarian
New York City Department of Health
125 Worth Street
New York, New York 10013~~

OFFICE >						
SURNAME >						
DATE >						



UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.

DOCKET NO. 50-247

INDIAN POINT NUCLEAR GENERATING STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 8
License No. DPR-26

1. The Atomic Energy Commission (the Commission) has found that:
 - A. The application for amendment by Consolidated Edison Company of New York, Inc. (the licensee) dated November 7, 1973, 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. Prior public notice of this amendment is not required since the amendment does not involve a significant hazards consideration.
2. Accordingly, the license is amended by a change to the Technical Specifications as indicated in the attachment to this license amendment and Paragraph 2.C.(2) of Facility License No. DPR-26 is hereby amended to read as follows:

8111060179 740923
PDR ADOCK 05000247
P PDR

"(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications, as revised by issued changes thereto through Change No. 5."

3. This license amendment is effective as of the date of its issuance.

FOR THE ATOMIC ENERGY COMMISSION

151

Karl R. Goller, Assistant Director
for Operating Reactors
Directorate of Licensing

Attachment:
Change No. 5 to the
Technical Specifications

Date of Issuance: **SEP 23 1974**

ATTACHMENT TO LICENSE AMENDMENT NO. 8
CHANGE NO. 5 TO THE TECHNICAL SPECIFICATIONS
FACILITY OPERATING LICENSE NO. DPR-26
DOCKET NO. 50-247

Delete pages 1.1, 3.5-4, 3.5-5 and Table 3-1 of Appendix A and replace with the attached revised pages and table.

TECHNICAL SPECIFICATIONS

1 DEFINITIONS

The following used terms are defined for uniform interpretation of the specifications.

1.1 a. Rated Power

A steady state reactor thermal power of 2758 MWt.

b. Thermal Power

The total core heat transfer rate from the fuel to the coolant.

1.2 Reactor Operating Conditions

1.2.1 Cold Shutdown Condition

When the reactor is subcritical by at least 1% k/k and T_{avg} is $\leq 200^{\circ}F$.

1.2.2 Hot Shutdown Condition

When the reactor is subcritical, by an amount greater than or equal to the margin as specified in Technical Specification 3.10 and T_{avg} is $\geq 547^{\circ}F$.

1.2.3 Reactor Critical

When the neutron chain reaction is self-sustaining and $k_{eff} = 1.0$.

1.2.4 Power Operation Condition

When the reactor is critical and the neutron flux power range instrumentation indicates greater than 2% of rated power.

one steam generator by isolating the steam lines large containment pressure (Hi-Hi Level) or high steam line flow. Protection is provided for breaks inside or outside the containment even when it is assumed that there is a single failure in the steam line isolation system.

Feedwater Line Isolation

The feedwater lines are isolated upon actuation of the Safety Injection System in order to prevent excessive cooldown of the reactor coolant system. This mitigates the effect of an accident such as steam break which in itself causes excessive coolant temperature cooldown.

Feedwater line isolation also reduces the consequences of a steam line break inside the containment, by stopping the entry of feedwater.

Setting Limits

1. The Hi-Level containment pressure limit is set at 2.0 psig containment pressure. Initiation of Safety Injection protects against loss of coolant⁽²⁾ or steam line break⁽³⁾ accidents as discussed in the safety analysis.
2. The Hi-Hi Level containment pressure limit is set at about 50% of design containment pressure. Initiation of Containment Spray and Steam Line Isolation protects against large loss of coolant⁽²⁾ or steam line break accidents⁽³⁾ as discussed in the safety analysis.
3. The pressurizer low pressure limit is set substantially below system operating pressure limits. However, it is sufficiently high to protect against a loss of coolant accident as shown in the safety analysis.⁽²⁾
4. The steam line high differential pressure limit is set well below the differential pressure expected in the event of a large steam line break accident as shown in the safety analysis.⁽³⁾
5. The high steam line flow limit is set at approximately 40% of the full steam flow at the no load to 20% load. Between 20% and 100% (full) load, the trip set point is ramped linearly with respect to first stage turbine

pressure from 40% of the full steam flow to 110% of the full steam flow. These setpoints will initiate safety injection in the case of a large steam line break accident. Coincident low T_{avg} setting limit for SIS and steam line isolation initiation is set below its hot shutdown value. The coincident steam line pressure setting limit is set below the full load operating pressure. The safety analysis show that these settings provide protection in the event of a large steam line break. (3)

Instrument Operating Conditions

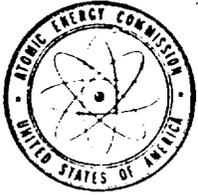
During plant operations, the complete instrumentation systems will normally be in service. Reactor safety is provided by the Reactor Protection System, which automatically initiates appropriate action to prevent exceeding established limits. Safety is not compromised, however, by continuing operation with certain instrumentation channels out of service since provisions were made for this in the plant design. This specification outlines limiting conditions for operation necessary to preserve the effectiveness of the Reactor Control and Protection System when any one or more of the channels is out of service.

Almost all reactor protection channels are supplied with sufficient redundancy to provide the capability for channel calibration and test at power. Exceptions are backup channels such as reactor coolant pump breakers. The removal of one trip channel on process control equipment is accomplished by placing that channel bistable in a tripped mode; e.g., a two-out-of-three circuit becomes a one-out-of-two circuit. The nuclear instrumentation system channels are not intentionally placed in a tripped mode since the test signal is superimposed on the normal detector signal to test at power. Testing of the NIS power range channel requires: (a) bypassing the Trip Rod protection from NIS, for the channel being tested; and (b) defeating the AT protection CHANNEL SET that is being fed from the NIS channel and (c) defeating the power mismatch section of f_{avg} control channels when the appropriate NIS channel is being tested. However, the Trip Position Detector

TABLE 3-1

ENGINEERED SAFETY FEATURES INITIATION INSTRUMENT SETTING LIMITS

No.	<u>FUNCTIONAL UNIT</u>	<u>CHANNEL</u>	<u>SETTING LIMITS</u>
1.	High Containment Pressure (Hi level)	Safety Injection	≤ 2.0 psig
2.	High Containment Pressure (Hi-Hi level)	a. Containment Spray b. Steam Line Isolation	≤ 30 psig
3.	Pressurizer Low Pressure and Low Level	Safety Injection	≥ 1700 psig ≥ 5 percent instrument span
4.	High Differential Pressure Between Steam Lines	Safety Injection	≤ 150 psi
5.	High Steam Flow in 2/4 Steam Lines Coincident with Low T_{avg} or Low Steam Line Pressure	a. Safety Injection b. Steam Line Isolation	≤ 40% of full steam flow at zero load
			≤ 40% of full steam flow at 20% load
			≤ 110% of full steam at full load
			≥ 540°F T_{avg}
			≥ 600 psig steam line pressure



UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

UNITED STATES ATOMIC ENERGY COMMISSION

SAFETY EVALUATION BY THE DIRECTORATE OF LICENSING

SUPPORTING AMENDMENT NO. 8 TO FACILITY OPERATING LICENSE NO. DPR-26

(CHANGE NO. 5 TO THE TECHNICAL SPECIFICATIONS)

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.

INDIAN POINT NUCLEAR GENERATING STATION, UNIT NO. 2

DOCKET NO. 50-247

INTRODUCTION

By letter dated November 7, 1973 Consolidated Edison Company of New York, Inc. proposed changes in the Technical Specifications of Facility Operating License No. DPR-26 to change the setpoints for the high steam line flow limit, to redefine "cold shutdown conditions", and to modify several parts of the "Administrative Controls" section.

EVALUATION

A. High Steam Line Flow Limit

Consolidated Edison Company has proposed that the high steam line flow limit be set at 40% of full steam flow at power levels below 20%, and ramped linearly from 40% to 110% of full steam flow for power levels from 20% to 100%. At present the high steam line flow limit is ramped linearly from 20% to 120% for power levels from 0 to 100%; therefore, the proposed set points are less conservative than those presently in use for power levels below 20% and slightly more conservative for power levels above 20%. The new limit for high steam line flow will reduce the probability of spurious safety injection during operation at low power levels.

We have reviewed the proposed change and the submitted safety analysis and agree with the licensee that it does not alter the steam line break analysis of the Final Safety Analysis Report (FSAR) for Indian Point-2.

As indicated in Section 14.2.5 of the FSAR, the consequences of steam line break accident are most significant when the reactor is hot and near zero load. Under these conditions, there is a possibility that the core will become critical following a steam line break accident assuming the most reactive control rod is stuck in its fully withdrawn position. Following a steam line break, safety injection and steam line isolation limit any power transient that may result. Safety injection and steam line isolation

8111060201 740923
PDR ADOCK 05000247
P PDR

are initiated by high steam line flow. Figures 14.2.5-3 through 14.2.5-6 in the FSAR show that steam flow following a steam line break at zero power is sufficient to initiate isolation and that the rise time to the proposed initiation point is insignificant when compared to the elapsed time from steam line break to safety injection. Therefore, increasing the high steam flow setpoint at zero load from 20% to 40% flow has no significant effect on the initiation of safety injection or steam line isolation.

B. Definition of Cold Shutdown Condition

The licensee has requested that the "cold shutdown condition" be redefined as a condition with T average of 200°F or less, a change from the presently specified 140°F. The cold shutdown temperature of 200°F or less has been approved on other similar Westinghouse PWR's. Since 200°F is below the steam formation point at atmospheric pressure there will be no pressure buildup in the primary system due to steam during cold shutdown conditions. Requirements for refueling (Technical Specification 3.8.A.5) continue to specify a maximum of 140°F T average during refueling. Therefore, the proposed change in the definition of cold shutdown is acceptable.

C. Changes in Section on Administrative Controls

Our review of proposed changes to the Administrative Controls section of the Technical Specifications has been deferred because the licensee has informed us that those proposed specifications will be revised and resubmitted.

CONCLUSION

We have concluded, based on the reasons discussed above, that the authorization of this change does not involve a significant hazards consideration. We also conclude that 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 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.

(5)

Peter B. Erickson
Operating Reactors Branch #3
Directorate of Licensing

(5)

George Lear, Chief
Operating Reactors Branch #3
Directorate of Licensing

UNITED STATES ATOMIC ENERGY COMMISSION

DOCKET NO. 50-247

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.

NOTICE OF ISSUANCE OF FACILITY LICENSE AMENDMENT

Notice is hereby given that the U. S. Atomic Energy Commission (the Commission) has issued Amendment No. 8 to Facility Operating License No. DPR-26 issued to Consolidated Edison Company of New York, Inc. which revised Technical Specifications for operation of the Indian Point Nuclear Generating Station, Unit 2, located in Westchester County, New York. The amendment is effective as of its date of issuance.

The amendment permits a change to the Technical Specifications to revise the setpoints for the high steam line flow limits and redefines conditions for cold shutdown.

The application for the amendment complies with the standards and requirements of the Atomic Energy Act, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendment.

For further details with respect to this action, see (1) the application for amendment dated November 7, 1973, (2) Amendment No. 8 to License No. DPR-26, and any attachments, and (3) the Commission's related Safety Evaluation. All of these are available for public inspection at the Commission's Public Document Room, 1717 H Street N. W., Washington, D. C. and at the Hendrick Hudson Free Library, 31 Albany Post Road, Montrose, New York.

8111060205 740923
PDR ADOCK 05000247
P PDR

A copy of items (2) and (3) may be obtained upon request addressed to the U. S. Atomic Energy Commission, Washington, D. C. 20545, Attention: Deputy Director for Reactor Projects, Directorate of Licensing - Regulation.

Dated at Bethesda, Maryland, this *23rd* day of *September*

FOR THE ATOMIC ENERGY COMMISSION

15/
George Lear, Chief
Operating Reactors Branch #3
Directorate of Licensing