ATTACHMENT I TO IPN-93-002

PROPOSED TECHNICAL SPECIFICATION CHANGES

ASSOCIATED WITH

ALTERNATE TRAIN TESTING REQUIREMENTS

NEW YORK POWER AUTHORITY
INDIAN POINT 3 NUCLEAR POWER PLANT
DOCKET NO. 50-286
DPR-64

a. The accumulators may be isolated during the performance of the reactor coolant system hydrostatic tests.

For the purpose of accumulator check valve leakage testing, one accumulator may be isolated at a time, for up to 8 hours, provided the reactor is in the hot shutdown condition.

b. One safety injection pump may be out of service, provided the pump is restored to an operable status within 24 hours.

c. One residual heat removal pump may be out of service, provided the pump is restored to an operable status within 24 hours.

d. One residual heat exchanger may be out of service provided that it is restored to an operable status within 48 hours.

e. Any valve required for the functioning of the system during and following accident conditions may be inoperable provided that it is restored to an operable status within 24 hours and all valves in the system that provide the duplicate function are operable.

f. One channel of heat tracing associated with the Boron Injection Tank and/or its recirculation lines may be out of service provided the failed channel is restored to an operable status within 7 days and the redundant channel is demonstrated to be operable daily during that period.

g. One refueling water storage tank low level alarm may be inoperable for up to 7 days provided the other low level alarm is operable.

a. Fan cooler unit 32, 34, or 35 or the flow path for fan cooler unit 32, 34, or 35 may be out of service for a period not to exceed 24 hours provided both containment spray pumps are operable.

OR

Fan cooler unit 31 or 33, or the flow path for fan cooler unit 31 or 33 may be out of service for a period not to exceed 7 days provided both containment spray pumps are operable.

b. One containment spray pump may be out of service for a period not to exceed 24 hours, provided the five fan cooler units are operable.

c. Any valve required for the functioning of the system during and following accident conditions may be inoperable provided it is restored to an operable status within 24 hours and all valves in the system that provide the duplicate function are operable.

3. If the Containment Cooling and Iodine Removal are not restored to meet the requirements of 3.3.B.1 within the time period specified in 3.3.B.2, then:

a. If the reactor is critical, it shall be in the hot shutdown condition within four hours and in the cold shutdown condition within the following 24 hours.

b. If the reactor is subcritical, the reactor coolant system temperature and pressure shall not be increased more than 25°F and 100 psi, respectively, over existing values. If the requirements of 3.3.A.3 are not satisfied within an additional 48 hours, the reactor shall be brought to the cold shutdown condition utilizing normal operating procedures. The shutdown shall start no later than the end of the 48 hour period.

C. Isolation Valve Seal Water System (IVSWS)

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

   a. The IVSWS shall be operable.

   b. The IVSW tank shall be maintained at a minimum pressure of 47 psig and contain a minimum of 144 gallons of water.

2. The requirements of 3.3.C.1 may be modified to allow any one of the following components to be inoperable at any one time:

   a. Any one header of the IVSWS may be inoperable for a period not to exceed 7 consecutive days.

   b. Any valve required for the functioning of the system during and following accident conditions provided it is restored to an operable status within 7 days and all valves in the system that provide a duplicate function are operable.

3. If the IVSW System is not restored to an operable status within the time period specified, then:

   a. If the reactor is critical, it shall be brought to the hot shutdown condition utilizing normal operating procedures. The shutdown shall start no later than at the end of the specified time period.

   b. If the reactor is subcritical, the reactor coolant system temperature and pressure shall not be increased more than 25°F and 100 psi, respectively, over existing values.

   c. In either case, if the IVSW System is not restored to an operable status within an additional 48 hours, the reactor shall be brought to the cold shutdown condition utilizing normal operating procedures. The shutdown shall start no later than the end of the 48 hour period.

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E. Component Cooling System

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

   a. Two component cooling pumps, together with their associated piping and valves, are operable.

   b. Two auxiliary component cooling pumps, one per each recirculation pump, together with their associated piping and valves, are operable.

   c. Two component cooling heat exchangers, together with their associated piping and valves, are operable.

2. The requirements of 3.3.E.1 may be modified to allow one of the following components to be inoperable at any one time:

   a. One of the two operable component cooling pumps may be out of service, provided the pump is restored to operable status within 24 hours.

   b. Two auxiliary component cooling pumps serving the same recirculation pump may be out of service, provided at least one is restored to an operable status within 24 hours and at least one auxiliary component cooling pump serving the other recirculation pump is operable.

   c. One component cooling heat exchanger or other passive component may be out of service for a period not to exceed 48 hours, provided the system will still operate at design accident capability.

Bases

The normal procedure for starting the reactor is, first, to heat the reactor coolant to near operating temperature, by running the reactor coolant pumps. The reactor is then made critical by withdrawing control rods and/or diluting boron in the coolant.[1] With this mode of startup, the energy stored in the reactor coolant during the approach to criticality is substantially equal to that during power operation, and, therefore, the minimum required engineered safeguards and auxiliary cooling systems are required to be operable.

The probability of sustaining both a major accident and a simultaneous failure of a safeguards component to operate as designed is necessarily very small. Thus, operation with the reactor above the cold shutdown condition with minimum safeguards operable for a limited period does not significantly increase the probability of an accident having consequences which are more severe than the Design Basis Accident.

The operable status of the various systems and components is demonstrated by periodic tests defined by Specification 4.5. A large fraction of these tests will be performed while the reactor is operating in the power range. If a component is found to be inoperable, it will be possible, in most cases, to effect repairs and restore the system to full operability within a relatively short time. The inoperability of a single component does not negate the ability of the system to perform its function,[2] but it reduces the redundancy provided in the reactor design and thereby limits the ability to tolerate additional equipment failures. Assurance that the redundant component(s) will operate if required to do so exists if the required periodic surveillance testing is current and there are no known reasons to suggest that the redundant component(s) are inoperable. If it develops that (a) the inoperable component is not repaired within the specified allowable time period, or (b) a second component in the same or related system 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. This will also permit improved access for repairs in some cases. 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 placed in the

and is in addition to the fuel requirements for other nuclear units on the site.

6. Three batteries plus three chargers and the D.C. distribution systems operable.

7. No more than one 120 volt A.C. Instrument Bus on the backup power supply.

B. The requirements of 3.7.A may be modified to allow any one of the following power supplies to be inoperable at any one time.

1. One diesel or any diesel fuel oil system or a diesel and its associated fuel oil system may be inoperable for up to 72 hours provided the 138 KV and the 13.8 KV sources of offsite power are available, and the engineered safety features associated with the remaining diesel generator buses are operable. If the inoperable diesel generator became inoperable due to any cause other than preplanned preventive maintenance or testing, the remaining diesel generators shall be tested within 24 hours.

2. The 138 KV or the 13.8 KV sources of power may be inoperable for 48 hours provided the three diesel generators are operable. This operation may be extended beyond 48 hours provided the failure is reported to the NRC within the 48 hour period with an outline of the plans for restoration of offsite power and NRC approval is granted.

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) 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 26,300 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 and in fact are essentially preventive in nature. 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.

ATTACHMENT II TO IPN-93-002

SAFETY EVALUATION OF

TECHNICAL SPECIFICATION CHANGES

ASSOCIATED WITH

ALTERNATE TRAIN TESTING REQUIREMENTS

NEW YORK POWER AUTHORITY
INDIAN POINT 3 NUCLEAR POWER PLANT
DOCKET NO. 50-286
DPR-64

SAFETY EVALUATION
RELATED TO
PROPOSED TECHNICAL SPECIFICATION CHANGES ASSOCIATED WITH
ALTERNATE TRAIN TESTING REQUIREMENTS

Section I - Description of Changes

This application for amendment to the Indian Point Unit 3 (IP3) Technical Specifications proposes to revise Sections 3.3 and 3.7 of Appendix A of the Operating License. The proposed changes to Section 3.3 reflect the current NRC staff position regarding testing of the alternate train(s) of an emergency safety feature when one train of the safety feature is inoperable. The proposed changes to Section 3.7 allow an emergency diesel generator to be out of service for preplanned preventive maintenance or testing without requiring special testing of the remaining emergency diesel generators. Additionally, the proposed changes to Section 3.7 will allow the special testing that will be required in cases when an emergency diesel generator is out of service for a reason other than preplanned preventive maintenance or testing to be performed once, within 24 hours, instead of daily. The changes to Section 3.7 will make IP3 alternate diesel generator testing requirements consistent with those included in the Standard Technical Specifications. Additionally, this application corrects administrative errors in Appendix A Section 3.3.

Section II - Evaluation of Changes

The Indian Point Unit 3 (IP3) Technical Specifications currently require certain alternate train(s) of safety equipment to be tested when one train of the equipment is inoperable. These requirements reflect a superseded NRC staff position. The original intent of the technical specification requirements was to provide a means of positively demonstrating that a loss of safety function had not occurred. Later, it was realized that the added assurance provided by testing is not sufficient to justify the loss of safety function that occurs during the performance of the test. As such, the Authority proposes to delete these alternate train testing requirements.

Specifically, the alternate train testing requirements included in Technical Specifications 3.3.A.4.b, 3.3.A.4.c, 3.3.A.4.e, 3.3.B.2.a, 3.3.B.2.b, 3.3.B.2.c, 3.3.C.2.b, and 3.3.E.2.b will be deleted. In order to perform the tests currently required by these technical specifications, the specified alternate safety equipment must be taken out of service. Since the operability of the alternate safety equipment is demonstrated by the performance of their required periodic tests, the added assurance provided by the special test does not justify the loss of safety function which occurs during performance of the special test. Since the deletion of the special testing requirements will allow alternate safety equipment to remain in service while the inoperable train is being repaired, the deletion of the special testing requirements will allow for improved availability of the alternate safety equipment. The bases of Section 3.3 have been updated to reflect the above technical specification changes.

The requirement to test the two remaining emergency diesel generators when one emergency diesel generator is inoperable will remain. However, the Authority proposes to modify this

requirement so that testing of the remaining emergency diesel generators will not be required if the inoperable emergency diesel generator was taken out of service for the purpose of performing preplanned preventive maintenance or testing. Additionally, the Authority proposes to change the requirement so that the alternate diesel generator special testing that will be required in cases when an emergency diesel generator is out of service for a reason other than preplanned preventive maintenance or testing can be performed once, within 24 hours, instead of daily. These changes will make IP3 alternate emergency diesel generator testing requirements consistent with those included in the Standard Technical Specifications.

In NRC Generic Letter 84-15, "Proposed Staff Actions to Improve and Maintain Diesel Generator Reliability," the NRC concluded that excessive testing of emergency diesel generators results in a degradation of the diesel engines. Further, the generic letter stated that the staff was concerned about a number of additional diesel generator tests that are required by technical specifications for some of the earlier licensed operating plants. In this Generic Letter, the NRC stated that additional testing of the emergency diesel generators during periods when Emergency Core Cooling Systems (ECCS) were inoperable could be eliminated. This testing could be eliminated because the inoperability of the ECCS component does not directly affect the availability or reliability of the emergency diesel generator.

Similarly, a preplanned emergency diesel generator preventive maintenance or testing outage does not directly affect the availability or reliability of the remaining emergency diesel generators and is not indicative of a potential failure in the remaining emergency diesel generators. Since excessive testing has been found to result in a degradation to emergency diesel generators, the benefit of performing the special tests, in this case, is not sufficient to justify the potential degradation.

Therefore, the Authority proposes to modify Technical Specification 3.7.B.1 so that special testing of the remaining diesel generators will not be required if an emergency diesel generator is removed from service for preplanned preventive maintenance or testing. This will potentially allow for increased emergency diesel generator reliability. Additionally, since testing of the remaining diesel generators requires the diesel generators to be taken out of service during performance of their respective test, the change to the technical specifications will allow for increased availability of the diesel generators. When an emergency diesel generator is out of service for preplanned preventive maintenance or testing, adequate assurance of the operability of the remaining diesel generators is established by their required periodic tests.

Additionally, the Authority proposes to modify Technical Specification 3.7.B.1 so that the alternate diesel generator special testing that will be required in cases when a diesel generator is out of service for a reason other than preplanned preventive maintenance or testing can be performed once, within 24 hours, instead of daily. This technical specification change will further reduce the number of required diesel generator starts and, therefore, will reduce possible diesel engine degradation and will allow for increased availability and reliability of the diesel generators.

NRC Generic Letter 84-15 provided typical technical specifications which would help assure that the reliability of diesel generators at operating plants is maintained at an acceptable level. As part of the typical technical specifications provided by NRC Generic Letter 84-15, the frequency of

alternate diesel generator special testing when one diesel generator is out of service was indicated to be once (within 24 hours). This is the same requirement that currently exists in the Standard Technical Specifications and the same requirement the Authority proposes to incorporate into the IP3 Technical Specifications.

The bases of Section 3.7 have been updated to provide interpretation and guidance for the changes to Technical Specification 3.7.B.1.

Additional changes to Section 3.3 correct administrative errors and improve the readability of the technical specifications.

Section III - No Significant Hazards Evaluation

Consistent with the requirements of 10 CFR 50.92, the enclosed application is judged to involve no significant hazards based on the following information:

(1) Does the proposed license amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

Response:

The proposed changes do not involve an increase in the probability or consequences of a previously analyzed accident. The changes eliminate alternate train special testing requirements when the benefit of performing the special test does not justify the disadvantages of performing of the test. These changes will allow for improved availability of alternate safety equipment necessary to mitigate the consequences of an accident and for improved availability of the emergency diesel generators. The changes to Section 3.7 can potentially improve the reliability of the emergency diesel generators. The administrative changes do not change any current requirements and, therefore, have no affect on the probability or consequences of any previously analyzed accident.

(2) Does the proposed license amendment create the possibility of a new or different kind of accident from any accident previously evaluated?

Response:

The proposed changes do not create the possibility of a new or different kind of accident from any accident previously evaluated because they do not affect the current plant configuration or current operating practices. The changes eliminate alternate train special testing requirements when the benefit of performing the special test does not justify the disadvantages of performing the test and correct administrative errors in Section 3.3.

(3) Does the proposed amendment involve a significant reduction in a margin of safety?

Response:

The proposed amendment does not involve a significant reduction in a margin of safety. The changes eliminate alternate train special testing requirements when the benefit of performing the special test does not justify the disadvantages of performing the test. These changes will allow for improved availability of alternate safety equipment and for improved availability of the emergency diesel generators. The changes to Section 3.7 can potentially improve the reliability of the emergency diesel generators. The administrative changes do not change any current requirements and, therefore, have no affect on any margin of safety.

Section IV - Impact of Changes

These changes will not adversely affect the following:

ALARA Program
Security and Fire Protection Programs
Emergency Plan
FSAR or SER Conclusions
Overall Plant Operations and the Environment

Section V - Conclusions

The incorporation of these changes: a) will not increase the probability nor the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the Safety Analysis Report; b) will not increase the possibility for an accident or malfunction of a different type than any evaluated previously in the Safety Analysis Report; c) will not reduce the margin of safety as defined in the bases for any technical specification; d) does not constitute an unreviewed safety question; and e) involves no significant hazards considerations as defined in 10 CFR 50.92.

Section VI - References

a) IP3 FSAR
b) IP3 SER
c) NRC Generic Letter 84-15, "Proposed Staff Actions to Improve and Maintain Diesel Generator Reliability," dated July 2, 1984.