

Mr. Stephen E. Quinn
Vice President, Nuclear Power
Consolidated Edison Company
of New York, Inc.
Broadway and Bleakley Avenue
Buchanan, NY 10511

October 30, 1996

SUBJECT: ISSUANCE OF AMENDMENT FOR INDIAN POINT NUCLEAR GENERATING UNIT NO. 2
(TAC NO. M90164)

Dear Mr. Quinn:

The Commission has issued the enclosed Amendment No. 187 to Facility Operating License No. DPR-26 for the Indian Point Nuclear Generating Unit No. 2. The amendment consists of changes to the Technical Specifications (TSs) in response to your application transmitted by letter dated August 5, 1994, as supplemented by letters dated November 17, 1994, December 2, 1994, and August 1, 1996.

The amendment revises surveillance intervals for various systems, components and instruments to accommodate a 24-month refueling cycle. These revisions are being made in accordance with the guidance provided by Generic Letter 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle."

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

Sincerely,

/s/

George F. Wunder, Acting Project Manager
Project Directorate I-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket No. 50-247

Enclosures: 1. Amendment No. 187 to DPR-26
2. Safety Evaluation

cc w/encls: See next page

DISTRIBUTION: See attached sheet

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UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001
October 30, 1996

Mr. Stephen E. Quinn
Vice President, Nuclear Power
Consolidated Edison Company
of New York, Inc.
Broadway and Bleakley Avenue
Buchanan, NY 10511

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Sincerely,

A handwritten signature in black ink, appearing to read "George F. Wunder".

George F. Wunder, Acting Project Manager
Project Directorate I-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket No. 50-247

Enclosures: 1. Amendment No.187 to DPR-26
2. Safety Evaluation

cc w/encls: See next page

Stephen E. Quinn
Consolidated Edison Company
of New York, Inc.

Indian Point Nuclear Generating
Station Units 1/2

cc:

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Regional Administrator, Region I
U. S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

DATED: October 30, 1996

AMENDMENT NO. 187 TO FACILITY OPERATING LICENSE NO. DPR-26-INDIAN POINT UNIT 2

Docket File

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S. Bajwa

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G. Wunder

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G. Hill (2), T-5 C3

C. Grimes, 11/E/22

ACRS

PD plant-specific file

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cc: Plant Service list

DF
1/1

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.

DOCKET NO. 50-247

INDIAN POINT NUCLEAR GENERATING UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No.187
License No. DPR-26

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Consolidated Edison Company of New York, Inc. (the licensee) dated August 5, 1994, as supplemented by letters dated November 17, 1994, December 2, 1994, and August 1, 1996, 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-26 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No.187, 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 to be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION



S. Singh Bajwa, Acting 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: October 30, 1996

ATTACHMENT TO LICENSE AMENDMENT NO. 187

FACILITY OPERATING LICENSE NO. DPR-26

DOCKET NO. 50-247

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Table 4.1-1

Minimum Frequencies for Checks, Calibrations and
Tests of Instrument Channels

Channel Description	Check	Calibrate	Test	Remarks
1. Nuclear Power Range	S	D (1) M (3) ¹	Q (2)	1) Heat balance calibration 2) Signal to delta T; bistable action (permissive, rod stop, trips) 3) Upper and lower chambers for axial offset.
2. Nuclear Intermediate Range	S (1)	N.A.	S/U (2) ²	1) Once/shift when in service Log level; bistable action (permissive, rod stop, trip)
3. Nuclear Source Range	S (1)	N.A.	S/U (2) ²	1) Once/shift when in service 2) Bistable action (alarm, trip)
4. Reactor Coolant Temperature	S	R#	Q (1)	1) Overtemperature - delta T 2) Overpower - delta T
5. Reactor Coolant Flow	S	R#	Q	
6. Pressurizer Water Level	S	R#	Q	
7. Pressurizer Pressure (High & Low)	S	R#	Q	
8. 6.9 kV Voltage & Frequency	N.A.	R#	Q	Reactor Protection circuits only
9. Analog Rod Position	S	R#	M	
10. Rod Position Bank Counters	S	N.A.	N.A.	With analog rod position
11. Steam Generator Level	S	R#	Q	
12. Charging Flow	N.A.	R#	N.A.	

Table 4.1-1

Minimum Frequencies for Checks, Calibrations and
Tests of Instrument Channels

Channel Description	Check	Calibrate	Test	Remarks
13. Residual Heat Removal Pump Flow	N.A.	R#	N.A.	
14. Boric Acid Tank Level	W	R#	N.A.	Bubbler tube rodded during calibration
15. Refueling Water Storage Tank Level	W	Q	N.A.	
16. DELETED				
17. Volume Control Tank Level	N.A.	R#	N.A.	
18a. Containment Pressure	D	R#	Q	Wide Range
18b. Containment Pressure	S	R#	Q	Narrow Range
18c. Containment Pressure (PT-3300,PT-3301)	M	R#	N.A.	High Range
19. Process Radiation Monitoring System	D	R#	M	
19a. Area Radiation Monitoring System	D	R#	M	
19b. Area Radiation Monitoring System (VC)	D	R#	M	
20. Boric Acid Make-up Flow Channel	N.A.	R#	N.A.	

Table 4.1-1

Minimum Frequencies for Checks, Calibrations and
Tests of Instrument Channels

Channel Description	Check	Calibrate	Test	Remarks
21a. Containment Sump and Recirculation Sump Level (Discrete)	S	R#	R#	Discrete Level Indication Systems.
21b. Containment Sump, Recirculation Sump and Reactor Cavity Level (Continuous)	S	R#	R#	Continuous Level Indication Systems.
21c. Reactor Cavity Level Alarm	N.A.	R#	R#	Level Alarm System
21d. Containment Sump Discharge Flow	S	R#	M	Flow Monitor
21e. Containment Fan Cooler Condensate Flow	S	R#	M ³	
22a. Accumulator Level	S	R#	N.A.	
22b. Accumulator Pressure	S	R#	N.A.	
23. Steam Line Pressure	S	R#	Q	
24. Turbine First Stage Pressure	S	R#	Q	
25. Reactor Trip Logic Channel Testing	N.A.	N.A.	M ⁹	
26. Deleted				
27. Turbine Trip a. Low Auto Stop Oil Pressure	N.A.	R#	N.A.	

Table 4.1-1

Minimum Frequencies for Checks, Calibrations and
Tests of Instrument Channels

Channel Description	Check	Calibrate	Test	Remarks
28. Control Rod Protection (for use with LOPAR fuel)	N.A.	R#	*4	
29. Loss of Power				
a. 480v Emergency Bus Undervoltage (Loss of Voltage)	N.A.	R#	R#	
b. 480v Emergency Bus Undervoltage (Degraded Voltage)	N.A.	R#	R#	
c. 480v Emergency Bus Undervoltage (Alarm)	N.A.	R#	M	
30. Auxillary Feedwater				
a. Steam Generator Water Level (Low-Low)	S	R#	R#	
b. Low-Low Level AFWS Automatic Actuation Logic	N.A.	N.A.	M	Test one logic channel per month on an alternating basis.
c. Station Blackout (Undervoltage)	N.A.	R#	R#	
d. Trip of Main Feedwater Pumps	N.A.	N.A.	R#	
31. Reactor Coolant System Subcooling Margin Monitor	M	R#	N.A.	
32. PORV Position Indicator (Limit Switch)	M	R#	R#	

Table 4.1-1

Minimum Frequencies for Checks, Calibrations and
Tests of Instrument Channels

Channel Description	Check	Calibrate	Test	Remarks
33. PORV Block Valve Position Indicator (Limit Switch)	M ⁵	R#	R#	
34. Safety Valve Position Indicator (Acoustic Monitor)	M	R#	R#	
35. Auxillary Feedwater Flow Rate	M	R#	R#	
36. PORV Actuation/ Reclosure Setpoints	N.A.	R#	N.A.	
37. Overpressure Protection System (OPS)	N.A.	R#	*6	
38. Wide Range Plant Vent Noble Gas Effluent Monitor (R-27)	S	R#	N.A.	
39. Main Steam Line Radiation Monitor (R-28, R-29, R-30, R-31)	S	R#	N.A.	
40. High Range Containment Radiation Monitor (R-25, R-26)	S	R# ⁷	N.A.	
41. Containment Hydrogen Monitor	Q	Q ⁸	N.A.	

Table 4.1-1

Minimum Frequencies for Checks, Calibrations and
Tests of Instrument Channels

Channel Description	Check	Calibrate	Test	Remarks
42. Manual Reactor Trip	N.A.	N.A.	R#	Includes: 1) Independent verification of reactor trip and bypass breakers undervoltage trip circuit operability up to and including matrix contacts of RT-11/RT-12 from both manual trip initiating devices, 2) Independent verification of reactor trip and bypass breaker shunt trip circuit operability through trip actuating devices from both manual trip initiating devices.
43. Reactor Trip Breaker	N.A.	N.A.	M ⁹	Includes independent verification of undervoltage and shunt trip attachment operability.
44. Reactor Trip Bypass Breaker	N.A.	N.A.	M ⁹	Includes: 1) Automatic undervoltage trip, 2) Manual shunt trip from either the logic test panel or locally at the switchgear prior to placing breaker into service.
45. Service Water Inlet Temperature Monitoring Instrumentation	S	R#	A	The test shall take place prior to T.S. 3.3.F.b Applicability.

Table 4.1-1

Minimum Frequencies for Checks, Calibrations and
Tests of Instrument Channels

Footnotes:

- *1 By means of the movable Incore detector system.
- *2 Prior to each reactor startup if not done previous week.
- *3 Monthly visual inspection of condensate weirs only.
- *4 Within 31 days prior to entering a condition in which the Control Rod Protection System is required to be operable unless the reactor trip breakers are manually opened during RCS cooldown prior to T_{cold} decreasing below 350°F and the breakers are maintained opened during RCS cooldown when T_{cold} is less than 350°F.
- *5 Except when block valve operator is deenergized.
- *6 Within 31 days prior to entering a condition in which OPS is required to be operable and at monthly intervals thereafter when OPS is required to be operable.
- *7 Acceptable criteria for calibration are provided in Table II.F-13 of NUREG-0737.
- *8 Calibration will be performed using calibration span gas.
- *9 Each train shall be tested at least every 62 days on a staggered test basis (i.e., one train per month).

4.5 ENGINEERED SAFETY FEATURES

Applicability

Applies to testing of the Safety Injection System, the Containment Spray System, the Hydrogen Recombiner System, and the Air Filtration System.

Objective

To verify that the subject systems will respond promptly and perform their design functions, if required.

Specifications

A. SYSTEM TESTS

1. Safety Injection System

- a. System tests shall be performed at each reactor Refueling Interval (#). With the Reactor Coolant System pressure less than or equal to 350 psig and temperature less than or equal to 350°F, a test safety injection signal will be applied to initiate operation of the system. The safety injection pumps are made inoperable for this test.
- b. The test will be considered satisfactory if control board indication and visual observations indicate that all components have received the safety injection signal in the proper sequence and timing; that is, the appropriate pump breakers shall have opened and closed, and the appropriate valves shall have completed their travel.
- c. Conduct a flow test of the high head safety injection system after any modification is made to either its piping and/or valve arrangement.

- d. Verify that the mechanical stops on Valves 856 A, C, D and E are set at the position measured and recorded during the most recent ECCS operational flow test or flow tests performed in accordance with (c) above. This surveillance procedure shall be performed following any maintenance on these valves or their associated motor operators and at a convenient outage if the position of the mechanical stops has not been verified in the preceding three months.

B. CONTAINMENT SPRAY SYSTEM

1. System tests shall be performed at each reactor Refueling Interval (#). The tests shall be performed with the isolation valves in the spray supply lines at the containment and the spray additive tank isolation valves blocked closed. Operation of the system is initiated by tripping the normal actuation instrumentation.
2. The spray nozzles shall be tested for proper functioning at least every five years.
3. The test will be considered satisfactory if visual observations indicate all components have operated satisfactorily.

C. HYDROGEN RECOMBINER SYSTEM

1. A complete recombiner system test shall be performed at each Refueling Interval (#) on each unit. The test shall include verification of ignition and attainment of normal operating temperature.
2. A complete control system test shall be performed at intervals not greater than six months on each unit. The test shall consist of a complete dry run startup using artificially generated signals to simulate light off.
3. The above tests will be considered satisfactory if visual observations and control panel indication indicate that all components have operated satisfactorily.

4. Each recombiner air-supply blower shall be started at least at two-month intervals. Acceptable levels of performance shall be that the blowers start, deliver flow, and operate for at least 15 minutes.

D. CONTAINMENT AIR FILTRATION SYSTEM

Each air filtration unit specified in Specification 3.3.B shall be demonstrated to be operable:

1. At least once per 31 days by initiating, from the control room, flow through the HEPA filters and charcoal adsorbers and verifying that the unit operates for at least 15 minutes.
2. At least once every Refueling Interval (#), or (1) after any structural maintenance on the HEPA filters or charcoal adsorber housings, or (2) at any time painting, fire or chemical releases could alter filter integrity by:
 - a. verifying a system flow rate at ambient conditions of 65,600 cfm \pm 10% during filtration unit operation when tested in accordance with ANSI N510-1975. Verify that the flow rate through the charcoal adsorbers is \geq 8,000 cfm.
 - b. verifying that the HEPA filters and/or charcoal adsorbers satisfy the in-place testing acceptance criteria and uses the test procedures of Regulatory Positions C.5.a and C.5.c of Regulatory Guide 1.52, Revision 2, March 1978, at ambient conditions and at a flow rate of 65,600 cfm \pm 10% for the HEPA filters.
 - c. verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a (except for Position C.6.a(1)) of Regulatory Guide 1.52, Revision 2, March 1978.
3. After every 720 hours of charcoal adsorber operation, by verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of

Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a (except for Position C.6.a(1)) of Regulatory Guide 1.52, Revision 2, March 1978.

4. At least once every Refueling Interval (#) by:
 - a. Verifying that the pressure drop across the moisture separator and HEPA filters is less than 6 inches Water Gauge while operating the filtration unit at ambient conditions and at a flow rate of 65,600 cfm $\pm 10\%$.
 - b. Verifying that the unit starts automatically on a Safety Injection Test Signal.
5. After each complete or partial replacement of a HEPA filter bank, by verifying that the HEPA filter banks remove greater than or equal to 99% of the DOP when they are tested in-place in accordance with ANSI N510-1975 while operating the unit at ambient conditions and at a flow rate of 65,600 cfm $\pm 10\%$.
6. After each complete or partial replacement of a charcoal adsorber bank, verify that the flow rate through the charcoal adsorbers is $\geq 8,000$ cfm when the system is operating at ambient conditions and a flow rate of 65,600 cfm $\pm 10\%$ when tested in accordance with ANSI N510-1975.

E. CONTROL ROOM AIR FILTRATION SYSTEM

The control room air filtration system specified in Specification 3.3.H shall be demonstrated to be operable:

1. At least once per 31 days by initiating, from the control room, flow through the HEPA filters and charcoal adsorbers and verifying that the system operates for at least 15 minutes.
2. At least once every Refueling Interval(#) or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) at any time painting, fire or chemical releases could alter filter integrity by:

- a. verifying a system flow rate, at ambient conditions, of 1840 cfm \pm 10% during system operation when tested in accordance with ANSI N510-1975.
 - b. verifying that, with the system operating at ambient conditions and at a flow rate of 1840 CFM \pm 10% and exhausting through the HEPA filters and charcoal adsorbers, the total bypass flow of the system to the facility vent, including leakage through the system diverting valves, is less than or equal to 1% when the system is tested by admitting cold DOP at the system intake.
 - c. verifying that the system satisfies the in-place testing acceptance criteria and uses the test procedures of Regulatory Positions C.5.a, C.5.c and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978, at ambient conditions and at a flow rate of 1840 cfm \pm 10%.
 - d. verifying, within 31 days after removal, that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978.
3. After every 720 hours of charcoal adsorber operation, by verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1973, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978.
4. At least once every Refueling Interval (#) by:
 - a. verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 6 inches water gauge while operating the system at ambient conditions and at a flow rate of 1840 cfm \pm 10%.
 - b. verifying that, on a Safety Injection Test Signal or a high radiation signal in the control room, the system automatically switches into a

recirculation mode of operation with flow through the HEPA filters and charcoal adsorber banks.¹

- c. verifying that the system maintains the control room at a neutral or positive pressure relative to the outside atmosphere during system operation.
5. After each complete or partial replacement of an HEPA filter bank, by verifying that the HEPA filter banks remove greater than or equal to 99% of the DOP when they are tested in-place in accordance with ANSI N510-1975 while operating the system at ambient conditions and at a flow rate of 1840 cfm \pm 10%.
6. After each complete or partial replacement of a charcoal adsorber bank, by verifying that the charcoal adsorbers remove greater than or equal to 99.95% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1975 while operating the system at ambient conditions and at a flow rate of 1840 cfm \pm 10%.
7. Each toxic gas detection system shall be demonstrated operable by performance of a channel check at least once per day, a channel test at least once per 31 days and a channel calibration at least once each Refueling Interval(#).

F. FUEL STORAGE BUILDING AIR FILTRATION SYSTEM

The fuel storage building air filtration system specified in Specification 3.8 shall be demonstrated operable:

1. At least once per 31 days by initiating, from the control room, flow through the HEPA filters and charcoal adsorbers and verifying that the system operates for at least 15 minutes.
2. At each refueling, prior to refueling operations, or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) at any time painting, fire or chemical releases could alter filter integrity by:

1. In this instance Refueling Interval is defined by R#.

- a. verifying a system flow rate at ambient conditions of 20,000 cfm \pm 10% during system operation when tested in accordance with ANSI N510-1975.
 - b. verifying that the system satisfies the in-place testing acceptance criteria and uses the test procedures of Regulatory Positions C.5.a, C.5.c and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978, at ambient conditions and at a flow rate of 20,000 cfm \pm 10%.
 - c. verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978.
3. Prior to handling spent fuel which has decayed for less than 35 days, verify within 31 days after removal that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978. Such an analysis is good for 720 hours of charcoal adsorber operation. After 720 hours of operation, if spent fuel with a decay time of less than 35 days is still being handled, a new sample is required along with a new analysis.
4. At each refueling prior to refueling operations by:
- a. verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 6 inches water gauge while operating the system at ambient conditions and at a flow rate of 20,000 cfm \pm 10%.
 - b. verifying that the system maintains the spent fuel storage pool area at a pressure less than that of the outside atmosphere during system operation.
5. After each complete or partial replacement of a HEPA filter bank, by verifying that the HEPA filter banks remove greater than or equal to 99% of

the DOP when they are tested in-place in accordance with ANSI N510-1975 while operating the system at ambient conditions and at a flow rate of 20,000 cfm \pm 10%.

6. After each complete or partial replacement of a charcoal adsorber bank, by verifying that the charcoal adsorbers remove greater than or equal to 99.95% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1975 while operating the system at ambient conditions and at a flow rate of 20,000 cfm \pm 10%.

G. POST-ACCIDENT CONTAINMENT VENTING SYSTEM

The post-accident containment venting system shall be demonstrated operable:

1. At least once every Refueling Interval(#), or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) at any time painting, fire or chemical releases could alter filter integrity by:
 - a. verifying no flow blockage by passing flow through the filter system.
 - b. verifying that the system satisfies the in-place testing acceptance criteria and uses the test procedures of Regulatory Positions C.5.a, C.5.c and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978, at ambient conditions and at a flow rate of 200 cfm \pm 10%.
 - c. at Refueling Intervals(#), verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978.
2. After every 720 hours of charcoal adsorber operation, by verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978.

3. At least once every Refueling Interval(#) by:
 - a. verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 6 inches water gauge while operating the system at ambient conditions and at a flow rate of 200 cfm \pm 10%.
 - b. verifying that the system valves can be manually opened.
4. After each complete or partial replacement of a HEPA filter bank, by verifying that the HEPA filter banks remove greater than or equal to 99% of the DOP when they are tested in-place in accordance with ANSI N510-1975 while operating the system at ambient conditions and at a flow rate of 200 cfm \pm 10%.
5. After each complete or partial replacement of a charcoal adsorber bank, by verifying that the charcoal adsorbers remove greater than or equal to 99.95% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1975 while operating the system at ambient conditions and at a flow rate of 200 cfm \pm 10%.

Basis

The Safety Injection System and the Containment Spray System are principal plant safeguards that are normally inoperative during reactor operation. Complete systems tests cannot be performed when the reactor is operating because a safety injection signal causes reactor trip, main feedwater isolation and containment isolation, and a Containment Spray System test requires the system to be temporarily disabled. The method of assuring operability of these systems is, therefore, to combine systems tests to be performed during plant refueling shutdowns, with more frequent component tests, which can be performed during reactor operation.

The refueling systems tests demonstrate proper automatic operation of the Safety Injection and Containment Spray Systems. With the pumps blocked from starting, a test signal is applied to initiate automatic action and verification made that the components receive the safety injection signal in the proper sequence. The test demonstrates the operation of the valves, pump circuit breakers, and automatic circuitry⁽¹⁾.

During reactor operation, the instrumentation which is depended on to initiate safety injection and containment spray is generally checked daily and the initiating circuits are tested monthly (in accordance with Specification 4.1). The testing of the analog channel input is accomplished in the same manner as for the reactor protection system. The engineered safety features logic system is tested by means of test switches to simulate inputs from the analog channels. The test switches interrupt the logic matrix output to the master relay to prevent actuation. Verification that the logic is accomplished is indicated by the matrix test light. Upon completion of the logic checks, verification that the circuit from the logic matrices to the master relay is complete is accomplished by use of an ohm-meter to check continuity.

Other systems that are also important to the emergency cooling function are the accumulators, the Component Cooling System, the Service Water System and the containment fan coolers. The accumulators are a passive safeguard. In accordance with Specification 4.1, the water volume and pressure in the accumulators are checked periodically. The other systems mentioned operate when the reactor is in operation and, by these means, are continuously monitored for satisfactory performance.

For the four flow distribution valves (856 A, C, D and E), verification of the valve mechanical stop adjustments is performed periodically to provide assurance that the high head safety injection flow distribution is in accordance with flow values assumed in the core cooling analysis.

The hydrogen recombiner system is an engineered safety feature which would be used only following a loss-of-coolant accident to control the hydrogen evolved in the containment. The system is not expected to be started until approximately 13 days have elapsed following the accident. At this time the hydrogen concentration in the containment will have reached 2% by volume, which is the design concentration for starting the recombiner system. Actual starting of the system will be based upon containment atmosphere sample analysis. The complete functional tests of each unit at refueling shutdown will demonstrate the proper operation of the recombiner system. More frequent tests of the recombiner control system and air-supply blowers will assure operability of the system. The biannual testing of the containment atmosphere sampling system will demonstrate the availability of this system.

The charcoal portion of the in-containment air recirculation system is a passive safeguard which is isolated from the cooling air flow during normal reactor operation. Hence the charcoal should have a long useful lifetime. The filter frames that house the charcoal are

stainless steel and should also last indefinitely. However, the required periodic visual inspections will verify that this is the case. The iodine removal efficiency cannot be measured with the filter cells in place. Therefore, at periodic intervals a representative sample of charcoal is to be removed and tested to verify that the efficiency for removal of methyl iodide is obtained⁽²⁾. Such laboratory charcoal sample testing together with the specified in-place testing of the HEPA filters will provide further assurance that the criteria of 10 CFR 100 continue to be met.

The control room air filtration system is designed to filter the control room atmosphere for intake air and/or for recirculation during control room isolation conditions. The control room air filtration system is designed to automatically start upon control room isolation. High-efficiency particulate absolute (HEPA) filters are installed upstream of the charcoal adsorbers to prevent clogging of these adsorbers. The charcoal adsorbers are installed to reduce the potential intake of radiiodine by control room personnel. The required in-place testing and the laboratory charcoal sample testing of the HEPA filters and charcoal adsorbers will provide assurance that Criterion 19 of the General Design Criteria for Nuclear Power Plants, Appendix A to 10 CFR Part 50 continues to be met.

The fuel storage building air filtration system is designed to filter the discharge of the fuel storage building atmosphere to the plant vent. This air filtration system is designed to start automatically upon a high radiation signal. Upon initiation, isolation dampers in the ventilation system are designed to close to redirect air flow through the air treatment system. HEPA filters and charcoal adsorbers are installed to reduce potential releases of radioactive material to the atmosphere. Nevertheless, as required by Specification 3.8.B.6, the fuel storage building air filtration system must be operating whenever spent fuel is being moved unless the spent fuel has had a continuous 35-day decay period. The required in-place testing and the laboratory charcoal sample testing of the HEPA filters and charcoal adsorbers will provide added assurance that the criteria of 10 CFR 100 continue to be met.

The post-accident containment venting system may be used in lieu of hydrogen recombiners for removal of combustible hydrogen from the containment building atmosphere following a design basis accident. As was the case for hydrogen recombiner use, this system is not expected to be needed until approximately 13 days have elapsed following the accident. Use of the system will be based upon containment atmosphere sample analysis and availability of the hydrogen recombiners. When in use, HEPA filters and charcoal adsorbers will filter the containment atmosphere discharge prior to release to the plant vent. The required in-place testing and laboratory charcoal sample testing

will verify operability of this venting system and provide further assurance that releases to the environment will be minimized.

As indicated for all four of the previously mentioned engineered safety feature (ESF) air filtration systems, high-efficiency particulate absolute (HEPA) filters are installed upstream of the charcoal adsorbers to prevent clogging of these adsorbers. The charcoal adsorbers are installed to reduce the potential release of radioiodine to the environment. The laboratory charcoal sample testing periodically verifies that the charcoal meets the iodine removal efficiency requirements of Regulatory Guide 1.52, Revision 2. Should the charcoal of any of these filtration systems fail to satisfy the specified test acceptance criteria, the charcoal will be replaced with new charcoal which satisfies the requirements for new charcoal outlined in Regulatory Guide 1.52, Revision 2.

References

- (1) UFSAR Section 6.2
- (2) UFSAR Section 6.4

Table 4.10-2

Radioactive Liquid Effluent Monitoring Instrumentation Surveillance Requirements

Instrument	Channel Check	Source Check	Channel Calibration	Channel Functional Test
1. GROSS RADIOACTIVITY MONITORS PROVIDING ALARM AND AUTOMATIC TERMINATION OF RELEASE				
a. Liquid Radwaste Effluent Line	D*	P	R ⁽³⁾ #	Q ⁽¹⁾
b. Steam Generator Blowdown Effluent Line	D*	M	R ⁽³⁾ #	Q ⁽¹⁾
2. GROSS BETA OR GAMMA RADIOACTIVITY MONITORS PROVIDING ALARM BUT NOT PROVIDING AUTOMATIC TERMINATION OF RELEASE				
a. Service Water System Effluent Line	D*	M	R ⁽³⁾ #	Q ⁽²⁾
b. Unit 1 Secondary Boiler Blowdown Effluent Line	D*	M	R ⁽³⁾ #	Q ⁽²⁾
3. FLOW RATE MEASUREMENTS DEVICES				
a. Liquid Radwaste Effluent Line	D ⁽⁴⁾	N.A.	R#	Q
b. Steam Generator Blowdown Effluent Line	D ⁽⁴⁾	N.A.	R#	Q
4. TANK LEVEL INDICATING DEVICES***				
a. 13 Waste Distillate Storage Tank	D**	N.A.	R#	Q
b. 14 Waste Distillate Storage Tank	D**	N.A.	R#	Q
c. Primary Water Storage Tank	D**	N.A.	R#	Q
d. Refuelling Water Storage Tank	D**	N.A.	Q	Q

Table 4.10-2

Radioactive Liquid Effluent Monitoring Instrumentation Surveillance Requirements

Table Notation

-
- * During releases via this pathway
 - ** During liquid additions to the tank
 - *** Tanks included in this specification are those outdoor tanks that are not surrounded by liners, dikes, or walls capable of holding the tank contents and do not have tank overflow and surrounding area drains connected to the liquid radwaste treatment system.
- (1) The channel functional test shall also demonstrate that automatic isolation of this pathway and control room alarm annunciation occur if the following conditions exist:
 1. Instrument indicates measured levels above the alarm/trip setpoint.
 - (2) The channel functional test shall also demonstrate that control room alarm annunciation occurs if any of the following conditions exist:
 1. Instrument indicates measured levels above the alarm setpoint.
 2. Instrument controls not set in operate mode.
 - (3) Radioactive calibration standards used for channel calibrations shall be analyzed with instrumentation which is calibrated with NBS traceable standards. (Standards from suppliers who participate in measurement assurance activities with NBS are acceptable.)
 - (4) Channel check shall consist of verifying indication of flow during periods of release. Channel check shall be made at least once per 24 hours on days on which continuous, periodic, or batch releases are made.

Table 4.10-4

Radioactive Gaseous Effluent Monitoring Instrumentation Surveillance Requirements

<u>Instrument</u>	<u>Channel Check</u>	<u>Source Check</u>	<u>Channel Calibration</u>	<u>Channel Functional Test</u>	<u>Modes In Which Surveillance Required</u>
1. WASTE GAS HOLDUP SYSTEM					
a. Noble Gas Activity Providing Alarm	D	M	R ⁽³⁾ #	Q ⁽²⁾	*
2. WASTE GAS HOLDUP SYSTEM EXPLOSIVE GAS MONITORING SYSTEM					
a. Hydrogen Monitor	D	N.A.	Q ⁽⁴⁾	M	**
b. Hydrogen or Oxygen Monitor	D	N.A.	Q ⁽⁵⁾	M	**
3. CONDENSER EVACUATION SYSTEM					
a. Noble Gas Activity	D	M	R ⁽³⁾ #	Q ⁽²⁾	*
4. PLANT VENT					
a. Noble Gas Activity Monitor	D	M	R ⁽³⁾ #	Q ⁽²⁾	*
b. Iodine Sampler	W	N.A.	N.A.	N.A.	*
c. Particulate Sampler	W	N.A.	N.A.	N.A.	*
d. Flow Rate Monitor	D	N.A.	R#	N.A.	*
e. Sampler Flow Rate Monitor	D	N.A.	R#	N.A.	*
5. STACK VENT					
a. Noble Gas Activity Monitor	D	P	R ⁽³⁾ #	Q ⁽¹⁾	*
b. Iodine Sampler	W	N.A.	N.A.	N.A.	*
c. Particulate Sampler	W	N.A.	N.A.	N.A.	*
d. Flow Rate Monitor	D	N.A.	R#	N.A.	*
e. Sampler Flow Rate Monitor	D	N.A.	R#	N.A.	*

Table 4.10-4

Radioactive Gaseous Effluent Monitoring Instrumentation Surveillance Requirements

Table Notation

- Surveillance is required at all times except when monitor has been removed from service in accordance with Table 3.9-2.
 - During waste gas holdup system operation (treatment for primary system off-gasses).
- (1) The channel functional test shall also demonstrate that automatic isolation of this pathway and control room alarm annunciation occurs if the following conditions exist:
 1. Instrument indicates measured levels above the alarm/trip setpoint
 - (2) The channel functional test shall also demonstrate that control room alarm annunciation occurs if any of the following conditions exist:
 1. Instrument indicates measured levels above the alarm setpoint.
 2. Instrument controls not set in operate mode.
 - (3) Radioactive Calibration Standards used for channel calibrations shall be traceable to the National Bureau of Standards or an aliquot of calibration gas shall be analyzed with instrumentation which is calibrated with NBS traceable standards (standards from suppliers who participate in measurement assurance activities with NBS are acceptable).
 - (4) The channel calibration shall include the use of standard gas samples containing:
 1. less than or equal to two volume percent hydrogen, and
 2. greater than or equal to four volume percent hydrogen.
 - (5) The channel calibration shall include the use of standard gas samples containing:
 1. less than or equal to two volume percent oxygen, and
 2. greater than or equal to two volume percent oxygen.

4.14 FIRE PROTECTION AND DETECTION SYSTEMS

This is a provisional issuance of this Technical Specification pending the implementation of Amendment 186 which deleted this Technical Specification. Upon implementation of Amendment 186 this Technical Specification may be deleted.

Applicability

This specification applies to the surveillance requirements of fire protection and detection systems provided for protection of safe shutdown systems.

Objective

To verify the operability of fire protection and detection systems.

Specifications

A. HIGH-PRESSURE WATER FIRE PROTECTION SYSTEM TESTING

1. Testing Requirements

	<u>Item</u>	<u>Frequency</u>
a.	<u>City Water Tank and Fire Water Tank Minimum Water Volume</u>	once/week
b.	<u>Diesel-Pump Starting Battery Bank Operability</u> Verify that the electrolyte level of each battery is above the plates, and the overall battery bank voltage is ≥ 24 volts.	once/week
c.	<u>Main Fire Pump Operability</u> Each pump operating for at least 15 minutes.	once/month

- d. Diesel Engine Operability once/month
The diesel starts and operates for at least 30 minutes.
- e. Diesel Fire Pump Fuel Supply once/month
Verify that the diesel-driven fire pump fuel storage tank contains at least 50 gallons of fuel.
- f. Valve Position Check once/month
Verification that each valve (manual, power-operated or automatic) in the flow path necessary for proper functioning of any portion of this system required for protection of safe shutdown systems is in its correct position. If the valve has an installed monitoring system, the valve position can be checked via that monitoring system.
- g. Valve Cycling Test
Exercise each valve necessary for proper functioning of any portion of this system required for protection of safe shutdown systems through at least one complete cycle:
- (i) Valves testable with plant on-line. once/12 months
- (ii) Valves not testable with plant on-line. R#
- h. System Functional Test R#
Verification of proper automatic actuation of this system throughout its operating sequence.

- i. Main Fire Pump Capacity and System Flow Checks R#
The motor-driven pumps shall be verified to have a capacity of at least 1500 gpm each at a net pressure of ≥ 93 psig. The diesel-driven pump shall be verified to have a capacity of at least 2500 gpm with a discharge pressure of ≥ 109 psig.
- j. Diesel Engine Inspection R#
Subject the diesel to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for the class of service.
- k. Diesel Engine Functional Test R#
Verification that the diesel starts on the auto-start signal and operates for at least 30 minutes while loaded with the fire pump.
- l. Diesel Engine Battery Inspection R#
Verification that the batteries and battery racks show no visual indication of physical damage or deterioration, and that the battery-to-battery terminal connections are clean, tight, free of corrosion and coated with anti-corrosion material.

- m. System Flow Test once/3 years
 Performance of a flow test in accordance with Chapter 5, Section 11 of the Fire Protection Handbook, 14th Edition, published by the National Fire Protection Association for any portion of this system required for protection of safe shutdown systems.

B. ELECTRICAL TUNNEL DIESEL GENERATOR BUILDING AND CONTAINMENT FAN COOLER FIRE PROTECTION SPRAY SYSTEMS TESTING

1. Testing Requirements:

<u>Items</u>	<u>Frequency</u>
a. <u>Valve Cycling Test</u> Exercise each valve necessary for proper functioning of any portion of this system required for protection of safe shutdown systems through at least one complete cycle:	
(i) Valves testable with plant on-line.	once/12 months
(ii) Valves not testable with plant on-line.	R#
b. <u>System Functional Test</u> Includes simulated automatic actuation of spray system and verification that automatic valves in the flow path actuate to their correct position.	R#
c. <u>Spray Header Visual Inspection</u> To verify integrity.	R#

- d. Visual Inspection of Each Spray Nozzle R#
To verify no blockage.
- e. Air Flow Test once/3 years
Perform air flow test through each spray header and verify each spray nozzle is unobstructed.

2. The requirements of Specification 4.14.B.1 shall not apply to self-actuated type spray nozzles which are capable of only one actuation and cannot be periodically cycled or tested. These self-actuated spray nozzles shall be visually inspected at least once per Refueling Interval (#) to verify that no nozzle damage exists and that the nozzles are unobstructed.

C. PENETRATION FIRE BARRIER INSPECTIONS

- 1. The penetration fire barriers listed in Specification 3.13.C.1 shall be verified to be functional by visual inspection:
 - a. At least once per Refueling Interval(#).
 - b. Prior to declaring a fire penetration barrier functional following repairs or maintenance.

D. FIRE DETECTION SYSTEMS TESTING

1. The operability of the fire detection instruments utilized in satisfying the requirements of Specification 3.13.D.1, including the actuation of appropriate alarms (Channel Functional Test), shall be verified as follows:

<u>Item</u>	<u>Frequency</u>
a. <u>Smoke Detectors</u>	
(i) Those testable during plant operation (i.e., all except items 11 and 22 in Table 3.13-1).	once/6 months
(ii) Those not testable during plant operation (item 11 and 22 in Table 3.13-1)	R# R#
b. <u>Heat Detectors</u>	
(i) Those associated with the Diesel Generator Building (item 7 in Table 3.13-1)	once/6 months
(ii) Those associated with the Electrical Tunnel (item 4 in Table 3.13-1).	once/12 months
(iii) Those associated with the Containment Fan Cooler Units (item 10 in Table 3.13-1).	R#

E. FIRE HOSE STATION AND HYDRANT TESTING

1. Fire hose stations and hydrants described in Specification 3.13.E.1 shall be demonstrated operable by the following surveillance testing requirements:

	<u>Item</u>	<u>Frequency</u>
a.	<u>Visual Inspection Test</u> Visual inspection of the hose stations and hose houses to assure all required equipment is at the station or hose house.	once/month
b.	<u>Hydrant Inspection</u> 1. Visually inspect each hydrant barrel to verify it is drained. 2. Flow test each hydrant to demonstrate hydrant and hydrant valve operability.	once/year (in the fall) once/year (in the spring)
c.	<u>Hose Removal Check</u> Removal of the hose for inspection and replacement of all degraded gaskets in couplings.	R# for interior fire hose; once/year for outside fire hose.
d.	<u>Hose Flow Test</u> Partial opening of each hose station valve to verify valve operability and no flow blockage.	once/3 years
e.	<u>Hose Hydrostatic Test</u> Conduct a hose hydrostatic test at a pressure at least 50 psig greater than the maximum pressure available at any hose station.	once/3 years for interior fire hose; once/year for outside fire hose.

F. CABLE SPREADING ROOM HALON SYSTEM

1. The Cable Spreading Room Halon System required operable by Specification 3.13.F.1 shall be demonstrated operable by the following surveillance requirements:

	<u>Item</u>	<u>Frequency</u>
a.	<u>Halon Storage Tanks</u> Verification of charge weight and pressure.	once/6 months
b.	<u>System Functional Test</u> Verification that the system, including ventilation dampers and fans, actuates properly upon receipt of a manual simulated test signal.	R
c.	<u>Air Flow Test</u> Performance of an air flow test through headers and nozzles to verify no blockage.	R

Basis

These specifications establish the surveillance program for fire protection and detection systems provided to protect equipment utilized for safe shutdown of the unit. This surveillance program is intended to verify the operability of these systems and will identify for corrective action any conditions which could prevent any portion of those systems from performing its intended function.

The fire protection and detection systems are described in Revision 1 to "Review of the Indian Point Station Fire Protection Program" submitted to the NRC by letter dated April 15, 1977 and also in the Fire Protection Safety Evaluation Report issued by the NRC Regulatory Staff in conjunction with Amendment No. 46 to DPR-26 on January 31, 1979.

accomplished in the preceding 9 months, and prior to returning the valve to service after maintenance, repair or replacement work is performed.

- B. A test shall be performed, whenever the RCS pressure decreases to 700 psig (i.e. within 100 psig of the RHR design pressure) or whenever the RHR is secured to go to hot shutdown, to check for leakage through SIS low head injection line check valves 897A-D and RHR check valves 838A-D.
- C. The containment sump pumps required to be operable by Specification 3.1.F.1.a(1) shall be demonstrated to be operable by performance of the following surveillance program:
 - 1. At monthly intervals, each sump pump shall be started and a discharge flow of at least 25 gpm verified.
 - 2. At Refueling Intervals(#), each sump pump shall be operated under visual observation to verify that the pumps start and stop at the appropriate setpoints and that the discharge flow is at least 25 gpm per pump.

Basis

Specifications 4.16.A and 4.16.C establish the surveillance program for monitoring reactor coolant system leakage and leakage into the containment free volume during plant operation and ensure compliance with Specification 3.1.F. These specifications also establish surveillance requirements for the containment sump pumps. Surveillance requirements for the various leakage detection instrumentation systems are contained in Table 4.1-1 of these specifications.

Specification 4.16.B was added to the Technical Specifications in response to NRC's July 5, 1985 rescission of our February 11, 1980 Confirmatory Order Item A.5. Item A.5 was developed to address the intersystem loss-of-coolant accident (Event V) identified in WASH-1400^(1,2). The RHR system design pressure is 600 psig.

References

- (1) NRC letters to Con Edison dated July 5, 1985, and February 11, 1980
- (2) Con Edison letter to NRC dated March 14, 1980



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 187 TO FACILITY OPERATING LICENSE NO. DPR-26
CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
INDIAN POINT NUCLEAR GENERATING UNIT NO. 2
DOCKET NO. 50-247

1.0 INTRODUCTION

By letter dated August 5, 1994, as supplemented by letters dated November 17, 1994, December 2, 1994, and August 1, 1996, the Consolidated Edison Company of New York (Con Edison or the licensee) submitted a request for changes to the Indian Point Nuclear Generating Unit No. 2 Technical Specifications (TSs). The requested changes would revise the surveillance intervals for various systems, components, and instruments to accommodate a 24-month refueling cycle. The November 17, 1994, December 2, 1994, and August 1, 1996, submittals requested deletion of several changes when it was determined that they had been made in previous license amendments, corrected an inconsistency in the discussion of the surveillance interval extension for the Auxiliary Feedwater Flow Rate and reconciled TS pages with issuances made since the time of the proposed change request. These submittals did not change the initial proposed no significant hazards consideration and were within the scope of the original Federal Register notice.

2.0 EVALUATION

Improved reactor fuels allow licensees to consider an increase in the duration of the fuel cycle for their facilities. A longer fuel cycle increases the time interval between refueling outages and the performance of TS surveillance requirements. Generic Letter (GL) 91-04 provides guidance to support the development of TS revisions to allow a 24-month surveillance interval and includes requirements to evaluate the effect on safety for an increase in surveillance testing and calibration intervals to accommodate a 24-month fuel cycle.

The licensee evaluation should conclude that the net effect on safety is small, that historical plant maintenance and surveillance data support the proposed extended surveillance intervals and that the assumptions in the plant licensing basis are still bounding with the incorporation of a 24-month surveillance interval.

The staff also determined that a licensee should address the issue of instrumentation errors/setpoint methodology assumptions when proposing an extended instrumentation calibration interval. Specifically, the licensee must evaluate the effects of an increased calibration interval on instrument

uncertainties, equipment qualification, and vendor maintenance requirements to ensure that an extended surveillance interval does not result in exceeding the assumptions stated in the safety analysis.

Con Edison has proposed to extend the calibration interval from 18 to 24 months for the following surveillances which involve instrumentation errors/setpoint methodology:

- (1) Charging Flow Instrumentation
- (2) Containment Sump, Recirculation Sump and Reactor Cavity Continuous Level Instrument Channels
- (3) Auxiliary Feedwater Flow Rate Channel
- (4) Liquid Rad-Waste Flow Channel
- (5) Steam Generator Blowdown Flow Channel
- (6) Liquid Waste Distillate Tank Level Channels
- (7) Primary Water Storage Tank Level Instrumentation

To support the proposed changes, Con Edison reviewed instrument calibration data from applicable surveillances and maintenance records and recorded the historical as-left and as-found drift information. The licensee confirmed that instrument drift has not, except on rare occasions, exceeded acceptable results and that the historical data does not indicate any problems that would preclude an increase in the interval for instrument calibration. The licensee's description of the methodology and assumptions used to determine the rate of instrument drift with time was approved by the staff as documented in Amendment No. 159 to Facility Operating License No. DPR-26.

Con Edison statistically evaluated the past drift data to determine a projected 30-month drift value. The projected 30-month drift value was used as input to determine the Channel Statistical Allowance using the NRC-approved Westinghouse setpoint methodology. This evaluation included, along with instrument drift, the determination of all other channel uncertainties, including sensor, rack, measurement and test equipment, and process effects for normal environmental uncertainties to determine if they supported the current TSs and safety limits. For all of the instruments listed above, (1) through (7), it was determined that the resulting channel uncertainties supported the current TSs and safety analysis limits.

Con Edison has proposed to extend the surveillance interval from 18 to 24 months for the following radiation monitor:

- (1) Stack Vent Noble Gas Activity Monitor (R-60)

As a result of the licensee's replacement program, R-60 is a relatively new monitor and only one completed surveillance test was available. The surveillance results were reviewed and found satisfactory. This monitor, however, is subject to a daily channel check, a quarterly functional test, and a source check prior to any planned release. These checks would provide for early detection of any drift problems.

In addition, the TS permit the use of this pathway even if R-60 is inoperable, providing grab samples are taken. R-60 does not have setpoints which are critical to plant operation or safety, nor are its readings used in any calculations which require discrete accuracy. Its function is to detect changing radiation levels and to provide alarms in the event of high radiation levels in the stack vent. Alarm setpoints are generally set several decades below the allowed instantaneous release limit. Isotopic identification and concentrations are determined by grab sample analysis.

Con Edison has concluded that there would be no significant reduction in the margin of safety due to an extended operating cycle.

Con Edison has proposed to extend the surveillance interval from 18 to 24 months for the following functions:

- (1) Control Room Air Filtration System
- (2) Post Accident Containment Venting System
- (3) Flow Rate Monitors; Plant Vent (Unit 2) and Stack Vent (Unit 1)
- (4) High Pressure Water Fire Protection System
- (5) Fire Protection System Diesel Engine
- (6) Electrical Tunnel, Diesel Generator Building, and Containment Fan Cooler Fire Protection Spray Systems: (A) System Functional Test, and (B) Spray Header Visual Inspection
- (7) Penetration Fire Barriers
- (8) Smoke Detectors/Electrical Penetration Area Inside Containment
- (9) Functional Testing of Containment Sump Pumps

The control room air filtration system is surveillance tested every refueling outage. The system is designed to start automatically and to filter intake air and/or recirculated air when the control room is operated in the emergency mode. High-efficiency particulate air (HEPA) filters upstream of charcoal absorbers prevent clogging of the charcoal absorbers which reduce the concentration of radioiodine in the control room atmosphere. Separate testing is performed to measure air flow characteristics and charcoal absorbency efficiency. Data from all completed surveillance tests was reviewed (seven flow tests since 1986 and six absorbance tests since 1986). It was determined that problems identified during early tests (1986 and 1987) were corrected and not repeated and that a new carbon/HEPA unit installed in 1993 should provide improved performance. Con Edison concludes that the longer operating cycle will not result in a significant reduction in a margin of safety.

The post accident containment venting system is surveillance tested every refueling outage. The system consists of a common penetration line which vents hydrogen-bearing gases from the containment through a filter or supplies hydrogen-free air from the instrument air system to the containment. This system is diverse and redundant to the post-accident hydrogen recombiners which are themselves redundant and which are the primary means of reducing the post-accident hydrogen concentrations in the containment. Con Edison reviewed the post-accident containment venting system surveillance data over the past 7 years which indicated no failures which were considered to be time

dependent. Based on satisfactory past history and the fact that the system has a secondary role as a means of controlling post-accident hydrogen concentration, Con Edison concludes that the longer operating cycle will not result in a significant reduction in a margin of safety.

The flow rate monitors for the Plant Vent (Unit 2) and the Stack Vent (Unit 1) provide a means for determining the flow to the atmosphere of potentially radioactive gases during discharge through these flow paths and are calibrated every refueling outage. The concentration is determined by installed monitors or grab samples. Both measurements are required to determine the total radioactive gaseous effluents. There is one flow rate monitor installed in each vent. The licensee has determined that these monitors have been reliable devices, daily channel checks would detect gross out of calibration conditions, they do not have setpoints which are critical to plant operation or safety and their readings are not used in calculations which require accuracy. Based on this and the fact that the Technical Specifications allow the use of estimated flow values in the event that a monitor is inoperable, Con Edison concludes that increasing the time interval to 30 months between calibrations would have no significant effect on safety.

The High-Pressure Water Fire Protection System is tested every refueling outage to verify proper automatic actuation throughout its operating sequence. The system supplies water for fire protection to main headers which in turn supply high pressure hydrants, sprinklers, hose reels, etc. Essential parts of this system are the diesel-driven fire pump and the two main motor-driven fire pumps. The motor-driven pumps start automatically on low header pressure signals and provide a supply of water to the headers. All test procedure results from October 10, 1988 through the 1993 refueling outage were reviewed. In all cases the tests were satisfactory with no deficiencies noted, which would affect the operability of the system. The system is a static system which is normally not required to operate, and thus, almost no wear is induced as a function of time. It is further noted that any deterioration would be detected by the monthly pump test which requires 15 minutes of pump operation. Con Edison has concluded that the extended surveillance interval would have no significant effect on the margin of safety.

A functional test is performed on the Fire Protection System Diesel Engine every refueling outage to verify that the diesel starts on the auto-start signal and operates for at least 30 minutes while loaded with the fire pump. The diesel-driven fire pump starts automatically on a low header pressure signal or a loss of outside power and provides a supply of water to the High Pressure Water Fire Protection System. Complete test reports since January 1991 were reviewed and all results were satisfactory with no deficiencies found. Additionally the test report database was queried for the time period beginning January 1986, with only one deficiency found involving the functionality of the diesel-driven fire pump. Except for periodic testing, the diesel is in a standby state and not subject to operational stress. Periodic testing imposes limited wear as evidenced by the absence of major repairs during past maintenance. Extension of the operating cycle for several months is expected to have virtually no impact upon diesel operability.

Monthly testing would detect any degradation. Con Edison has, therefore, concluded that the extended surveillance interval would have no significant effect on the margin of safety.

A system functional test is performed every refueling outage for the Fire Protection Spray Systems for the Electrical Tunnel, Diesel Generator Building, and Containment Fan Coolers. The Electrical Tunnel and Diesel Generator Building Fire Protection Systems are accessible during operation and other TSs require the same surveillances every 12 months. Therefore, the proposed extension to the refueling surveillances has no effect on these areas. The surveillance data for the past five refueling outages for the Fan Cooler Fire Protection System was reviewed and only minor discrepancies which would not have impaired system operability were noted. These systems are static and exist mainly in a standby capacity under which little deterioration would be expected. In addition, past surveillance data validates system reliability. Con Edison has, therefore, concluded that the extended surveillance interval would have no significant effect on the margin of safety.

A visual inspection every refueling outage is required for the penetration fire barriers between the Central Control Room and the Cable Spreading Room, the 480v Switchgear Room and the Cable Spreading Room, and between the Primary Auxiliary Building and the Electrical Tunnel. An evaluation of the past test data for the penetrations in the above areas indicated that the unacceptable results were due to initial sealing efforts and were not due to deterioration as a result of time. Once initial sealing problems were resolved, subsequent inspection was satisfactory. The fire barrier penetration seals are static devices existing in standby status. Normal environmental conditions exist during normal plant operations. The only deterioration expected would be that due to aging in a normal ambient which would be minimal to non-existent. Evaluation of unacceptable seals detected during surveillances confirms that initial seal installation was faulty and aging was not the cause. Con Edison has, therefore, concluded that the extended surveillance interval would have no significant effect on the margin of safety.

Verification of the operability of the smoke detectors in the electrical penetration area within containment is required every refueling outage. There are five smoke detectors located in this area and during normal operation the TS require that three be operable. The test data from six completed surveillances were reviewed and no failures were observed indicating that these devices are highly reliable. Only three of the five detectors are required during normal operation, and based on the past surveillance data from six refueling outages, it is reasonable to expect all five to remain operable over the extended operating cycle. Con Edison has, therefore, concluded that the extended surveillance interval would have no significant effect on the margin of safety.

Each Containment Sump Pump must be operated under visual observation every refueling outage to verify that the pumps start and stop at the appropriate setpoints and that the discharge flow is at least 25 gpm. The surveillance test data from previous refueling outages back to 1986, in only one instance a

pump did not actuate within the setpoint tolerance and this was determined not to be a time dependent event. The TS also require that these pumps be operated monthly to verify a discharge flow of at least 25 gpm. Con Edison has, therefore, concluded that the extended surveillance interval would have no significant effect on the margin of safety.

Con Edison has evaluated the effect of the increase in the above surveillance intervals on safety and has concluded that the effect is small. Con Edison has confirmed that historical plant maintenance and surveillance data do not invalidate this conclusion. Con Edison also confirmed that the increase in surveillance intervals to accommodate a 24-month fuel cycle does not invalidate any assumption on the plant licensing basis. For the instrument surveillances, Con Edison evaluated the past drift data to determine a projected 30-month drift value. The projected 30-month drift value was used as input to determine the channel statistical allowance using the NRC-approved Westinghouse setpoint methodology. This evaluation included, along with instrument drift, the determination of all other channel uncertainties, including sensor, rack, measurement and test equipment, and process effects for normal environmental conditions. Con Edison evaluated the resulting channel uncertainties and determined that they supported the current TSs and safety analysis limits. The NRC staff reviewed this information and agrees with the conclusions contained therein. The staff finds that the proposed TS changes do not have a significant effect on safety and are, therefore, acceptable.

3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the New York State official was notified of the proposed issuance of the amendment. The State official had no comments.

4.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes surveillance requirements. The NRC 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 the amendment involves no significant hazards consideration, and there has been no public comment on such finding (59 FR 63117). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 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 the amendment.

5.0 CONCLUSION

The Commission has 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, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: J. Harold

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