

REGULATORY DOCKET FILE COPY

OCTOBER 31 1980

Docket File
50247

Docket No. 50-247

Mr. Peter Zarakas
Vice President - Engineering
Consolidated Edison Company
of New York, Inc.
4 Irving Place
New York, New York 10003

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U.S. NRC
REGULATORY SERVICES

Dear Mr. Zarakas:

The Commission has issued the enclosed Amendment No. 64 to Facility Operating License No. DPR-26 for the Indian Point Nuclear Generating Unit No. 2. This amendment consists of changes to the Technical Specifications in response to your application transmitted by letter dated June 23, 1980.

We have reviewed your submittal of June 23, 1980 related to the Indian Point Unit No. 2 Fire Protection Program. Your submittal proposes Technical Specifications in accordance with our January 31, 1979 Fire Protection Safety Evaluation Report (FPSE), and proposes to delete certain requirements discussed in the FPSE.

The Technical Specifications you propose establish limiting conditions of operating and surveillance requirements on modifications discussed in Section 3.1 of our FPSE. We have reviewed the proposed Technical Specifications and find them to be acceptable.

We have evaluated the potential for environmental impact of plant operation in accordance with the enclosed amendment. We have determined that the amendment does not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendment involves an action which is insignificant from the standpoint of environmental impact and, pursuant to 10 CFR §51.5(d)(4), that an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

We have concluded, based on the considerations discussed above, that:
(1) because the amendment does not involve a significant increase in the probability or consequences of accidents previously considered and does not involve a significant decrease in a safety margin, the amendment

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does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) 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.

Your submittal also proposed to delete modifications discussed in Sections 3.1.12 and 3.1.25 of our FPSER. Enclosure 2 is our supplement to the FPSER which concludes that these deletions are acceptable. Enclosure 3 contains correction pages to the FPSER. The corrections, indicated by vertical lines in the right-hand margin, do not alter the general conclusions made in the FPSER.

A copy of a related Notice of Issuance is also enclosed.

Sincerely,
Original signed by:
S. A. Varga

Steven A. Varga, Chief
Operating Reactors Branch #1
Division of Licensing

Enclosures:

1. Amendment No. 64 to DPR-26
2. Supplement to Fire Protection Safety Evaluation Report
3. Correction Pages to Fire Protection Safety Evaluation Report
4. Notice of Issuance

cc: w/enclosures
See next page

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

October 31, 1980

Docket No. 50-247

Mr. Peter Zarakas
Vice President - Engineering
Consolidated Edison Company
of New York, Inc.
4 Irving Place
New York, New York 10003

Dear Mr. Zarakas:

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Mr. Peter Zarakas
Consolidated Edison Company
of New York, Inc.

-2-

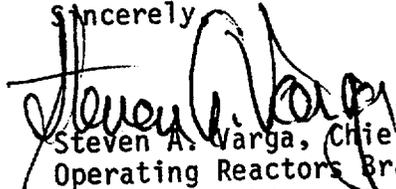
October 31, 1980

does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) 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.

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Sincerely


Steven A. Varga, Chief
Operating Reactors Branch #1
Division of Licensing

Enclosures:

1. Amendment No. 64 to DPR-26
2. Supplement to Fire Protection Safety Evaluation Report
3. Correction Pages to Fire Protection Safety Evaluation Report
4. Notice of Issuance

cc: w/enclosures
See next page

Mr. Peter Zarakas
Consolidated Edison Company of New York, Inc. -3- October 31, 1980

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

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. 64
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 June 23, 1980, 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;
 - 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.

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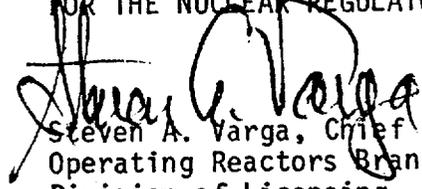
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-26 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 64, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective November 1, 1980.

FOR THE NUCLEAR REGULATORY COMMISSION


Steven A. Varga, Chief
Operating Reactors Branch #1
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: October 31, 1980

ATTACHMENT TO LICENSE AMENDMENT NO. 64

FACILITY OPERATING LICENSE NO. DPR-26

DOCKET NO. 50-247

Revise Appendix A as follows:

Remove Pages

3.13-1 through 3.13-4

Table 3.13-1 (both sheets)

4.14-1 through 4.14-5

6-1

Insert Pages

3.13-1 through 3.13-4

Table 3.13-1 (both sheets)

Table 3.13-2 (two sheets)

4.14-1 through 4.14-6

6-1

Applicability

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

Objective

To assure the operability of fire protection and detection systems.

SpecificationA. High Pressure Water Fire Protection System

1. The high pressure water fire protection system shall have:
 - a. Two (2) main motor-driven fire pumps and one diesel-driven fire pump operable and properly aligned to the high pressure fire header.
 - b. A minimum available water volume of 360,000 gallons contained in the City Water Tank and 300,000 gallons contained in the Fire Water Tank for fire protection purposes.
 - c. All piping and valves necessary for proper functioning of any portion of the system required for protection of safe shutdown systems operable.
2. The requirements of specification 3.13.A.1 may be modified to allow any one of the following conditions to exist at any one time. If the inoperable equipment is not restored to operable status within the time period specified then, in lieu of any other report required by specification 6.9.1, a Special Report shall be prepared and submitted to the Commission pursuant to specification 6.9.2.d within the next thirty (30) days outlining the plans and procedures to be used for restoring the inoperable equipment to operable status or for providing an alternate pumping capability or water supply.
 - a. One or both motor-driven fire pumps and/or one water supply may be out of service provided the inoperable equipment is restored to operable status within seven (7) days.
 - b. The diesel-driven fire pump and/or one water supply may be out of service provided the inoperable equipment is restored to operable status within seven (7) days.
3. With the high pressure water fire protection system inoperable in a manner other than permitted by specification 3.13.A.2.
 - a. An alternate fire protection system shall be established within 24 hours.

b. In lieu of any other report required by specification 6.9.1:

- (i) The Region I Office of Inspection and Enforcement shall be notified within 24 hours of identification by telephone and confirmed by telegraph, mailgram or facsimile transmission no later than the first working day following the event; and
 - (ii) A Special Report shall be submitted in accordance with specification 6.9.2.d within 14 days following the event outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to operable status.
- c. If the requirement of 3.13.A.3.a cannot be satisfied within the time period specified, the reactor shall be placed in the hot shutdown condition utilizing normal operating procedures. If the requirement of 3.13.A.3.a cannot be satisfied within an additional 48 hours, the reactor shall be placed in the cold shutdown condition utilizing normal operating procedures.

B. Fire Protection Spray Systems

1. The following spray systems shall be operable whenever equipment in the area is required to be operable:
 - a. Electrical Tunnel Fire Protection Water Spray System (E1-33' in Control Building to E1-68' in PAB).
 - b. Diesel Generator Building Water Spray System (E1-67' in D.G. Building).
 - c. Containment Fan Cooler Charcoal Filter Dousing System (E1-68' in Containment).
2. If the requirements of 3.13.B.1 cannot be satisfied:
 - a. A continuous fire watch with backup fire suppression equipment shall be established for the accessible unprotected area(s) within 1 hour.
 - b. The inoperable spray system(s) shall be restored to operable status within 14 days or, in lieu of any other report required by specification 6.9.1, a Special Report shall be prepared and submitted to the Commission pursuant to specification 6.9.2.d within the next 30 days outlining the cause of inoperability and the plans for restoring the spray system(s) to operable status.

C. Penetration Fire Barriers

1. The following penetration fire barriers shall be functional at all times:
 - a. Penetration fire barriers between the central control room floor and the cable spreading room.
 - b. Penetration fire barriers between the 480 V switchgear room and the cable spreading room.
 - c. Penetration fire barrier between the PAB and the electrical tunnel.
2. If the requirements of 3.13.C.1 cannot be satisfied:
 - a. Within one (1) hour, either a continuous fire watch shall be established on at least one side of the affected penetration(s), or the operability of fire detectors on at least one side of the non-functional fire barrier(s) shall be verified and an hourly fire watch patrol shall be established.
 - b. The non-functional penetration fire barrier(s) shall be restored to functional status within seven (7) days or, in lieu of any other report required by specification 6.9.1, a Special Report shall be prepared and submitted to the Commission pursuant to specification 6.9.2.d within the next 30 days outlining the cause of the malfunction and the plans for restoring the barrier(s) to functional status.

D. Fire Detection Systems

1. As a minimum, the fire detection instrumentation for each location shown in Table 3.13-1 shall be operable whenever equipment in that location is required to be operable.
2. With the number of operable fire detection instruments less than the minimum required by Table 3.13-1:
 - a. For instruments outside containment - a fire watch patrol shall be established within 1 hour to inspect the affected location(s) at a frequency of at least once per hour.
 - b. For instruments inside containment - Either a fire watch patrol shall be established to inspect the affected location(s) at least once per eight (8) hours, or the containment air temperature shall be monitored at least once per hour.
 - c. The minimum operable instrumentation required in Table 3.13-1 shall be restored within 14 days or, in lieu of any other report required by specification 6.9.1, a Special Report shall be prepared and submitted to the Commission pursuant to specification 6.9.2.d within the next 30 days outlining the cause of the malfunction and the plans for restoring the instrumentation to operable status.

E. Fire Hose Stations and Hydrants

1. The fire hose stations and fire hydrants shown in Table 3.13-2 shall be operable whenever safety-related equipment in the areas protected by the hose stations and hydrants is required to be operable.
2. If the requirements of 3.13.E.1 cannot be satisfied:
 - a. Additional equivalent capacity fire hose(s) shall be routed to the affected area(s) from an operable hose station or hydrant within one (1) hour.
 - b. The inoperable equipment shall be restored to operable status within 14 days or, in lieu of any other report required by specification 6.9.1, a Special Report shall be prepared and submitted to the Commission pursuant to specification 6.9.2.d within the next 30 days outlining the cause of the inoperability and the plans for restoring the equipment to operable status.

F. Cable Spreading Room Halon System

1. The Cable Spreading Room Halon System shall be operable at all times with the halon storage tanks having an equivalent of at least 95% of full charge weight and an equivalent of at least 90% of full charge pressure at standard temperature and pressure (STP) conditions.
2. If the requirements of 3.13.F.1 cannot be satisfied:
 - a. A continuous fire watch with backup fire protection equipment shall be established within one (1) hour for the Cable Spreading Room.
 - b. The Cable Spreading Room Halon System shall be restored to operable status within 14 days or, in lieu of any other report required by specification 6.9.1, a Special Report shall be prepared and submitted to the Commission pursuant to specification 6.9.2.d within the next 30 days outlining the cause of the inoperability and the plans for restoring the Halon System to operable status.

Basis

These specifications are established to assure the operability of fire protection and detection systems provided to protect equipment utilized for safe shutdown of the unit. 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.

Table 3.13-1 (1 of 2)

Fire Detection Instruments

<u>Instrument Location</u>	<u>Minimum Instruments Operable</u> <u>Heat</u>	<u>Smoke</u> (ionization detectors)
1. Central Control Room (Control Building: E1-53')	N/A	4
2. Cable Spreading Room (Control Building: E1-33')	N/A	7
3. Switchgear Room (Control Building: E1-15')	N/A	7
4. Electrical Tunnel (E1-33' to E1-68')	38*	3
5. Electrical and Piping Tunnel and Piping Penetration Area (PAB and Fan House: E1-68' to E1-51')	N/A	2
6. Electrical Penetration Area (Fan House: E1-46')	N/A	4
7. Diesel Generator Building (E1-67')	11	N/A
8. Boric Acid Transfer Pump Area (PAB: E1-80')	N/A	1
9. Containment Spray Pump/Primary Water Makeup Pump Area (PAB: E1-68')	N/A	4
10. Containment Fan Cooler Units (Containment: E1-68')	4 per FC unit	N/A
11. Electrical Penetration Area Outer Annulus (Containment: E1-46')	N/A	3
12. Auxiliary Boiler Feedwater Pump Area (AFB: E1-18')	N/A	2

*temperature detector/trip devices

Table 3.13-1 (2 of 2)

Fire Detection Instruments

<u>Instrument Location</u>	<u>Minimum Instruments Operable</u>	
	<u>Heat</u>	<u>Smoke</u> (ionization detectors)
13. Main Corridor (PAB: E1-80')	N/A	5
14. Main Corridor (PAB; E1-98')	N/A	3
15. Component Cooling Pump Area (PAB: E1-68')	N/A	1
16. RHR Pump 21 Room (PAB: E1-15')	N/A	1
17. RHR Pump 22 Room (PAB: E1-15')	N/A	1
18. Safety Injection Pump Area (PAB: E1-59')	N/A	1
19. Charging Pump 21 Room (PAB: E1-80')	N/A	1
20. Charging Pump 22 Room (PAB: E1-80')	N/A	1
21. Charging Pump 23 Room (PAB: E1-80')	N/A	1
22. Reactor Coolant Pumps** (Containment: E1-93')	N/A	2 per RCP

**Effective upon startup of Cycle 5 operation.

Table 3.13-2 (1 of 2)

Fire Hose Stations and Fire Hydrants

<u>Hose Station or Hydrant</u>	<u>Location</u>
1. Hose Station	Stairwell No. 3 - Control Building: E1-15'
2. Hose Station	Stairwell No. 3 - Control Building: E1-33'
3. Hose Station	Stairwell No. 3 - Control Building: E1-53'
4. Hose Station	Stairwell No. 4 - Control Building: E1-53'
5. Hose Station	East End of PAB: E1-98'
6. Hose Station	West End of PAB: E1-98'
7. Hose Station	East End of PAB: E1-80'
8. Hose Station	West End of PAB: E1-80'
9. Hose Station	West End of PAB: E1-68'
10. Hose Station	West End of PAB: E1-15'
11. Hose Station	Piping Penetration Area - PAB: E1-54'
12. Hose Station	Southeast End of FSB: E1-96'
13. Hose Station	Southeast End of FSB: E1-104'
14. Hose Station**	North Side of Containment: E1-95'
15. Hose Station**	South Side of Containment: E1-95'
16. Hose Station**	North Side of Containment: E1-46'
17. Hose Station**	South Side of Containment: E1-46'

**Effective upon startup of Cycle 5 operation.

Table 3.13-2 (2 of 2)

Fire Hose Stations and Fire Hydrants

<u>Hose Station or Hydrant</u>	<u>Location</u>
18. Hydrant No. 25 and Associated Hose House (with fire hose and nozzles to serve the AFW Building).	Yard Area - South of the AFB: E1-15'
19. Hydrant No. 27 and Associated Hose House (with fire hose and nozzles to serve the DG Building).	Yard Area - South of the DGB: E1-67'

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.

SpecificationA. 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 \geq 24 volts.	once/week
c. <u>Main Fire Pump Operability-</u> Each pump operating for at least 15 minutes.	once/month
d. <u>Diesel Engine Operability-</u> The diesel starts and operates for at least 30 minutes.	once/month
e. <u>Diesel Fire Pump Fuel Supply-</u> Verify that the diesel-driven fire pump fuel storage tank contains at least 50 gallons of fuel.	once/month
f. <u>Valve Position Check-</u> 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.	once/month

- 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. once/18 months
- h. System Functional Test-
Verification of proper automatic actuation of this system throughout its operating sequence. once/18 months
- i. Main Fire Pump Capacity and System Flow Checks-
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. once/18 months
- j. Diesel Engine Inspection-
Subject the diesel to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for the class of service. once/18 months
- k. Diesel Engine Functional Test-
Verification that the diesel starts on the auto-start signal and operates for at least 30 minutes while loaded with the fire pump. once/18 months
- l. Diesel Engine Battery Inspection-
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. once/18 months

- 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>Item</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.	once/18 months
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.	once/18 months
c. <u>Spray Header Visual Inspection-</u> To verify integrity.	once/18 months
d. <u>Visual Inspection of Each Spray Nozzle-</u> To verify no blockage.	once/18 months
e. <u>Air Flow Test-</u> Perform air flow test through each spray header and verify each spray nozzle is unobstructed.	once/3 years

2. The requirements of 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 18 months 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 18 months.
 - 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 (items 11 and 22** in Table 3.13-1).	once/18 months
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).	once/18 months

**Effective upon startup of Cycle 5 operation.

E. Fire Hose Station and Hydrant Testing:

1. Fire hose stations and hydrants described in specification 3.13.N.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.	once/year (in the fall)
2. Flow test each hydrant to demonstrate hydrant and hydrant valve operability.	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.	once/18 months 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. System Functional Test- once/18 months
Verification that the system, including ventilation dampers and fans, actuates properly upon receipt of a manual simulated test signal.
- c. Air Flow Test- once/18 months
Performance of an air flow test through headers and nozzles to verify no blockage.

Basis

These specifications establish the surveillance program for fire protection and detection systems provided to protect equipment utilized for safe shut-down 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 the 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.

6.0 ADMINISTRATIVE CONTROLS

6.1 RESPONSIBILITY

6.1.1 The Department Manager shall be responsible for overall facility operation and shall delegate in writing the succession to this responsibility during his absence.

6.2 ORGANIZATION

FACILITY MANAGEMENT AND TECHNICAL SUPPORT

6.2.1 The organization for facility management and technical support shall be as shown on Figure 6.2-1.

FACILITY STAFF

6.2.2 The Facility organization shall be as shown on Figure 6.2-2 and:

- a. Each on duty shift shall be composed of at least the minimum shift crew composition shown in Table 6.2-1.
- b. At least one licensed Operator shall be in the control room when fuel is in the reactor.
- c. At least two licensed Operators shall be present in the control room during reactor startup, scheduled reactor shutdown, and during recovery from reactor trips.
- d. An individual qualified in radiation protection procedures shall be on site when fuel is in the reactor.
- e. ALL CORE ALTERATIONS after the initial fuel loading shall be directly supervised by either a licensed Senior Reactor Operator or Senior Reactor Operator Limited to Fuel Handling. This individual shall have no other concurrent responsibilities during this operation.
- f. A Fire Brigade of at least five members shall be maintained on site at all times.* This excludes four members of the minimum shift crew necessary for safe shutdown of the plant and any personnel required for other essential functions during a fire emergency. During periods of cold shutdown, the Fire Brigade will exclude two members of the minimum shift crew.

6.3 FACILITY STAFF QUALIFICATIONS

6.3.1 Each member of the facility staff shall meet or exceed the minimum qualifications of ANSI N18.1-1971 for comparable positions, except for the Chemistry and Radiation Safety Director who shall meet or exceed the minimum qualifications of Regulatory Guide 1.8, September 1975.

*Fire Brigade composition may be one member less than the minimum requirements for a period of time not to exceed 2 hours in order to accommodate unexpected absence of Fire Brigade members provided immediate action is taken to restore the Fire Brigade to within the minimum requirements.

ENCLOSURE 3

CORRECTION PAGES TO FIRE PROTECTION
SAFETY EVALUATION REPORT

- (2) Provide two additional hose houses at hydrants;
- (3) Provide additional hose at certain hose houses and other fire fighting equipment at all the hose houses;
- (4) Provide vehicle guards for certain hydrants and post-indicator valves;
- (5) Test fire hydrants for proper drainage in spring and fall;
- (6) Remove obstructions to hydrant wrench rotation; and
- (7) Add visible markings to identify the location of buried isolation valves.

Certain valves in the fire water piping system are electrically supervised such as the first gate valve upstream of control valves on water spray, sprinkler and foam systems, and suction and discharge valves at the fire pumps. Certain other valves are chained and locked in the open position. The licensee has proposed to provide tamper indication seals on any valves that are not locked or provided with electrical supervision, where closure of the valve could result in the loss of suppression water or a delay in its application.

We find that, subject to implementation of modifications described above, the fire water piping system conforms to the provisions of Appendix A to BTP 9.5-1 and is, therefore, acceptable.

4.3.1.4 Interior Fire Hose Stations

Interior stations with 100 feet of 1-1/2-inch fire hose have been provided in the turbine building and the fuel storage building. The turbine building hose stations are located so that they can also be used in some safety-related areas, including the switchgear room, cable spreading room, battery rooms, and control room. However, many other areas containing safety-related equipment and electrical cables, some of which could be required for safe shutdown, are not served by any interior hose station. There are no hose stations inside the containment building.

All interior hoses are equipped with nozzles suitable for use on electrical fires.

There are also fire hose stations supplied by the foam systems which protect oil hazards in the turbine building.

The licensee has proposed to install additional hose stations to serve all safety-related areas in the primary auxiliary building and in the fuel handling building, and to provide access so that hose from the stations can reach the roofs of other buildings. The licensee also proposes to provide 1-1/2-inch and 2-1/2-inch hose at a hydrant serving the diesel generator building so that prompt manual fire fighting can be accomplished at this location and to install manual hose stations inside containment to combat electrical cable fires. With these modifications, all safety-related areas will be reachable with 100 feet of fire hose.

4.3.3 Portable Fire Extinguishers

Portable carbon dioxide fire extinguishers have been provided throughout the plant in accordance with the requirements of the NFPA Standards. The licensee has proposed to provide, at the control room, a portable Class "A" rated extinguisher to combat deep-seated fires in electrical insulation and ordinary combustibles.

We find that, subject to implementation of this modification, the portable fire extinguisher installation conforms to the provisions of Appendix A to BTP 9.5-1 and is, therefore, acceptable.

4.4 Ventilation Systems and Breathing Equipment

4.4.1 Smoke Removal

The plant does not have exhaust systems designed specifically for smoke removal. However, the normal ventilation systems in most areas can be used for limited smoke removal. The effectiveness of these systems is limited because fans and other equipment may not be able to withstand high temperatures and could be rendered inoperative by heat from a significant fire, the capacity and configuration of the normal air handling systems may preclude effective smoke removal, heat actuated dampers in fire barriers may close, and some ventilation system power supply cables may be affected by a fire. To provide adequate smoke removal capability, the licensee has proposed to install a fan for smoke removal in the exterior wall of the cable spreading room, and to provide three portable smoke exhausters with flexible ductwork for fire brigade use with a combined capacity of 17,500 - 20,000 cfm.

We find that, subject to implementation of these modifications, the smoke removal capability satisfies the objectives identified in Section 2.2 of this report and is, therefore, acceptable.

4.4.2 Filters

Charcoal filters are enclosed in substantial metal housings, and those in the containment cooling system and the primary auxiliary building system are equipped with automatic fire detection and remotely operated manual water deluge systems. Charcoal filters not provided with suppression systems are not located in areas with safe shutdown equipment. Therefore, filter units do not present a significant fire exposure to safe shutdown systems.

We find that fire protection for the filters satisfies the objectives identified in Section 2.2 of this report and is, therefore, acceptable.

4.4.3 Breathing Equipment

There are 45 self-contained breathing units on the site and a manifold-cylinder system for control room personnel emergency air supply. However, there are insufficient spare air bottles to maintain the breathing air

supply for the required 6 hours. The licensee has proposed to provide additional cylinders so that 10 men can be supplied for 6 hours on the basis of three air cylinders per man per hour, and to improve the method of distinguishing between full and empty replenishment cylinders in the bottle refill area.

We find that, subject to implementation of this modification, portable breathing equipment satisfies the objectives of Section 2.2 of this report and is, therefore, acceptable.

4.5 Floor Drains

The oil hazards in the turbine building and the diesel generator building are provided with curbs or trenches to direct any spills to the floor drain system, preventing the spread of oil to other areas.

The licensee has proposed to install backflow prevention devices in the drain lines from each diesel generator sump to prevent spread of fire via the drain system. In addition, the licensee has proposed to provide backflow prevention devices in turbine building drains where the drain system may provide a pathway for fire to be transmitted to safety-related areas.

We find that, subject to implementation of these modifications, protection provided to prevent spread of fire through the drain system satisfies the provisions of Appendix A to BTP 9.5-1 and is, therefore, acceptable.

4.6 Lighting Systems

Lighting in critical plant areas is supplied by the emergency buses. However, a fire could cause loss of all lighting in the control room and certain areas providing access for fire fighting and safe shutdown. The licensee has proposed to install 8-hour battery operated lighting units in the control room and in areas providing access to areas with safe shutdown equipment. The licensee has also proposed to provide sealed beam electric hand lanterns for use by the fire brigade.

We find that, subject to implementation of these modifications, the lighting systems satisfy the objectives in Section 2.2 of this report and are, therefore, acceptable.

4.7 Communication Systems

In addition to the normal in-plant communications system, voice powered head sets are available for emergency communications. However, these are hardwired systems and as such are subject to damage in a fire. If the normal and voice powered communications systems are damaged in a fire, portable radio sets are available for use by the fire brigade and operators.

We find that the communications systems satisfy the objectives stated in Section 2.2 of this report and are, therefore, acceptable.

- (4) Control and small power cables.
- (5) Instrument cables.
- (6) Rod control cables.

"There is no mixing of the above categories within a tray or conduit. There is some mixing of non-vital cables with vital cables in channelized trays, but cables of different voltage classes are not mixed within a tray.

"Separation of channels is established wherever practical by the use of separate trays and conduits. In the cable spreading, tunnel and other congested areas multiple channels are run in a single ladder tray, but separation is maintained by the use of 16 gauge sheet metal barriers 4" high within the tray. Where such barriers are used in heavy power cable trays a double sheet metal barrier with approximately one (1) inch of space between is utilized. In addition, whenever a power tray is located beneath an instrument or control channel tray, or a different channel of heavy power cables, a 1/4" thick transite barrier is installed between the trays. Such barriers are considered to be redundant as the power cable insulation being used is fire retardant and will not support combustion without excitation."

In general, separation between redundant divisions is such that most fires would not cause functional loss of redundant safe shutdown equipment. The separation criteria does not preclude the crossing of such cables nor does it consider the possibility of heat buildup in a room. However, the licensee has performed a detailed fire hazards analysis for each area of the plant containing safety-related equipment to determine the possible effects of fires on safe plant shutdown. Each of these areas is discussed in more detail in Section 5.0 of this report. In various areas the licensee has proposed to reroute cables, provide thermal barriers, or install fire stops where the existing cable separation was found inadequate to preclude fire damage to redundant safe shutdown equipment.

In addition, the licensee has proposed to provide a capability to safely shut down the plant independent of fire damage in the charging pump rooms, cabling inside of containment, switchgear room, electrical cable tunnel and the cable spreading room and control room. This independent capability will provide a means to safely shut down the plant using the following equipment: charging pump, auxiliary feedwater pump, service water pump, containment purge system, and instrumentation for pressurizer level and pressure and steam generator level. The auxiliary feedwater system will only require a manual transfer switch prior to placing the pump in service. The charging pump and service water pump will require manual connection of contingency cable maintained onsite. For shutdown in a fire situation, adequate time is available to place this equipment in operation using the proposed methods. Postulated fires which may require use of the independent shutdown capability would not preclude access to areas for routing or connection of the contingency cable. Repairs to

charging pump and service water pump cables could be made in less than one hour. The pressurizer inventory and available level instrumentation assure that adequate inventory will be maintained, and that excessive leakage such as through charging system letdown lines can be identified and isolated, until connections are made to power the charging pumps. We have also reviewed the separation between this proposed independent shutdown capability and present cabling in the areas identified above and find that a fire will not affect both. In using this alternate shutdown system, use of the gas turbines may be required to provide an emergency power source; however, Technical Specifications are not provided for these gas turbines. The licensee has proposed Technical Specifications to assure availability of at least one of the three gas turbines.

We find that, subject to implementation of the above described modification and other modifications as described in Section 5.0 of this report, separation provided is adequate to satisfy the objectives of Section 2.2 of this report and is, therefore, acceptable. The specific areas where additional protection is to be provided are identified in Section 5.0 of this report.

4.11 Fire Barriers

Substantial fire barriers have been provided throughout the plant. The licensee's fire hazards analysis concludes that the basic wall, floor and ceiling structures bounding each fire area have adequate fire resistance to prevent spread of an unsuppressed fire through the barriers. Barriers not having a 3-hour fire resistance rating are considered acceptable on the basis of the light combustible loading, or on the basis that redundant safe shutdown equipment will not be jeopardized if the barrier is breached.

The licensee has proposed to upgrade the walls between the control building and the turbine building to provide a 3-hour fire barrier and to upgrade the control building wall adjacent to outdoor transformers.

The critical fire barriers have been reviewed by the staff and it is concluded that, upon completion of the modifications and recommendations discussed above and in other sections of this report, barriers will be adequate to prevent redundant safe shutdown systems from being involved in the same fire incident. Therefore, we find the fire barriers satisfy the objectives of Section 2.2 of this report and are, therefore, acceptable.

4.12 Access and Egress

Most areas of the plant are reasonably accessible for manual fire fighting. Some safety-related pump rooms at lower elevations have only one stairway, but these areas have minimal fire loading. Delays could be experienced in entering containment; the adequacy of fire protection for this area is discussed in Section 5.0 of this report.

5.12.5 Adequacy of Fire Protection

Manual fire suppression capability would be adequate to control and suppress fires in this area and limit damage to one pump as a result of the fire; however, lack of fire detectors may allow the fire to continue unnecessarily, and lack of adequate fire hose at yard hydrants may hamper fire fighting activities.

5.12.6 Modifications and Recommendations

To provide prompt fire detection capability and suppression capability for this area, the licensee has proposed to provide fire detectors in this area and additional fire hose at yard hose houses.

Subject to implementation of these modifications, fire protection for the auxiliary feed pump building conforms to the provisions of Appendix A to BTP 9.5-1 and is, therefore, acceptable.

5.13 Containment Building

5.13.1 Safety-Related Equipment

Safety-related equipment inside the containment building which is required for safe shutdown includes the reactor vessel, pressurizer and steam generator; primary system piping; steam and feedwater piping; residual heat removal heat exchanger and associated valves; control rod drives; and instrumentation for pressurizer pressure and level, and steam generator level.

5.13.2 Combustibles

The significant combustible materials in this area are the reactor coolant pump lube oil (approximately 250 gallons in each of the four pumps), electrical cable insulation, small amounts of lube and hydraulic oil in other equipment, and charcoal filters. The cable insulation is mostly concentrated at the penetration area.

5.13.3 Consequences if No Fire Suppression

An unmitigated fire in the electrical cable penetration area could cause loss of redundant instrumentation required for safe shutdown. An unmitigated reactor coolant pump lube oil fire could cause damage to safety-related equipment in the vicinity.

5.13.4 Fire Protection Systems

Smoke detectors are provided at the outer annulus. Charcoal filters in the containment cooling system have thermistor fire detection and manual water spray that can be actuated from outside containment.

Portable carbon dioxide fire extinguishers are available for manual fire suppression.

5.13.5 Adequacy of Fire Protection

The fire detection provided would not promptly detect all cable insulation and lube oil fires. Portable extinguishers would not be adequate to control all potential fires in the combustibles present.

5.13.6 Modifications and Recommendations

The licensee has proposed to make the following modifications inside containment:

- (1) Install additional fire detectors in areas containing concentrations of electrical cable and on the reactor coolant pumps.
- (2) Provide pneumatic indication of pressurizer pressure and level, and steam generator level indication independent of existing electrical indication systems.
- (3) Improve the oil leak collection system on the reactor coolant pumps.
- (4) Provide hose for manual fire fighting to reach the reactor coolant pumps and areas containing a significant amount of electrical cable.

We find that, subject to implementation of these modifications, the fire protection conforms to the provisions of Appendix "A" to BTP 9.5-1 and is, therefore, acceptable.

5.14 Fan House

5.14.1 Safety-Related Equipment

The fan house contains the electrical penetration area outside containment where redundant cables are located for certain instrumentation required for safe shutdown. Control cables for the auxiliary feedwater pumps also pass through this area. Containment and primary auxiliary building ventilation fans and charcoal filters are located in the fan house, but these are not required for safe shutdown.

5.14.2 Combustibles

The combustibles in this area include insulation on electrical cables in open trays, and charcoal filters.

5.14.3 Consequences if No Fire Suppression

An unsuppressed fire in the electrical penetration area could damage instrumentation necessary for safe shutdown. Although remote control of the auxiliary feedwater pumps could also be lost, local operation of the pumps could be used to achieve safe shutdown.



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

SUPPLEMENT TO THE FIRE PROTECTION

SAFETY EVALUATION REPORT

INDIAN POINT 2

DOCKET NO. 50-247

Introduction

Section 3.1.12, Item 2, of our January 31, 1979 Fire Protection Safety Evaluation Report (FPSER) for Indian Point 2 required that an exhaust fan be installed in the north wall of the Cable Spreading Room. Section 3.1.25, Items 9 and 10, required modification for eliminating ventilation ducts for stairwell in two Indian Point 1 buildings. By letter of June 23, 1980, Consolidated Edison Company of New York (the licensee) proposed to delete the required modifications.

Evaluation

2.1 Section 3.1.12, Item 2 - Ventilation in the Cable Spreading Room is now provided by one of two 21,000 cfm exhaust fans in the electrical tunnel. One of these fans can ventilate the combined Cable Spreading Room and electrical tunnel areas at a rate of 3.44 cfm/sq.ft which exceeds Guideline D.4(g) of BTP-9.5-1 by more than a factor of two. Furthermore, the existing fans will draw smoke out of the Cable Spreading Room in an opposite direction from the point of personnel entry, and the smoke being drawn into the electrical tunnel will not harm the cables in the tunnel.

We, therefore, conclude that an exhaust fan in the north wall of the Cable Spreading Room is not required.

2.2 Section 3.1.25, Items 9 and 10 - By Order dated June 19, 1980 the operating authority of the Indian Point 1 license was revoked and the licensee was ordered to submit a decommissioning plan for Indian Point 1. The modifications described in Section 3.1.25, Items 9 and 10, deal only with Indian Point 1, and are therefore, no longer required.

Conclusion

We find the deletions proposed by the licensee's letter of June 23, 1980 are acceptable.

Date: October 31, 1980

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UNITED STATES NUCLEAR REGULATORY COMMISSIONDOCKET NO. 50-247 -CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.NOTICE OF ISSUANCE OF AMENDMENT TO FACILITY
OPERATING LICENSE

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 64 to Facility Operating License No. DPR-26, issued to the Consolidated Edison Company of New York, Inc. (the licensee), which revised Technical Specifications for operation of the Indian Point Nuclear Generating Unit No. 2 (the facility) located in Buchanan, Westchester County, New York. The amendment is effective as of November 1, 1980.

The amendment consists of changes to the Technical Specifications to reflect additional systems required by the January 31, 1979 Fire Protection Safety Evaluation Report.

The application for the amendment complies with the standards and requirements of the Atomic Energy Act of 1954, 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. Prior public notice of this amendment was not required since the amendment does not involve a significant hazards consideration.

The Commission has determined that the issuance of this amendment will not result in any significant environmental impact and that pursuant to 10 CFR §1.5(d)(4) an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with issuance of this amendment.

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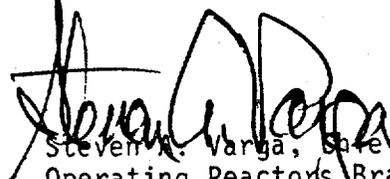
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For further details with respect to this action, see (1) the application for amendment dated June 23, 1980, (2) Amendment No. 64 to License No. DPR-26, and (3) the Commission's related Safety Evaluation. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N.W., Washington, D. C. and at the White Plains Public Library, 100 Martine Avenue, White Plains, New York. A copy of items (2) and (3) may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Director, Division of Licensing.

Dated at Bethesda, Maryland, this 31st day of October, 1980.

FOR THE NUCLEAR REGULATORY COMMISSION


Steven A. Varga, Chief
Operating Reactors Branch #1
Division of Licensing