ATTACHMENT I

PROPOSED TECHNICAL SPECIFICATION CHANGES

NEW YORK POWER AUTHORITY

INDIAN POINT 3 NUCLEAR POWER PLANT

DOCKET NO. 50-286

4. Containment Air Filtration System

a. Visual inspection of the filter installations shall be performed in accordance with the methods described in ANSI N510-1980 every six months for the first two years and every refueling thereafter, or at any time fire, chemical releases or work done on the filters could alter their integrity.

b. At each refueling outage, the following conditions shall be demonstrated before the system can be considered operable:

(1) The pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 6 inches of water at ambient conditions and accident design flow rates.

(2) Using either direct or indirect measurements, the flow rate of the system fans shall be shown to be at least 90% of the accident design flow rate.

(3) The charcoal filter isolation valves shall be tested to verify operability.

c. At each refueling outage or at any time fire, chemical releases or work done on the filters could alter their integrity or after every 720 hours of charcoal adsorber use since the last test, the following conditions shall be demonstrated before the system can be considered operable:

(1) Impregnated activated charcoal from each of the five units shall be tested within 31 days of removal for the test to be valid and shall have a methyl iodine removal efficiency $\geq$ 85% at $\pm$20% of the accident design flow rate, 5 to 15 mg/m^3 inlet methyl iodine concentration, $\geq$ 95% relative humidity and $\geq$ 250°F. In addition, ignition shall not occur below 300°F.

(2) A halogenated hydrocarbon (freon) test on charcoal adsorbers at ± 20% of the accident design flow rate and ambient conditions shall show ≥ 99% halogenated hydrocarbon removal.

(3) A locally generated DOP* test of the HEPA filters at ±20% of the accident design flow rate and ambient conditions shall show ≥ 99% DOP removal, in accordance with the methods described in ANSI N510-1980.

(4) A system flow rate of accident design cfm ±20% shall be verified during system operation when tested in accordance with the methods described in ANSI N510-1980.

d. After each complete or partial replacement of a HEPA filter bank, verify that the HEPA filter banks remove greater than or equal to 99% of the DOP when they are tested in-place in accordance with the methods described in ANSI N510-1980 while operating the system at a flow rate of accident design cfm ±20%.

e. After each complete or partial replacement of a charcoal adsorber bank, verify that the charcoal adsorbers remove greater than or equal to 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with the methods described in ANSI N510-1980 while operating the system at a flow rate of accident design cfm ±20%.

5. Control Room Air Filtration System

a. Visual inspection of the filter installations shall be performed in accordance with the methods described in ANSI N510-1980 every six months for the first two years and every refueling thereafter, or at any time fire, chemical releases or work done on the filters could alter their integrity.

b. The charcoal filtration system shall be operated for a minimum of 15 minutes every month.

*Dioctylphthalate Particles

c. At each refueling outage, the following conditions shall be demonstrated before the system can be considered operable:

(1) The pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 6 inches of water at ambient conditions and accident design flow rates.

(2) Using either direct or indirect measurements, the flow rate of the system fans shall be shown to be at least 90% of accident design flow rate.

d. At each refueling outage or at any time fire, chemical releases or work done on the filters could alter their integrity or after every 720 hours of charcoal adsorber use since the last test, the following conditions shall be demonstrated before the system can be considered operable:

(1) Impregnated activated charcoal shall be tested within 31 days of removal for the test to be valid and shall have a methyl iodine removal efficiency $\geq$ 90% at $\pm$20% of the accident design flow rate, 0.05 to 0.15 mg/m^3 inlet methyl iodine concentration, $\geq$ 95% relative humidity and $\geq$ 125°F.

(2) A halogenated hydrocarbon (freon) test on charcoal adsorbers at $\pm$20% of the accident design flow rate and ambient conditions shall show $\geq$ 99% halogenated hydrocarbon removal.

(3) A locally generated DOP test of the HEPA filters at $\pm$20% of the accident design flow rate and ambient conditions shall show $\geq$ 99% DOP removal, in accordance with the methods described in ANSI N510-1980.

(4) A system flow rate of accident design cfm $\pm$20% shall be verified during system operation when tested in-place in accordance with the methods described in ANSI N510-1980.

e. After each complete or partial replacement of a HEPA filter bank, verify that the HEPA filter banks remove greater than or equal to 99% of the DOP when they are tested in-place in accordance with the methods described in ANSI N510-1980 while operating the system at a flow rate of accident design cfm $\pm$20%.

f. After each complete or partial replacement of a charcoal adsorber bank, verify that the charcoal adsorbers remove greater than or equal to 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with the methods described in ANSI N510-1980 while operating the system at a flow rate of accident design cfm $\pm$20%.

6. Fuel Storage Building Emergency Ventilation System

a. The fuel storage building emergency ventilation system shall be operated for a minimum of 15 minutes every month when there is irradiated fuel in the spent fuel pit.

b. Prior to handling of irradiated fuel, the following conditions shall be demonstrated before the system can be considered operable:

(1) The pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 6 inches of water at ambient conditions and accident design flow rates.

(2) Using either direct or indirect measurements, the flow rate of the system fans shall be shown to be at least 90% of the accident design flow rate.

(3) The filtration system bypass dampers shall be tested to assure proper operation.

c. Prior to handling of irradiated fuel, or at any time fire, chemical releases or work done on the filters could alter their integrity or after every 720 hours of charcoal adsorber use since the last test, the following conditions shall be demonstrated before the system can be considered operable:

(1) Impregnated activated charcoal shall be tested within 31 days of removal for the test to be valid and shall have a methyl iodine removal efficiency $\geq$ 90% at $\pm$20% of the accident design flow rate, 0.05 to 0.15 mg/m^3 inlet methyl iodine concentration, $\geq$ 95% relative humidity and $\geq$ 125°F.

(2) A halogenated hydrocarbon (freon) test on charcoal adsorbers at $\pm$20% of the accident design flow rate and ambient conditions shall show $\geq$ 99% halogenated hydrocarbon removal.

(3) A locally generated DOP test of the HEPA filters at $\pm$20% of the accident design flow rate and ambient conditions shall show $\geq$ 99% DOP removal, in accordance with the methods described in ANSI N510-1980.

(4) Visual inspection in accordance with the methods described in ANSI N510-1980 of filter installations.

(5) A system flow rate of accident design cfm $\pm$20% shall be verified during system operation when tested in accordance with the methods described in ANSI N510-1980.

d. After each complete or partial replacement of a HEPA filter bank, verify that the HEPA filter banks remove greater than or equal to 99% of the DOP when they are tested in-place in accordance with the methods described in ANSI N510-1980 while operating the system at a flow rate of accident design cfm $\pm$20%.

e. After each complete or partial replacement of a charcoal adsorber bank, verify that the charcoal adsorbers remove greater than or equal to 99% of a halogenated hydrocarbon refri erant test gas when they are tested in-place in accordance wit the methods described in ANSI N510-1980 while operating the system at a flow rate of accident design cfm ±20%.

With the efficiencies of the HEPA filters and charcoal adsorbers as specified, further assurance is provided that the resulting doses will be less than the allowable levels stated in Criterion 19 of the General Design Criteria for Nuclear Power Plants, Appendix A to 10CFR Part 50.

A pressure drop across the combined HEPA filters and charcoal adsorbers of less than or equal to 6.0 inches of water at the system design flow rate will indicate that the filters and adsorbers are not clogged by excessive amounts of foreign matter. Pressure drop should be determined at least once per operating cycle to show system performance capabiltiy. Proper operation of the system fans should also be verified at least every refueling by either direct or indirect measurements. In addition, system flow rate is demonstrated to be within the limits specified at least every refueling outage or any time fire, chemical releases, or work done on the filters could alter their integrity, or after every 720 hours of charcoal adsorber use since the last test, to ensure that adequate flow rate exists.

If results of charcoal tests are unsatisfactory, two additional samples may be tested. If both of these tests are acceptable, the charcoal may be considered satisfactory for use in the plant. Should the charcoal of any of these air filtration systems fail to satisfy the test criteria outlined in this specification, the charcoal beds will be replaced with new charcoal which satisfies the requirements for new charcoal outlined in Regulatory Guide 1.52 (Revision June, 1978). The new charcoal adsorbers are tested in-place in accordance with the methods described in ANSI N510-1980 to verify that adequate removal capability exists. In addition, should the HEPA filters of any of these air filtration systems require replacement (complete or partial), the new HEPA filters are tested in-place in accordance with the methods described in ANSI N510-1980 to verify that adequate removal capability exists.

The hydrogen recombiner system is an engineered safety feature which would be used only following a loss-of-coolant accident to control the hydrogen evolved in the containment. The system is not expected to be started until approximately 12 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.[3] 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 bi-annual testing of the containment atmosphere sampling system will demonstrate the availability of this system.

4.6 EMERGENCY/AUXILIARY POWER SYSTEMS PERIODIC TESTS

Applicability

Applies to periodic testing and surveillance requirements of the emergency power systems and the auxiliary power systems.

Objective

To verify that the emergency power system will respond promptly and properly when required and that the auxiliary sources of electrical feed are available and operable.

Specification

The following tests and surveillance shall be performed as stated:

A. Diesel Generators

1. Each month each diesel generator shall be manually started and synchronized to its bus or buses and shall be allowed to assume the normal bus load and run for a period of time sufficient to reach stable operating temperatures.

2. At each refueling outage each diesel generator shall be manually started, synchronized and loaded up to its nameplate rating and run for a period of time sufficient to reach operating temperatures.

3. At each refueling outage to assure that each diesel generator will automatically start and assume the required load within 60 seconds after the initial start signal the following shall be accomplished by simulating a loss of all normal AC station service power supplies and simultaneously simulating a Safety Injection signal. Observations shall verify automatic start of each diesel generator, required bus load shedding and restoration to operation of particular vital equipment. To prevent Safety Injection flow to the core, certain safeguard valves will be closed and made inoperable.

4. Each diesel generator shall be inspected and maintained 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 operates as designed.

B. Station Batteries

1. Every 7 days each D.C. bus train shall be determined OPERABLE and energized with tie breakers open by verifying correct breaker alignment and indicated power availability with an acceptable battery terminal voltage.

2. Every month each battery bank and charger shall be tested to verify that:

   a. The electrolyte level of each designated pilot cell is above the minimum level indication mark.

   b. The specific gravity of each designated pilot cell, corrected for temperature and electrolyte level is acceptable.

   c. The float voltage of each designated pilot cell is acceptable.

   d. The total battery terminal voltage (while on float charge) is acceptable.

   e. There is no evidence of physical damage to the battery casing, rack, or connectors that could prevent the battery from performing its intended function in the intended manner.

f. The new data obtained, when compared to previously verified acceptable old data, are acceptable and that there are no signs of abuse or deterioration that would prevent the battery from performing its intended function in the intended manner.

3. Every 3 months each battery shall be subjected to a 24 hour equalizing charge and the following parameters measured, recorded, and compared with previously verified acceptable old data to detect signs of abuse or deterioration:

   a. The electrolyte level of each designated pilot cell.

   b. The specific gravity of each designated pilot cell.

   c. The temperature reading of every fifth cell.

   d. The total battery terminal voltage.

   e. The amount of water added.

4. Every refueling outage each battery shall be subjected to a visual inspection of the following components:

   a. Battery plates (to the extent possible).

   b. Battery racks.

   c. Cell-to-cell connections.

   d. Terminal connections.

5. Every refueling outage each battery shall be subjected to a performance discharge load test (including resistance measurements where applicable) to verify that the battery capacity is acceptable.

C. Auxiliary Electrical Systems

1. Every refueling outage it shall be demonstrated that:

   a. 6.9 kV buses 5 and 6 are capable of being energized from either 13.8 kV feeder (13W92 or 13W93).

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 and a 2000 HR rating of 1950 kw. Two diesels can power the minimum safeguards loads.

Station batteries will deteriorate with time, but precipitous failure is extremely unlikely. The surveillance specified is such that it will provide an indication of a cell becoming unserviceable long before it fails as well as operable bus train verification. 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, battery racks, cell-to-cell connections, and terminal connections 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. In addition, the refueling outage performance discharge test will further assure that the battery capacity is acceptable.

The tests specified for the Auxiliary Electrical Systems are designed to assure that the independent 13.8kv feed circuits to the plant are capable of providing power to the buses for operation of equipment. The testing frequency specified will be often enough to identify and correct any mechancial or electrical deficiency before it can result in a system failure.

Reference

FSAR, Section 8.2

3.5.4 In the event of instrumentation channel failure permitted by specification 3.5.2, the Minimum Degree of Redundancy listed in Tables 3.5-2 through 3.5-4 may be reduced by one, but to not less than zero, and the Minimum Number of Operable Channels listed in these tables may be reduced by one, but not to less than one (except as noted in Table 3.5-3) for a period of 8 hours while instrument channels are tested. The failed channel may be blocked to prevent an unnecessary reactor trip during this time. In the case of three loop operation, the out-of-service channel is permitted to be bypassed during the test period.

3.5.5 The low pressurizer pressure safety injection trip shall be unblocked when the pressurizer pressure is $\geq$ 2000 psig.

3.5.6 At least one source range and one intermediate range nuclear instrument channel shall be operable prior to reactor start-up.

3.5.7 When the reactor is not in the cold shutdown condition, the instrumentation requirements as stated in Table 3.5-5 shall be met.

3.5.8 Whenever the reactor is above the cold shutdown condition, the remote shutdown monitoring system instrumentation shown in Table 3.5-6 shall be operable with readouts displayed external to the control room in the locations specified. If more than one readout location exists for a particular instrument, indication is only required in one of those locations.

a. With the number of operable remote shutdown monitoring channels less than required by Table 3.5-6, either restore the inoperable channel to operable status within 30 days or bring the reactor to the hot shutdown condition utilizing normal operating procedures.

TABLE 3.5-6

REMOTE SHUTDOWN MONITORING INSTRUMENTATION

INSTRUMENT	READOUT LOCATION	MINIMUM CHANNELS OPERABLE
1. Pressurizer Pressure	55' El. PAB or 15' El. Aux. Boiler Feed Pump Bldg.	1
2. Pressurizer Level	55' El. PAB or 15' El. Aux. Boiler Feed Pump Bldg.	1
3. Steam Generator Pressure	15' El. Aux. Boiler Feed Pump Bldg.	1/Steam Generator
5. Steam Generator Level	15' El. Aux. Boiler Feed Pump Bldg.	1/Steam Generator

Almost all reactor protection channels are supplied with sufficient redundancy to provide the capability for channel calibration and test at power. Exceptions are backup channels such as reactor coolant pump breakers. The removal of one trip channel on process control equipment is accomplished by placing that channel bistable in a tripped mode; e.g., a two-out-of-three circuit becomes a one-out-of-two circuit. The nuclear instrumentation system channels are not intentionally placed in a tripped mode since the test signal is superimposed on the normal detector signal to test at power. Testing of the NIS power range channel requires: (a) bypassing the Dropped Rod protection from NIS, for the channel being tested; and (b) defeating the ΔT protection CHANNEL SET that is being fed from the NIS channel and (c) defeating the power mismatch section of Tavg control channels when the appropriate NIS channel is being tested. However, the Rod Position System and remaining NIS channels still provide the dropped-rod protection. Testing does not trip the system unless a trip condition exists in a concurrent channel.

In the event that either the specified Minimum Number of Operable Channels or the Minimum Degree of Redundancy cannot be met, the reactor and the remainder of the plant is placed, utilizing normal operating procedures, in that condition consistent with the loss of protection.

The source range and the intermediate range nuclear instrumentation and the turbine and steam-feedwater flow mismatch trip functions are not required to be operable since they were not used in the transient and safety analysis (FSAR Section 14).

Remote Shutdown Monitoring Instrumentation

Remote shutdown monitoring instrumentation is provided to permit and monitor shutdown of the facility from locations outside of the control room. This capability is required in the event control room habitability is lost.

References:

1) FSAR - Section 7.5
2) FSAR - Section 14.3
3) FSAR - Section 14.2.5

4.1 OPERATIONAL SAFETY REVIEW

Applicability

Applies to items directly related to safety limits and limiting conditions for operation.

Objective

To specify the minimum frequency and type of surveillance to be applied to plant equipment and conditions. Performance of any surveillance test outlined in these specifications is not required if the plant condition is the same as the condition into which the plant would be placed by an unsatisfactory result of that test.

Specification

A. Calibration, testing, and checking of analog channel and testing of logic channel shall be performed as specified in Table 4.1-1.

B. Sampling and equipment tests shall be conducted as specified in Table 4.1-2 and 4.1-3, respectively.

C. Checking and calibration of remote shutdown monitoring instrumentation shall be performed as specified in Table 4.1-4 for the locations specified in Table 3.5-6.

Basis

A surveillance test is intended to identify conditions in a plant that would lead to a degradation of reactor safety. Should a test reveal such a condition, then the Technical Specifications require that, either immediately or after a specified period of time, the plant be placed in a condition which mitigates or eliminates the consequences of additional related casualties or accidents. If the plant is already in a condition which would satisfy the failure criteria of the test, then plant safety is assured and performance of the test yields either meaningless information or information that is not necessary to determine safety limits or limiting conditions for operation of the plant.

TABLE 4.1-4

REMOTE SHUTDOWN MONITORING INSTRUMENTATION

INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION
1. Pressurizer Pressure	M	R
2. Pressurizer Level	M	R
3. Steam Generator Pressure	M	R
4. Steam Generator Level	M	R

Table 3.5-5 (Sheet 2 of 2)

	1	2	3
15) Level Sensors in Lower Level Of Turbine Building	2	1	Alarm
16) Reactor Coolant System Subcooling Margin Monitor	1	1	Recorder
17) PORV Position Indicator (Acoustic Monitor)	1/Valve	1/Valve	Indicator
18) PORV Position Indicator (Limit Switch)	1/Valve	1/Valve****	Indicator and Alarm
19) PORV Block Valve Position Indicator (Limit Switch)	1/Valve***	1/Valve	Indicator
20) Safety Valve Position Indicator (Acoustic Monitor)	1/Valve	1/Valve	Indicator
21) Auxiliary Feedwater Flow Rate	1/Pump	1/Pump	Indicator
22) Boric Acid Storage Tanks Levels	2/Tank	1/Tank	Indicator

* One level channel per steam generator (either wide range or narrow range) with at least two wide range channels.

** Columns 2 and 3 may be modified to allow the instrument channels to be inoperable for up to 7 days and/or the recorder to be inoperable for up to 14 days.

*** Except at times when valve operator control circuit is de-energized.

**** Except when the respective block valve is closed.

If the minimum number of channels required are not restored to meet the above requirements within the time periods specified, then:

1. 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.

2. 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.

3. In either case, if the requirements of Columns 2 and 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.

ATTACHMENT II

SAFETY EVALUATION
RELATED TO
PROPOSED TECHNICAL SPECIFICATION CHANGES

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

Section I - Description of Change

Certain Sections of those Technical Specifications previously deferred in the Authority's September 29, 1980 letter (IPN-80-89) are being amended to be consistent, where appropriate and where possible, with portions of the Westinghouse Standard Technical Specifications (W-STS), pursuant to the Commission's July 7, 1980 letter.

Section II - Evaluation of Changes

The purpose of these changes is to increase the conservatism of the subject Technical Specifications to be commensurate, where appropriate and where possible, with those of nuclear plants with the latest Westinghouse design as reflected in the W-STS.

The Authority has evaluated the specifications which were previously deferred in our September 29, 1980 letter (IPN-80-89) and which were not addressed in either our December 30, 1980 letter (IPN-80-118) or our July 6, 1983 letter (IPN-83-65) and has proposed T/S's accordingly. In some instances, exceptions have been taken to certain of the specific W-STS requirements for the T/S's proposed in order to minimize any unnecessary burden on IP-3 plant operations. In other cases, the Authority has determined that the current practices at IP-3 are sufficient to obviate the need for proposal of additional T/S's and that certain W-STS's are not appropriate for implementation at IP-3. Proposals of T/S's governing containment temperature during normal operations and chlorine detection have been deferred for reasons specified in Attachment A.

The Authority considers that the proposed changes can be classified as not likely to involve significant hazards considerations since the proposed changes "constitute an additional limitation, restriction, or control not presently included in the technical specifications". (Example (ii), Federal Register, Vol. 48, No. 67 dated April 6, 1983, page 14870).

Section III - Impact of Change

This change will not impact the following:

- ALARA Program
- Fire Protection Program
- Emergency Plan
- FSAR or SER Conclusions
- Overall Plant Operations

Section IV - Conclusion

The incorporation of these modifications: 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 basis for any Technical Specification; d) do not constitute an unreviewed safety question as defined in 10 CFR 50.59; e) involves no significant hazards considerations as defined in 10 CFR 50.92.

Section V - References

(a) IP-3 FSAR
(b) IP-3 SER