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

POWER AUTHORITY OF THE STATE OF NEW YORK

DOCKET NO. 50-286

INDIAN POINT NUCLEAR GENERATING UNIT NO. 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 153
License No. DPR-64

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

   A. The application for amendment by Power Authority of the State of New York (the licensee) dated August 4, 1994, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;

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

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

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

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

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

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(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 153, 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

Ledyard B. Marsh, 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 7, 1994

ATTACHMENT TO LICENSE AMENDMENT NO. 153

FACILITY OPERATING LICENSE NO. DPR-64

DOCKET NO. 50-286

Revise Appendix A as follows:

Remove Pages	Insert Pages
3.7-1	3.7-1
3.7-3a	3.7-3a
3.7-4	3.7-4
3.7-5	3.7-5
3.7-6	3.7-6

3.7 AUXILIARY ELECTRICAL SYSTEMS

Applicability

Applies to the availability of electrical power for the operation of plant auxiliaries.

Objective

To define those conditions of electrical power availability necessary (1) to provide for safe reactor operation, and (2) to provide for the continuing availability of engineered safety features.

Specification

A. The reactor shall not be brought above the cold shutdown condition unless the following requirements are met:

1. Two physically independent transmission circuits to Buchanan Substation capable of supplying engineered safeguards loads.

2. 6.9 KV buses 5 and 6 energized from either 138 KV feeder 95331 or 95332.

3. Either 13.8 KV feeder 13W92 or 13W93 and its associated 13.8/6.9 KV transformer available to supply 6.9 KV power.

4. The four 480-volt buses 2A, 3A, 5A and 6A energized and the bus tie breakers between buses 5A and 2A, and between buses 3A and 6A, opened.

5. Three diesel generators operable with a minimum onsite supply of 7056 gallons of fuel in each of the three individual underground storage tanks. In addition to the underground storage tanks, 30,026 gallons of fuel compatible for operation with the diesels shall be available onsite or at the Buchanan substation. This 30,026 gallon reserve is for Indian Point Unit No. 3 usage only

4. Two operable diesel generators together with total underground storage containing a minimum of 7056 gallons of fuel.

G. When a system, subsystem, train, component or device is determined to be inoperable solely because its emergency power source is inoperable, or solely because its normal power source is inoperable, it may be considered operable for the purpose of satisfying the requirements of its applicable specification provided: (1) its corresponding normal or emergency power source is operable; and (2) all of its redundant system(s), subsystem(s), train(s), components(s) and device(s) are operable or likewise satisfy the requirements of the specification.

Basis

The electrical system equipment is arranged so that no single contingency can inactivate enough safeguards equipment to jeopardize the plant safety. The 480-volt equipment is arranged on 4 buses. The 6900-volt equipment is supplied from 6 buses.

The Buchanan Substation has both 345 KV and 138 KV transmission circuits which are capable of supplying startup, normal operation, shutdown and/or engineered safeguards loads.

The 138 KV supplies or the gas turbines are capable of providing sufficient power for plant startup. Power via the station auxiliary transformer can supply all the required plant auxiliaries during normal operation, if required.

In addition to the unit transformer, four separate sources supply station service power to the plant.(1)

The plant auxiliary equipment is arranged electrically so that multiple items receive their power from different buses. Redundant valves are individually supplied from separate motor control centers.

The bus arrangements specified for operation ensure that power is available to an adequate number of safeguards auxiliaries. With additional switching, more equipment could be out of service without infringing on safety.

Two diesel generators have sufficient capacity to start and run within design load the minimum required engineered safeguards equipment.(1) The minimum onsite underground stored diesel fuel oil inventory is maintained at all times to assure the operation of two diesels carrying the minimum required engineered safeguards equipment load for at least 48 hours.(2) The minimum required storage tank volume (when above cold shutdown) of 7056 gallons includes allowances for fuel not usable due to the oil transfer pump cutoff switch (760 gallons), calibration tolerances of the installed level indicators used to measure fuel volume (385 gallons) and a safety margin (20 gallons). If the installed level indicators are unavailable, the fuel volume can be measured by sounding the tanks. If this method is used, 6671 gallons of fuel must be in each storage tank (7056 gallons minus the 385 gallon uncertainty associated with the level indicators).

When in cold shutdown, two diesel generators must be operable with a total underground storage of 7056 gallons of fuel oil. The same methodology used to measure fuel volume above cold shutdown should be used. Additional fuel oil suitable for use in the diesel generators will be stored either on site or at the Buchanan Substation. The minimum storage of 30,026 gallons of additional fuel oil will assure continuous operation of two diesels at the minimum engineered safeguards load for a total of 7 days. A truck with hosing connections compatible with the underground diesel fuel oil storage tanks is available for transferal of diesel oil from storage areas either on site or at the Buchanan Substation. Commercial oil supplies and trucking facilities are also available.

Periodic diesel outages will be necessary to perform the corrective maintenance required as a result of previous tests or operations and the preventive maintenance recommended by the manufacturer. If a diesel generator is out of service due to preplanned preventive maintenance or testing, special surveillance testing of the remaining diesel generators is not required because the required periodic surveillance testing suffices to provide assurance of their operability. The fact that preplanned corrective maintenance is sometimes performed in conjunction with this preventive maintenance or testing does not necessitate that the remaining diesels be tested, because this corrective maintenance is on defects or potential defects that never called diesel operability into question. If a diesel generator defect or operability concern is discovered while performing this preplanned preventive maintenance or testing, the concern or defect is evaluated to determine if the same concern or defect could render the remaining diesel generators inoperable. Unless this evaluation determines that the potential for the defect or concern to effect the remaining diesel generators has been eliminated, performance of a surveillance test on each of the remaining diesel generators provides adequate assurance of their operability.

One battery charger shall be in service on each battery so that the batteries will always be at full charge in anticipation of a loss-of-AC power incident. This insures that adequate D.C. power will be available for starting the emergency generators and other emergency uses.

The plant can be safely shutdown without the use of offsite power since all vital loads (safety systems, instruments, etc.) can be supplied from the emergency diesel generators.

Any two of three diesel generators, the station auxiliary transformer or the separate 13.8 to 6.9 KV transformer are each capable of supplying the minimum safeguards loads, and therefore provide separate sources of power immediately available for operation of these loads. Thus the power supply system meets the single failure criteria required of safety systems. To provide maximum assurance that the redundant or alternate power supplies will operate if required to do so, the redundant or alternate power supplies are verified operable prior to initiating repair of the inoperable power supply. Continued plant operation is governed by the specified allowable time period for the power source, not the specified allowable time period for those items determined to be inoperable solely because of the inoperability of its normal or emergency power source provided the conditions defined in specification 3.7.G are satisfied. These conditions assure that the minimum required safeguards will be operable. If it develops that (a) the inoperable power supply is not repaired within the specified allowable time period, or (b) a second power supply in the same or related category is found to be inoperable, the reactor, if critical, will initially be brought to the hot shutdown condition utilizing normal operating procedures to provide for reduction of the decay heat from the fuel, and consequent reduction of cooling requirements after a postulated loss-of-coolant accident. If the reactor was already subcritical, the reactor coolant system temperature and pressure will be maintained within the stated values in order to limit the amount of stored energy in the Reactor Coolant System. The stated tolerances provide a band for operator control. After a limited time in hot shutdown, if the malfunction(s) are not corrected, the reactor will be brought to the cold shutdown condition, utilizing normal shutdown and cool-down procedures. In the cold shutdown condition there is no possibility of an accident that would release fission products or damage the fuel elements.

Conditions of a system-wide blackout could result in a unit trip. Since normal off-site power supplies as required in Specification 3.7.A.1 are not available for startup, it is necessary to be able to black start the unit with gas turbines providing the incoming power supplies as a first step in restoring the system to an operable status and restoring power to customers for essential services. Specification 3.7.C provides for startup using 37 MW's of gas turbine power (nameplate rating at 80°F) which is sufficient to carry out a normal plant startup. A system-wide blackout is deemed to exist when the majority of Con Edison electric generating facilities are shutdown due to an electrical disturbance and the remainder are incapable of supplying the system therefore necessitating major load shedding.

Since the backup lighting supply is stripped on safety injection, the requirement that not more than one 120 volt A.C. instrument bus be energized from the backup lighting supply is to assure minimum operable containment spray actuation channels.

As a result of an investigation of the effect components that might become submerged following a LOCA may have on ECCS, containment isolation and other safety-related functions, a fuse and a locked open circuit breaker were provided on the electrical feeder to emergency lighting panel 318 inside containment. With the circuit breaker in the open position, containment electrical penetration H-70 is de-energized during the accident condition. Personnel access to containment may be required during power operation. Since it is highly improbable that a LOCA would occur during this short period of time, the circuit breaker may be closed during that time to provide emergency lighting inside containment for personnel safety.

When the 138 KV source of offsite power is out of service and the 13.8KV power source is being used to feed Buses 5 and 6, the automatic transfer of 6.9 KV Buses 1, 2, 3 and 4 to offsite power after a unit trip could result in overloading of the 20 MVA 13.8 KV/6.9 KV auto-transformer. Accordingly, the intent of specification 3.7.B.3 is to prevent the automatic transfer when only the 13.8 KV source of offsite power is available. However, this specification is not intended to preclude subsequent manual operations or bus transfers once sufficient loads have been stripped to assure that the 20 MVA auto-transformer will not be overloaded by these manual actions.

References

1) FSAR - Section 8.2.1
2) NYPA Calculation, IP3-CALC-EG-00217, Revision 3, dated May 25, 1994.