

ATTACHMENT A

APPLICATION FOR AMENDMENT
TO OPERATING LICENSE

Technical Specification
Page Revisions

Consolidated Edison Company of New York, Inc.

Indian Point Unit No. 2

Docket No. 50-247

Facility Operating License No. DPR-26

December, 1977

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1.8 Reportable Occurrence

A Reportable Occurrence shall be any of those conditions specified in Revision 4 of Regulatory Guide 1.16, "Reporting of Operating Information - Appendix "A" Technical Specifications" Sections C.2.a and C.2.b.

1.9 Quadrant Power Tilt

The quadrant power tilt is defined as the ratio of maximum to average of the upper excore detector currents or the lower excore detector currents whichever is greater. If one excore detector is out of service, the three in-service units are used in computing the average.

1.10 Surveillance Interval

When Refueling Outage is used to designate a surveillance interval, the surveillance interval shall not exceed 18 months except for the first fuel cycle. Surveillance intervals, with the exception of refueling, shift and daily periods, are defined as the specified period plus or minus 25% (unless otherwise specified) of the specified period.

4. The above tests will be considered satisfactory if visual observations and control panel indication indicate that all components have operated satisfactorily.
5. 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

1. Visual inspection of the filter installation shall be performed every 6 months for the first two years and every refueling thereafter, or at any time work on the filters could alter their integrity. In addition, measurement of the pressure drop across the moisture separators and HEPA filters shall be performed at each refueling. Any significant difference in appearance or pressure drop from initial conditions shall be corrected. The acceptance criterion is that the pressure drop across the moisture separator and HEPA filters does not exceed 5.0 inches of water at design flow.
2. The iodine removal efficiency of at least one charcoal filter charcoal coupon from each unit shall be measured every six months for the first two years and every refueling thereafter. The charcoal in the coupons shall be from the same batch as that contained in their respective units. The efficiency shall be measured under the containment conditions representative of the design basis accident (47 psig, 271°F, 100% relative humidity and design basis accident iodine concentration and flow). An ignition temperature test shall be performed at the same time. The acceptance criterion for filter efficiency is 50% for removal of methyl iodine and for ignition test that ignition does not occur at 300°C. If the acceptance criteria are not met, an additional coupon from the unit that failed the tests shall be tested. If the second coupon fails to meet the criteria the charcoal contained in that unit shall be replaced.

3. The charcoal filter isolation valves shall be tested at intervals not greater than once every refueling to verify operability.
4. The HEPA filter banks shall be tested with locally generated DOP* at each refueling shutdown and indications of abnormal leakage corrected. The acceptance criterion is that the value of the efficiencies measured during the test shall be at least 99%.

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 inputs 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

*Dioctylphthalate particles test

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 ohmmeter 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.

The charcoal portion of the 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 visual inspection specified in Section D.1 of this specification will be performed to verify that this is in fact 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 efficiencies for removal of methyl iodide, is obtained.⁽²⁾ The hydrogen recombiner system is an engineered safety feature which will 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 before about 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.

For the four flow distribution valves (856 A, C, D & 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.

References

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

4. Each diesel generator shall be given a thorough inspection at least annually following the manufacturer's recommendations for this class of stand-by service.

The above tests will be considered satisfactory if the required minimum safeguards equipment operated as designed.

B. Diesel Fuel Tanks

A minimum oil storage of 41,000 gallons will be maintained at the station at all times.

C. Station Batteries

1. Every month the voltage of each cell, the specific gravity and temperature of a pilot cell in each battery and each battery voltage shall be measured and recorded.
2. Every 3 months each battery shall be subjected to a 24 hour equalizing charge, and the specific gravity of each cell, the temperature reading of every fifth cell, the height of electrolyte, and the amount of water added shall be measured and recorded.
3. At each time data is recorded, new data shall be compared with old to detect signs of abuse or deterioration.
4. At each refueling outage, each battery shall be subjected to a load test and a visual inspection of the plates.

Basis

The tests specified are designed to demonstrate that the diesel generators will provide power for operation of equipment. They also assure that the emergency generator system controls and the control systems for the safeguards equipment will function automatically in the event of a loss of all normal 480v AC station service power.

The testing frequency specified will be often enough to identify and correct any mechanical or electrical deficiency before it can result in a system failure. The fuel supply is continuously monitored. An abnormal condition in these systems would be signaled without having to place the diesel generators themselves on test.

Each diesel generator has a continuous rating of 1750 kw with a 2000 hr rating of 2000 kw. Two diesels operating at their continuous rating can power the minimum safeguards loads. A minimum oil storage of 41,000 gallons will provide for operation of the minimum required engineered safeguards on emergency diesel power for a period of 168 hours.

Station batteries will deteriorate with time, but precipitous failure is extremely unlikely. The surveillance specified is that which has been demonstrated over the years to provide an indication of a cell becoming unserviceable long before it fails. The periodic equalizing charge will ensure that the ampere-hour capability of the batteries is maintained.

The refueling outage load test for each battery together with the visual inspection of the plates will assure the continued integrity of the batteries. The batteries are of the type that can be visually inspected, and this method of assuring the continued integrity of the battery is proven standard power plant practice.

Reference

FSAR, Section 8.2

ATTACHMENT B

APPLICATION FOR AMENDMENT
TO OPERATING LICENSE

Safety Evaluation

Consolidated Edison Company of New York, Inc.

Indian Point Unit No. 2
Docket No. 50-247
Facility Operating License No. DPR-26

December, 1977

Safety Evaluation

A number of proposed changes to the Indian Point Unit No. 2 Technical Specifications are set forth in Attachment A to this Application. The specific technical specification modifications are delineated and discussed below:

- (a) By Applications for Amendment to Operating License sworn to on May 2, 1977 and November 2, 1977 by Mr. William J. Cahill, Jr., Consolidated Edison proposed changes to the Indian Point Unit No. 2 Technical Specifications 4.2 and 4.3, respectively, which would, to the extent practical, allow conformance with the revised requirements of 10 CFR 50.55 (a) for inservice inspection and testing programs. It has been determined that an additional technical specification modification to Section 4.5 is necessary to permit full compliance with 10 CFR 50.55(a) to the extent practical.

The present Sections 4.5.II.A and 4.5.II.B require periodic surveillance testing of certain pumps and valves. All the pumps and valves addressed therein are now included in the "Indian Point Nuclear Generating Unit No. 2 - Inservice Inspection and Testing Program" submitted to the NRC on August 3, 1977, as supplemented on September 22, 1977, and approved in accordance with Mr. Robert W. Reid's October 28, 1977 letter to Mr. William J. Cahill, Jr. In addition, the surveillance requirements in the inservice inspection program for these pumps and valves are the same or more conservative

than those presently delineated in the technical specifications. Accordingly, to eliminate duplication and the potential for confusion, Consolidated Edison requests that Sections 4.5.II.A and 4.5.II.B be deleted. The remaining sections of specification 4.5 have been editorially rearranged and renumbered for clarity and consistency.

The revisions to Section 4.5 contained in Attachment A to this Application supersede those changes to Section 4.5 proposed in Consolidated Edison's November 2, 1977 Application for Amendment to Operating License.

- (b) The proposed revision to Section 1.0 would add a new Section 1.10 entitled "Surveillance Interval". This new section would define "refueling outage" when used to designate a surveillance interval and would state explicitly that surveillance intervals, with the exception of refueling, shift and daily periods, are defined as the period specified in the technical specifications plus or minus 25% (unless otherwise specified) of the specified period. Presently, this is only stated explicitly as footnotes to Table 4.1-1. The proposed section 1.10 would clearly state that such qualifications apply to all surveillance requirements established in the technical specifications. Furthermore, the Indian Point Unit No. 3 Technical Specifications already contains such a definition and the proposed new section 1.10 has been modeled after the corresponding Indian Point Unit No. 3 section.

- (c) Certain system tests are required to be performed at refueling intervals by the Technical Specifications of Section 4.5. The discussion of these tests contained in the bases of Section 4.5 have been modified to editorially change "annual (tests)" to "refueling (tests)" to effect consistency with the existing specification requirements.
- (d) The proposed change to Specification on 4.6.C.4 of Section 4.6 would require the station battery load test and visual inspection of the plates to be performed at a refueling outage interval rather than the present "once a year". These tests and inspections are time-consuming and require the plant to be in the cold shutdown condition. Accordingly, this type of test should be performed during a refueling outage. The increase in the surveillance interval is acceptable since the monthly and quarterly surveillance testing required by specifications 4.6.C.1 and 4.6.C.2 detects any sign of battery abuse or deterioration. Furthermore, the corresponding Indian Point Unit No. 3 technical specification 4.6.B.4 presently requires that the station battery load test and visual inspection of the plates be performed "at each refueling outage."

The proposed changes do not in any alter the safety analyses performed for Indian Point Unit No. 2. The proposed changes have been reviewed by the Station Nuclear Safety Committee and the Nuclear Facilities Safety Committee. Both committees concur

that these changes do not represent a significant hazards consideration and will not cause any change in the types of increase in the amounts of effluents or any change in the authorized power level of the facility.

MAY 8 1979

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

Gentlemen:

This office has received a copy of your March 27, 1979 submittal of a revised Emergency Plan for Indian Point Unit Nos. 1 and 2 (Facility Licenses DPR-5 and -26) which you transmitted to the Office of Nuclear Reactor Regulation (NRR). It is our understanding that the NRR staff will review the revised Emergency Plan and issue a letter of approval, or otherwise, specifying their findings as to whether the revised plan meets the requirements of Appendix E of 10 CFR Part 50 and other current NRC guidance. Consequently, your March 27 filing is subject to the fee requirements 10 CFR Part 170. Reviews and approval relating to a particular power plant should be classified in the same manner as applications for license amendments and fees determined and paid pursuant to Section 170.22 of 10 CFR Part 170. Section 170.12(c) requires that your Company provide a proposed determination of amendment (approval) class, state the basis therefor, and submit the fee with your filing and/or amendment application.

Based on a preliminary review of your March 27 filing, we have determined that it falls in fee Class III (\$4,000) for one unit because it involves consideration of a single safety issue and fee Class I (\$400) for the other unit. Although Indian Point Unit Nos. 1 and 2 are not essentially identical units, we have applied the duplicate fee criteria because both units are at the same site with a common Emergency Plan. Fees totalling \$4,400 should be forwarded to this office promptly. If after final review of your filing it is determined that it was incorrectly classified, you will be refunded any overpayment or billed for any additional amount due.

Sincerely,

Original Signed by:
Wm. O. Miller

William O. Miller, Chief
License Fee Management Branch
Office of Administration

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