ATTACHMENT A

PROPOSED TECHNICAL SPECIFICATION CHANGES

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
INDIAN POINT UNIT NO. 2
DOCKET NO. 50-247
JULY, 1992

3.3 ENGINEERED SAFETY FEATURES

Applicability

Applies to the operating status of the Engineered Safety Features.

Objective

To define those limiting conditions for operation that are necessary (1) to remove decay heat from the core in emergency or normal shutdown situations, (2) to remove heat from containment in normal operating and emergency situations, (3) to remove airborne iodine from the containment atmosphere following a Design Basis Accident, (4) to minimize containment leakage to the environment subsequent to a Design Basis Accident.

Specifications

The following specifications apply except during low-temperature physics tests.

A. SAFETY INJECTION AND RESIDUAL HEAT REMOVAL SYSTEMS

1. The reactor shall not be made critical except for low-temperature physics tests, unless the following conditions are met:

   a. The refueling water storage tank contains not less than 345,000 gallons of water with a boron concentration of at least 2000 ppm.

   b. Deleted

   c. The four accumulators are pressurized to at least 615 psig and each contains a minimum of 775 ft^3 and a maximum of 815 ft^3 of water with a boron concentration of at least 2000 ppm. None of these four accumulators may be isolated.

Table 4.1

Minimum Frequencies for Checks, Calibrations and Tests of Instrument Channels

	Channel Description	Check	Calibrate	Test	Remarks
20.	Boric Acid Make-up Flow Channel	N.A.	R	N.A.	
21a.	Containment Sump and Recirculation Sump Level (Discrete)	S	R#	R#	Discrete Level Indication Systems.
21b.	Containment Sump, Recirculation Sump and Reactor Cavity Level (Continuous)	S	R#	R	Continuous Level Indication Systems.
21c.	Reactor Cavity Level Alarm	N.A.	R#	R#	Level Alarm System
21d.	Containment Sump Discharge Flow	S	R	M	Flow Monitor
21e.	Containment Fan Cooler Condensate Flow	S	R#	M*	
22a.	Accumulator Level	S	R#	N.A.	
22b.	Accumulator Pressure	S	R#	N.A.	
23.	Steam Line Pressure	S	R	Q	
24.	Turbine First Stage Pressure	S	R#	Q	
25.	Reactor Trip Logic Channel Testing	N.A.	N.A.	M[1]	
26.	Turbine Overspeed Protection Trip Channel (Electrical)	N.A.	R#	M	

* Monthly visual inspection of condensate weirs only.

Amendment No.

Table 4.1-1

Minimum Frequencies for Checks, Calibrations and Tests of Instrument Channels

	Channel Description	Check	Calibrate	Test	Remarks
	d. Trip of Main Feedwater Pumps	N.A.	N.A.	R	
31.	Reactor Coolant System Subcooling Margin Monitor	M	R	N.A.	
32.	PORV Position Indicator (Limit Switch)	M	R#	R#	
33.	PORV Block Valve Position Indicator (Limit Switch)	M*	R#	R#	
34.	Safety Valve Position Indicator (Acoustic Monitor)	M	R#	R#	
35.	Auxiliary Feedwater Flow Rate	M	R	R	
36.	PORV Actuation/ Reclosure Setpoints	N.A.	R#	N.A.	
37.	Overpressure Protection System (OPS)	N.A.	R#	**	

* Except when block valve operator is deenergized.

** Within 31 days prior to entering a condition in which OPS is required to be operable and at monthly intervals thereafter when OPS is required to be operable.

Table 4.1-3

Frequencies for Equipment Tests

		Check	Frequency	Maximum Time Between Tests
1.	Control Rods	Rod drop times of all control rods	Refueling # Interval	*
2.	Control Rods *	Movement of at least 10 steps in any one direction of all control rods	Every 31 days during reactor critical operations	
3.	Pressurizer Safety Valves	Setpoint	Refueling # Interval	*
4.	Main Steam Safety Valves	Setpoint	Refueling Interval	*
5.	Containment Isolation System	Automatic Actuation	Refueling Interval	*
6.	Refueling System Interlocks	Functioning	Each refueling shutdown prior to refueling operation	Not Applicable
7.	Diesel Fuel Supply	Fuel Inventory	Weekly	10 days
8.	Turbine Steam Stop Control Valves	Closure	Monthly**	45 days**
9.	Cable Tunnel Ventilation Fans	Functioning	Monthly	45 days

* See Specification 1.9.

** This test may be waived during end-of-cycle operation when reactor coolant boron concentration is equal to or less than 150 ppm, due to operational limitations.

F. REPORT OF TEST RESULTS

Each integrated leakage rate test shall be the subject of a summary technical report to be submitted to the Nuclear Regulatory Commission pursuant to Specification 6.9.2.a and in accordance with the requirements of Appendix J to 10 CFR 50, effective issue date March 16, 1973. Each report shall include leakage test results and a summary analyses of sensitive leak rate, air lock, and containment isolation valve tests performed since the previous integrated leakage rate test.

G. VISUAL INSPECTION

A detailed visual examination of the accessible interior and exterior surfaces of the containment structure and its components shall be performed at each Refueling Interval (#) and prior to any integrated leak test to uncover any evidence of deterioration which may affect either the containment structural integrity or leak-tightness. The discovery of any significant deterioration shall be accompanied by corrective actions in accord with acceptable procedures, non-destructive tests and inspections, and local testing where practical, prior to the conduct of any integrated leak test. Such repairs shall be reported as part of the test results.

H. RESIDUAL HEAT REMOVAL SYSTEM

1. Test

a. (1) The portion of the Residual Heat Removal System that is outside the containment shall be tested either by use in normal operation or hydrostatically tested at 350 psig at the interval specified below.

d. Verify that the mechanical stops on Valves 856 A, C, D and E are set at the position measured and recorded during the most recent ECCS operational flow test or flow tests performed in accordance with (c) above. This surveillance procedure shall be performed following any maintenance on these valves or their associated motor operators and at a convenient outage if the position of the mechanical stops has not been verified in the preceding three months.

B. CONTAINMENT SPRAY SYSTEM

1. System tests shall be performed at each reactor refueling interval. The tests shall be performed with the isolation valves in the spray supply lines at the containment and the spray additive tank isolation valves blocked closed. Operation of the system is initiated by tripping the normal actuation instrumentation.

2. The spray nozzles shall be tested for proper functioning at least every five years.

3. The test will be considered satisfactory if visual observations indicate all components have operated satisfactorily.

C. HYDROGEN RECOMBINER SYSTEM

1. A complete recombiner system test shall be performed at each Refueling Interval (#) on each unit. The test shall include verification of ignition and attainment of normal operating temperature.

2. A complete control system test shall be performed at intervals not greater than six months on each unit. The test shall consist of a complete dry run startup using artificially generated signals to simulate light off.

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

4. 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

Each air filtration unit specified in Specification 3.3.B shall be demonstrated to be operable:

1. At least once per 31 days by initiating, from the control room, flow through the HEPA filters and charcoal adsorbers and verifying that the unit operates for at least 15 minutes.

2. At least once every Refueling Interval (#), or (1) after any structural maintenance on the HEPA filters or charcoal adsorber housings, or (2) at any time painting, fire or chemical releases could alter filter integrity by:

   a. verifying a system flow rate at ambient conditions of 65,600 cfm ±10% during filtration unit operation when tested in accordance with ANSI N510-1975. Verify that the flow rate through the charcoal adsorbers is $\geq$ 8,000 cfm.

   b. verifying that the HEPA filters and/or charcoal adsorbers satisfy the in-place testing acceptance criteria and uses the test procedures of Regulatory Positions C.5.a and C.5.c of Regulatory Guide 1.52, Revision 2, March 1978, at ambient conditions and at a flow rate of 65,600 cfm ±10% for the HEPA filters.

   c. verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a (except for Position C.6.a(1)) of Regulatory Guide

March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a (except for Position C.6.a(1)) of Regulatory Guide 1.52, Revision 2, March 1978.

3. After every 720 hours of charcoal adsorber operation, by verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a (except for Position C.6.a(1)) of Regulatory Guide 1.52, Revision 2, March 1978.

4. At least once every Refueling Interval (#) by:

   a. Verifying that the pressure drop across the moisture separator and HEPA filters is less than 6 inches Water Gauge while operating the filtration unit at ambient conditions and at a flow rate of 65,600 cfm ±10%.

   b. Verifying that the unit starts automatically on a Safety Injection Test Signal.

5. After each complete or partial replacement of a HEPA filter bank, by verifying that the HEPA filter banks remove greater than or equal to 99% of the DOP when they are tested in-place in accordance with ANSI N510-1975 while operating the unit at ambient conditions and at a flow rate of 65,600 cfm ±10%.

6. After each complete or partial replacement of a charcoal adsorber bank, verify that the flow rate through the charcoal adsorbers is ≥8,000 cfm when the system is operating at ambient conditions and a flow rate of 65,600 cfm ±10% when tested in accordance with ANSI N510-1975.

6. After each complete or partial replacement of a charcoal adsorber bank, by verifying that the charcoal adsorbers remove greater than or equal to 99.95% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1975 while operating the system at ambient conditions and at a flow rate of 20,000 cfm ±10%.

G. POST-ACCIDENT CONTAINMENT VENTING SYSTEM

The post-accident containment venting system shall be demonstrated operable:

1. At least once every Refueling Interval, or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) at any time painting, fire or chemical releases could alter filter integrity by:

   a. verifying no flow blockage by passing flow through the filter system.

   b. verifying that the system satisfies the in-place testing acceptance criteria and uses the test procedures of Regulatory Positions C.5.a, C.5.c and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978, at ambient conditions and at a flow rate of 200 cfm ±10%.

   c. at Refueling Intervals (#), verify within 31 days after removal that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978.

2. After every 720 hours of charcoal adsorber operation, by verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978.

4.7 MAIN STEAM STOP VALVES

Applicability

Applies to periodic testing of the main steam stop valves.

Objective

To verify the ability of the main steam stop valves to close upon signal.

Specification

The main steam stop valves shall be tested at least once every Refueling Interval (#). Closure time of five seconds or less shall be verified.

Basis

The main steam stop valves serve to limit an excessive Reactor Coolant System cooldown rate and resultant reactivity insertion following a main steam break incident[(1)]. Their ability to close upon signal should be verified at each scheduled refueling shutdown. A closure time of five seconds was selected as being consistent with expected response time for instrumentation as detailed in the steam line break incident analysis[(2)].

References

(1) UFSAR - Section 10.4
(2) UFSAR - Section 14.2.5

4.12 SHOCK SUPPRESSORS (SNUBBERS)

Applicability

Applies to the inspection and testing of all hydraulic snubbers listed in Table 3.12-1.

Objective

To verify that snubbers will perform their design functions in the event of a seismic or other transient dynamic event.

Specifications

The following surveillance requirements apply to those snubbers listed in Table 3.12-1.

A. VISUAL INSPECTION

Snubbers whose seal material has been demonstrated by operating experience, laboratory testing, or analysis to be compatible with the operating environment shall be visually inspected to verify operability in accordance with the following schedule:

No. Inoperable Snubbers per Inspection Period	Next Required Visual Inspection Period
0	24 months ±25% #
1	16 months ±25% #
2	8 months ±25% #
3,4	164 days ±25% #
5,6,7	80 days ±25% #
≥8	40 days ±25% #

2. For the snubber(s) found inoperable, an engineering evaluation shall be performed on the components which are supported by the snubber(s). The purpose of this engineering evaluation shall be to determine if the components supported by the snubber(s) were adversely affected by the inoperability of the snubber(s) in order to ensure that the supported component remains capable of meeting its designed service.

3. If any snubber selected for functional testing either fails to lockup or fails to move, i.e., frozen in place, the cause will be evaluated, and if found to be caused by a manufacturer or design deficiency, all snubbers of the same manufacturer and model which are susceptible to the same defect and located in a similar environment shall be functionally tested. This testing requirement shall be independent of the requirements stated above for snubbers not meeting the functional test acceptance criteria.

C. FUNCTIONAL TEST ACCEPTANCE CRITERIA

The snubber functional test shall verify that:

1. Activation (restraining action) is achieved within the specified range of velocity or acceleration in both tension and compression.

2. Snubber bleed, or release rate, where required, is within the specified range in compression or tension. For snubbers specifically required to not displace under continuous load, the ability of the snubber to withstand load without displacement shall be verified.

D. RECORD OF SNUBBER SERVICE LIFE

A record of the service life of each snubber, the date at which the designated service life commences and the installation and maintenance records on which the designated service life is based shall be maintained as required by Specification 6.10.2.n. Concurrently with the first visual inspection and at least once during every Refueling Interval (#), the installation and maintenance records for each snubber listed in Table 3.12-1 shall be reviewed

h. <u>System Functional Test</u> R

Verification of proper automatic actuation of this system throughout its operating sequence.

i. <u>Main Fire Pump Capacity and System Flow Checks</u> R#

The motor-driven pumps shall be verified to have a capacity of at least 1500 gpm each at a net pressure of $\geq$ 93 psig. The diesel-driven pump shall be verified to have a capacity of at least 2500 gpm with a discharge pressure of $\geq$ 109 psig.

j. <u>Diesel Engine Inspection</u> R#

Subject the diesel to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for the class of service.

k. <u>Diesel Engine Functional Test</u> R

Verification that the diesel starts on the auto-start signal and operates for at least 30 minutes while loaded with the fire pump.

l. Diesel Engine Battery Inspection R#
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.

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:

Items	Frequency
a. 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. — R#

b. System Functional Test — R

Includes simulated automatic actuation of spray system and verification that automatic valves in the flow path actuate to their correct position.

c. Spray Header Visual Inspection — R

To verify integrity.

d. Visual Inspection of Each Spray Nozzle — R#

To verify no blockage.

e. Air Flow Test — once/3 years

Perform air flow test through each spray header and verify each spray nozzle is unobstructed.

2. The requirements of Specification 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 Refueling Interval (#) 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 Refueling Interval.

4.18 OVERPRESSURE PROTECTION SYSTEM

Applicability

This specification applies to the surveillance requirements for the OPS provided for prevention of RCS overpressurization.

Objective

To verify the operability of OPS.

Specifications

A. When the OPS PORVs are being used for overpressure protection as required by Specification 3.1.A.4, their associated series MOVs shall be verified to be open at least twice weekly with a maximum time between checks of 5 days.

B. When RCS venting is being used for overpressure protection as permitted by Specification 3.1.A.4, the vent(s) shall be verified to be open at least daily. When the venting pathway is provided with a valve which is locked, sealed, or otherwise secured in the open position, then only these valves need be verified to be open at monthly intervals.

C. When pressurizer pressure and level control is being used for overpressure protection, as permitted by Specification 3.1.A.4, then these parameters shall be verified to be within their limits at least once per shift.

D. When safety injection pumps and/or charging pumps are required to be de-energized per Specification 3.1.A.4, the pumps shall be demonstrated to be inoperable at monthly intervals by verifying lockout of the pump circuit breakers at the 480 volt switchgear, or once per shift if other means of de-energizing the pumps are used.

E. The PORV backup nitrogen system shall be demonstrated to be operable at Refueling Intervals (#).

4.20 REACTOR COOLANT SYSTEM VENTS

Applicability

Applies to the periodic testing requirements for the reactor coolant system vents at Refueling Intervals (#).

Objective

To verify the operability of the reactor coolant system vents and their ability to exhaust noncondensible gases from the primary system when required.

Specification

A. Each reactor coolant system vent shall be demonstrated operable at refueling intervals by verifying flow through the reactor coolant system vents during cold shutdown.

Basis

The requirement in Specification 4.20.A establishes the surveillance test to be performed at refueling intervals to verify the operability of the reactor coolant system vents. This qualitative flow test will verify that the vents identified in Specification 3.16.A will be available to exhaust gases from the primary coolant system by demonstrating that no blockage exists in the vent system paths.

The periodic testing required by the ASME Code Section XI for each valve in the vents is conducted as specified in the Indian Point Unit No. 2 Inservice Inspection and Testing Program and is therefore not included in these specifications.

ATTACHMENT B

SAFETY ASSESSMENTS

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
INDIAN POINT UNIT NO. 2
DOCKET NO. 50-247
JULY, 1992

SAFETY ASSESSMENT

MAIN STEAM STOP VALVES

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
INDIAN POINT UNIT NO. 2
DOCKET NO. 50-247
JULY, 1992

DESCRIPTION OF CHANGE

Technical Specification 4.7 specifies that the main steam stop valves be tested and that a closure time of five seconds or less be verified. Currently, the frequency is every 18 months (+25%). The proposed change in test frequency is to every 24 months(+25%). The proposed change is being made in accordance with the guidance in Generic Letter 91-04.

One of the actions necessary to protect against the consequences of a steam pipe rupture is the closing of main steam stop valves. Closing of the fast acting steam line stop valves (designed to close in less than 5 seconds) actuates on a High steam flow in any two steam lines (one out of two per line) in coincidence with either low reactor coolant system average temperature (two out of four) or low steam line pressure (two out of four) or two sets of two out of three high high containment pressure signals.

A rupture of a steam pipe is assumed to include any accident that results in an uncontrolled steam release from a steam generator. The release can occur as a result of a break in a pipe line or a valve malfunction. The steam release results in an initial increase in steam flow which decreases during the accident as the steam pressure falls. The removal of energy from the reactor coolant system causes a reduction of coolant temperature and pressure. With a negative moderator temperature coefficient, the cooldown results in a reduction of core shutdown margin. If the most reactive control rod is assumed to be stuck in its fully withdrawn position, there is a possibility that the core may become critical and return to power even with the remaining control rods inserted. A return to power following a steam pipe rupture is a potential problem only because of the high hot channel factors that may exist when the most reactive rod is assumed stuck in its fully withdrawn position. Even if the most pessimistic combination of circumstances that could lead to power generation following a steam line break was assumed, the core is ultimately shut down by the boric acid in the safety injection system.

Each steam line has a fast closing stop valve and a check valve. These eight valves prevent blowdown of more than one steam generator for any break location even if one valve fails to close. For example, for a break upstream of the stop valve in one line, a closure of either the check valve in that line or the stop valves in the other lines will prevent blowdown of the other steam generators.

Summarized, the main steam stop valves serve to limit an excessive Reactor Coolant System cooldown rate and resultant reactivity insertion following a main steam break incident. Their ability to close upon signal must be verified at each scheduled refueling shutdown. A closure time of five seconds was assumed in the steam line break incident analysis.

Tests of the main steam stop valves (PT-V24E) performed from 3/4/86 and 4/4/92 were reviewed (21 tests). Each test found that the stop valves (MS-1-21, MS-1-22, MS-1-23, MS-1-24) closed in less than 5 seconds and opened in less than 20 seconds consequently, performing satisfactorily.

Since all of the tests reviewed found that the main steam stop valves performed satisfactorily, if can be concluded that performance of these valves for this extended period of time (over six years) combined with the backup of the check valves down stream of the stop valves, supports an extension of this surveillance from eighteen to twenty four months.

BASIS FOR NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The proposed change does not involve a significant hazards consideration since:

1. There is no significant increase in the probability or consequences of an accident.

   In all of the tests examined, the main steam stop valves performed acceptably. For an operating cycle that has been extended several months, no degradation mechanism has been identified which would change the results of these previous tests. There is minimal risk that the valves would not perform acceptably over an extended cycle.

2. The possibility of a new or different kind of accident from any previously analyzed has not been created.

   Past tests provide reasonable confidence that the main steam stop valves will perform in an acceptable manner for an extended operating cycle. In addition, redundancy exists which prevents the blowdown of more than one steam generator even if one valve fails to close. Thus, it is concluded that the plant will perform within its design basis for an extended operating cycle.

3. There has been no reduction in the margin of safety.

   Based upon reliability demonstrated by past surveillance testing and redundancy there is minimal impact upon the margin of safety by extending the surveillance cycle to a maximum of 30 months.

SAFETY ASSESSMENT

OVER PRESSURE PROTECTION SYSTEM

BACKUP NITROGEN SYSTEM

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
INDIAN POINT UNIT NO. 2
DOCKET NO. 50-247
JULY, 1992

DESCRIPTION OF CHANGE

Technical Specification 4.18.E specifies the surveillance interval for testing of the nitrogen backup system for the Reactor Coolant System (RCS). Currently this interval is each refueling which corresponds to 18 months (+25%). It is proposed to change this interval to 24 months (+25%). This change is being made in accordance with the guidance contained in Generic Letter 91-04.

An overpressure protection system was installed to prevent reactor coolant system pressure from exceeding the 10 CFR 50, Appendix G curves. This system incorporates the power-operated relief valves which will automatically open to prevent the reactor pressure vessel pressure from exceeding the Appendix G limits when the reactor coolant temperature is between 0°F and 305°F (for up to 16 effective full power years) and there is a pressure excursion over the setpoint. (Between 0°F and 305°F, the power-operated relief valve isolation motor-operated valves will be in the open position.)

A nitrogen system was installed for actuation of the power-operated relief valves. The nitrogen system will ensure that the required actuation pressure of each of the power-operated relief valves will be available even in the event of complete loss of makeup nitrogen.

The instrument nitrogen system for the power-operated relief valves is tapped from the nitrogen supply line to the emergency core cooling system accumulators. The supply pressure to the power-operated relief valves is reduced to 100 psig by pressure regulator valves. The instrument nitrogen system includes accumulators individually holding 6 cubic feet of nitrogen at a minimum of 650 psig. In case the nitrogen supply from the main nitrogen supply is lost, these accumulators can provide a minimum of 200 cycles (full open/close) of the power operated relief valve operation.

Completed test procedures, were reviewed from the last two refuelings. The test procedure involving operability of the backup nitrogen system was reviewed, and no deficiencies were noted.

This system is a static, standby system which is not required for proper operation of the Overpressure Protection System except in the event of a completed loss of makeup nitrogen. It is inherently reliable by design, as is the makeup nitrogen system. Loss of both the makeup nitrogen system and the backup nitrogen system simultaneous with a need for the Overpressure Protection System is an incredible event. Therefore, extension of the interval between operational tests to 24 months would have little affect on safety.

BASIS FOR NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The proposed change does not involve a significant hazards consideration since:

1. There is no significant increase in the probability or consequences of an accident.

   In addition to the surveillance test performed at refueling intervals, Section 3.1.A.4 requires that the OPS be operable whenever RCS temperature is equal to or less than 305°F subject to other limitations. The determination of operability is by test. Under these circumstances it is highly unlikely that both the normal OPS system and the backup would fail.

2. The possibility of a new or different kind of accident from any previously analyzed has not been created.

   The primary overpressure protection system is a kept in standby during normal operation and is not required except when the plant is preceding to cold shutdown. By its design, the primary nitrogen system is inherently reliable. The backup nitrogen system has similar characteristics. Loss of both systems at the same time is considered highly unlikely.

3. There has been no reduction in the margin of safety.

   Due to the reliability of the primary and backup nitrogen systems and the requirement to determine operability of the primary system by test just prior to use, it is not believed that the margin of safety is significantly compromised by extending the surveillance interval for the backup nitrogen system.

SAFETY ASSESSMENT

MAIN FIRE PUMP CAPACITY

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
INDIAN POINT UNIT NO. 2
DOCKET NO. 50-247
JULY, 1992

DESCRIPTION OF CHANGE

Technical Specification 4.14.A.1.i specifies, in part, that capacity of the motor driven pumps be verified. Currently, the frequency is every 18 months (+25%). The proposed change in test frequency is to every 24 months (+25%). The proposed change is being made in accordance with the guidance in Generic Letter 91-04.

Fire protection and detection systems are provided to protect equipment required for the safe shutdown of the unit. These systems are periodically tested and inspected in accordance with the surveillance program to assure their operability and to identify for corrective action any conditions which could prevent any portion of those systems from performing its intended function. One of these systems is the High Pressure Water Fire Protection System. This system supplies water for fire protection to main headers which in turn supply high pressure hydrants, sprinklers, hose reels, etc. An essential part of the High Pressure Water Fire Protection System is the diesel driven fire pump and the two main motor driven fire pumps. The motor driven pumps (main fire pumps) start automatically on low header pressure signals and provide a supply of water to the High Pressure Water Fire Protection System.

An annual main fire pump automatic start, capacity check and system flow check is performed in accordance with PT-A23, Main Fire Pump Capacity to ensure that an operational readiness condition is maintained at all times.

All test procedures from 10/10/88 through the last refueling were reviewed. This encompassed three complete tests and two partial tests. In all cases the tests were satisfactory. No deficiencies were noted which would affect the operability of the system.

This system is a static system which is normally not required to operate. The main fire pumps are on standby and normally are not operated except for testing. The tests and inspections verify system integrity and continued operability in the unlikely event that it is needed. In addition to the tests performed every refueling, the main fire pumps are operated for at least 15 minutes on a monthly interval.

The refueling surveillance serves to detect slow degradation of the pump due to normal wear. The monthly pump run would detect massive pump degradation. Based on this, extensions of the test interval for PT-A23 to a 24 month refueling interval would have little affect on the reliability of the main fire pumps.

BASIS FOR NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The proposed change does not involve a significant hazards consideration since:

1. There is no significant increase in the probability or consequences of an accident.

   The system is in standby status during plant operation except for test periods which are of limited duration. Periodic tests confirm continued pump operability. Accordingly little wear is induced on the pumps and their capacity is expected to be unaffected by a longer plant operating cycle.

2. The possibility of a new or different kind of accident from any previously analyzed has not been created.

   Extension of the plant operating cycle will primarily extend the time spent by the pumps in standby service which will have no affect upon pump capacity.

3. There has been no reduction in the margin of safety.

   As the pump capacity is expected to be unaffected by a longer plant operating cycle there will be no impact upon the margin of safety.

SAFETY ASSESSMENT

EMERGENCY FIRE PUMP DIESEL PREVENTIVE MAINTENANCE

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
INDIAN POINT UNIT NO. 2
DOCKET NO. 50-247
JULY, 1992

DESCRIPTION OF CHANGE

Technical Specification 4.14.A.1.j specifies the frequency for an inspection of the Emergency Fire Pump Diesel. Currently the frequency is every 18 months (+25%). The proposed change in frequency is to every 24 months (+25%). The proposed change is being made in accordance with the guidance contained in Generic Letter 91-04

Fire protection and detection systems are provided to protect equipment required for the safe shutdown of the unit. These systems are periodically tested and inspected in accordance with the surveillance program to assure their operability and to identify for corrective action any conditions which would prevent any portion of those systems from performing its intended function. One of these systems is the High Pressure Water Fire Protection System. This system supplies water for fire protection to main headers which in turn supply high pressure hydrants, sprinklers, hose reels, etc. An essential part of the High Pressure Water Fire Protection System is the diesel driven fire pump and the two main motor driven fire pumps. The diesel pump starts automatically on a low header pressure signal or a loss of outside power and provides a supply of water to the High Pressure Water Fire Protection System.

Weekly and monthly tests are performed on the diesel driven fire pump to ensure that it is maintained in an operational readiness conditions at all times. Preventive maintenance is performed on the diesel driven annually (required at refueling intervals) using PM-23.3, Emergency Fire Pump Diesel Preventive Maintenance.

PM-23.3 is not a test in the strictest sense. It is a preventive maintenance procedure which complies with the Technical Specification. It provides instructions for the inspection/replacement of engine fluids, filters, hoses and belts. Mechanical linkages and bearings are lubricated. Oil and filters are changed each time the procedure is performed. Belts and hoses are changed at the first signs of deterioration.

Three recent work orders used to perform PM-23.3 were reviewed. None of them indicated abnormal conditions outside the scope of the procedure.

This system is a static system which is normally not required to operate. The diesel fire pumps are on standby, and normally are not operated except for testing. The tests and inspections verify system integrity and continued operability in the unlikely event that it is needed. Because of this, the preventive maintenance performed is a precautionary measure and not required due to hours operated. In addition to the performance of PM-23.3 at refueling intervals, the diesel is started and operated for at least 30 minutes once per month to provide additional assurance of system operability.

Since operability is tested on a monthly basis, and since the diesel usage is limited, extension of the preventive maintenance interval from 18 months to 24 months for this test would have little affect on operability of the diesel driven fire pump.

BASIS FOR NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The proposed change does not involve a significant hazards consideration since:

1. There is no significant increase in the probability or consequences of an accident.

   Except for periodic testing, the diesel is in a standby state and not subject to operational stress. Periodic testing imposes limited wear as evidenced by the absence of major repairs during past maintenance. Extension of the operating cycle for several months is expected to have vitally no impact upon diesel operability. Monthly testing would detect any degradation.

2. The possibility of a new or different kind of accident from any previously analyzed has not been created.

   Extension of the surveillance interval by several months is expected to have no impact on operability of the diesel. Monthly tests will serve to confirm operability during this period.

3. There has been no reduction in the margin of safety.

   As there is expected to be no impact upon diesel operability, no impact upon the margin of safety is expected.

SAFETY ASSESSMENT

STEAM DRIVEN AUXILIARY BOILER FEED PUMP

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
INDIAN POINT UNIT NO. 2
DOCKET NO. 50-247
JULY, 1992

DESCRIPTION OF CHANGE

Technical Specification 4.8.A.2 requires verification that each auxiliary feedwater pump is capable of delivering full flow to the steam generators. Currently, the frequency for this surveillance is every 18 months (+25%). The proposed change in surveillance interval is to every 24 months (+25%). This proposed change addresses only the turbine driven pump.

The Auxiliary Feedwater System supplies high pressure feedwater to the steam generators to maintain water inventory for decay heat removal. The system is used for normal startup and shutdown as well as for events leading to a loss of main feedwater.

The system consists of three pumps divided into two separate systems. The first system includes a turbine driven pump capable of supplying twice the required auxiliary feedwater to all four steam generators. The second system includes two motor driven pumps, each capable of supplying the required auxiliary feedwater to two steam generators. Testing of Auxiliary Feedwater System components is provided to verify the operability of the system. The test procedures reviewed pertains only to the steam driven pump its associated valves.

Completed test procedures were reviewed from the last four refuelings. These tests spanned a period in excess of five years. In all cases, the turbine pump head data were compared to the Estimated Performance Characteristic curve for the pump. In all cases, the net normalized head was well within the maximum allowed deviation of 100 feet. No signs of degradation could be seen from the data.

The review of the procedures also revealed that there were no failures of any of the ten check valves tested during the four refuelings.

EVALUATION AND CONCLUSION

The steam driven auxiliary feedwater pump is required to have a performance test performed at least quarterly to satisfy Section XI of the ASME Code. This test program would detect either pump degradation or check valve failure. It would also detect pump degradation before the surveillance at the refueling interval. The refueling surveillance serves to detect degradation due to normal wear. Based on this, extension of the test interval from an 18 month refueling interval to a 24 month refueling interval would have little affect on the reliability of the auxiliary feedwater pump and check valves.

BASIS FOR NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The proposed change does not involve a significant hazards consideration since:

1. There is no significant increase in the probability or consequences of an accident.

   Past test data indicates a highly reliable system with no deficiencies noted in four surveillances. In addition, there is an ASME Section XI quarterly test which would monitor pump performance during the extended operating cycle. There is sufficient confidence that the turbine driven pump would perform adequately during the extended operating cycle. There is also the added assurance provided by the quarterly ASME Section XI test.

2. The possibility of a new or different kind of accident from any previously analyzed has not been created.

   Given the high reliability of the turbine driven auxiliary feedwater pump, monitoring provided by the ASME Section XI test and the redundant diverse motor driven auxiliary feedwater pumps there is sufficient assurance that a new type, or different kind of accident, will not be introduced.

3. There has been no reduction in the margin of safety.

   Due to the high reliability of turbine driven pump, the alternate motor driven pumps and other periodic means of monitoring pump operability, the margin of safety has not been compromised.

SAFETY ASSESSMENT

FIRE HOSE STATION

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
INDIAN POINT UNIT NO. 2
DOCKET NO. 50-247
JULY, 1992

DESCRIPTION OF CHANGE

Technical Specification 4.14.E.1.C specifies the surveillance requirements for interior fire hoses. Currently, the frequency is every 18 months (+25%). The proposed change in frequency of testing is to every 24 months (+25%). The proposed change is being made in accordance with the guidance contained in Generic Letter 91-04.

Fire protection and detection systems are provided to protect equipment required for the safe shutdown of the unit. These systems are periodically tested and inspected in accordance with the surveillance program to assure their operability and to identify for corrective action any conditions which could prevent any portion of those systems from performing its intended function. One of these systems is the High Pressure Water Fire Protection System. This system supplies water from fire protection to main headers which in turn supply high pressure hydrants, sprinklers, hose reels, etc. Hose reels are subject to inspections every 18 months for interior fire hoses. This inspection checks hose gaskets and replaces any which are degraded.

Completed test reports for the last four years were reviewed, and no coupling gaskets were found degraded.

This system is a static system which is normally not required to operate. The tests and inspections verify system integrity and continued operability in the unlikely event that it is needed.

Extension of the refueling interval from 18 months to 24 months for this surveillance would have little affect on system reliability since the gaskets have shown no degradation over a four year period. Therefore, increasing the time interval between inspections would have no significant affect on safety.

BASIS FOR NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The proposed change does not involve a significant hazards consideration since:

1. There is no increase in the probability or consequences of an accident.

   The system is normally not required to operate and during the operating period is in standby. It is not subject to operating conditions during their period. Extending the plant operating period by several months is not expected to result in any accelerated degradation mechanism.

2. The possibility of a new or different kind of accident from any previously analyzed has not been created.

   Past surveillance tests have not indicated any degradation mechanism which would be expected to render the hose system inoperable if its term in standby were extended several months.

3. There has been no significant reduction in the margin of safety.

   Past test data confirm that the hoses are reliable when inspected on an 18 month basis. Extending the surveillance interval by several months is expected to have minimal impact on the hoses.

SAFETY ASSESSMENT

CONTAINMENT AIR FILTRATION SYSTEM

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
INDIAN POINT UNIT NO. 2
DOCKET NO. 50-247
JULY, 1992

DESCRIPTION OF CHANGE

Technical Specification 4.5.D states the surveillance testing requirements for the Containment Air Filtration System. Specifically, Technical Specification 4.5.D.2.a, b & c require a system flow test, HEPA filter/charcoal testing and a charcoal sampling/analysis respectively. Technical Specification 4.5.D.4 requires a pressure drop test across the moisture separator and HEPA filter as well as verification of autostart of the filtration unit upon a Safety Injection signal. Currently, the frequency, absent certain other conditions, is every 18 months (+25%). The proposed change in test frequency is to every 24 months (+25%). The proposed change is being made in accordance with the guidance contained in Generic Letter 91-04.

Adequate heat removal capability for the containment is provided by two separate, full capacity, engineered safety feature systems. These are the containment spray system and the containment air recirculation cooling and filtration system. These diverse systems are of different engineering principles and service as independent backups for each other.

The containment air recirculation cooling and filtration system is designed to recirculate and cool the containment atmosphere in the event of a loss-of-coolant accident. Although the water in the core after a loss-of-coolant accident is quickly subcooled by the safety injection system, the containment air recirculation cooling and filtration system is designed on the conservative assumption that the core residual heat is released to the containment as steam. The containment air recirculation cooling and filtration system provides the design heat removal capacity and the design iodine removal capacity for the containment following a loss-of-coolant accident using this assumption. The system accomplishes its design function by continuously recirculating the air-steam mixture through cooling coils and activated charcoal filters.

The containment air recirculation cooling and filtration system consists of five 20% capacity air handling units, each including motor, fan, cooling coils, moisture separators, roughing filters and HEPA filters, duct distribution system, instrumentation, and controls. The units are located on the intermediate floor of the containment between the containment wall and the primary compartment shield walls. In addition, each of the five air-handling units is equipped with an activated charcoal filter unit, normally isolated from the main air recirculation stream. The air flow (air steam mixture) is bypassed through the charcoal filter units to remove volatile iodine following an accident.

Any of the following combinations of equipment will provide sufficient heat removal capability to maintain the post accident containment pressure below the design value, assuming that the core residual heat is released to containment as steam:

1. All five containment cooling fans.

2. Both containment spray pumps (and one of the two spray valves in the recirculation path).

3. Three of the five containment cooling fans and one containment spray pump.

The containment air recirculation cooling and filtration system is periodically tested in compliance with the Engineered Safety Features Technical Specifications. Part of this testing is performed at a refueling interval and after filter replacement verifying flow rates and HEPA filter efficiencies.

In addition to the above, the same testing is imposed after any structural maintenance on the HEPA filter or charcoal housing, or at any time fire or chemical releases could alter filter integrity.

Data from three completed tests and the statements concerning one lost test were reviewed covering all tests performed during the last four refuelings. In all cases, the operational acceptance criteria were met. No deficiencies were found which affected the operability of the units.

Containment heat removal after an accident is achieved by the operation of two diverse systems, both of which are designed with redundant trains. The containment air recirculation cooling and filtration system is one of these systems. In addition to the testing performed every refueling, the containment air recirculation cooling and filtration system is operationally tested on a 31 day interval to provide assurance of operability. It is also tested after replacement of filters or charcoal absorbers.

Based on the above, extension of the surveillance interval from 18 months to 24 months for this test would have little affect on the ability of fan coolers units to effectively perform their required function following a LOCA.

Generic Letter 91-04, <u>Changes in Technical Specification Surveillance Intervals to Accommodate a 24 Month Fuel Cycle</u>, requires confirmation that historical maintenance and surveillance data do not invalidate this conclusion. Since no failures which would affect the operability of the units were found during the tests performed in the last four refuelings, the historical data supports the conclusion that safety will not be compromised by extending the interval between tests to 24 months with a maximum of 30 months.

BASIS FOR NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The proposed change does not involve a significant hazards consideration since:

1. There is no increase in the probability or consequences of an accident.

   Except for the fans, the HEPA filter/charcoal bank is in standby status during normal operation and is not subjected to operational stress. In addition, every 31 days flow is initiated through the unit and maintained for 15 minutes for the purpose of detecting abnormalities. This periodic test would detect any unit degradation during the extended operating interval. Adequate monitoring by this test as well as good past performance virtually assures adequate performance of the unit in an extended operation cycle.

2. The possibility of a new or different kind of accident from any analyzed has not been created.

   Due to the factors enumerated in (1) above, the capability of the Containment Fan Cooler System to perform its intended safety function in an extended operating cycle in virtually assured. In addition due to the design of the systems for Containment Heat Removal, defense in depth exists due to the multiple combination of components which can perform this function.

3. There has been no significant reduction in the margin of safety.

   Due to the proven reliability based on past test data, the defense-in-depth design of the Containment heat removal system and periodic testing the margin of safety is essentially unchanged by the proposed change in surveillance testing.

SAFETY ASSESSMENT

REACTOR CAVITY LEVEL ALARM SYSTEM

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
INDIAN POINT UNIT NO. 2
DOCKET NO. 50-247
JULY, 1992

DESCRIPTION OF CHANGE

Technical Specification Table 4.1-1, item 21c, requires that the level alarm system for the reactor cavity sump be calibrated and tested at refueling intervals. Currently, the frequency is every 18 months (+25%). The proposed change in frequency of testing is to every 24 months (+25%). The change is being proposed in accordance with the guidance contained in Generic Letter 91-04.

Several sumps are provided inside containment to collect and control water from leakage, spills, or accident conditions. One of these sumps is the reactor cavity sump. The level in the reactor cavity sump is controlled through the action of two reactor cavity sumps pumps which pump to the containment sump any water that might have leaked into the reactor cavity sump. The system is designed primarily for usage during refueling/ maintenance outages. Two alarms indicating high and high-high level, respectively, are located in the central control room and receive their signals from two independent level switches. A continuous level monitor is also provided for wide range level indication within the reactor cavity sump.

Completed test procedures were reviewed from the last four refuelings. These tests spanned a period in excess of five years. All alarms operated as required in the 1986 and 1987 tests. In the 1989 test, the high level alarm responded but did not clear. In the 1991 test, the alarms came in outside the tolerance specified by the procedure. It was determined that the procedure was wrong, a temporary procedure change was written, and the alarms were determined to be satisfactory.

These level switches and associated alarm circuits are generally reliable devices. Redundancy exists since the high level alarm and the high-high level alarms are independent. The one deviation noted over the last five years was in a conservative direction and was independent of the interval between tests. Therefore, based on the redundancy and the reliability of the system, extension of the surveillance interval from 18 months to 24 months would have little affect on the reliability of the alarms.

BASIS FOR NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The proposed change does not involve a significant hazards consideration since:

1. There is no significant increase in the probability or consequences of an accident.

   The level switches and associated alarm circuits have proven to be generally reliable devices. Only one departure from the norm was observed over the past five years and it was in the conservative direction. The alarm occurred when required but did not clear. This deviation is considered independent of time and would have occurred regardless of the interval between tests. Extension of the surveillance interval is expected to have minimal impact on performance of the monitoring system.

2. The possibility of a new or different kind of accident from any previously analyzed has not been created.

   The reactor cavity sump monitoring system is considered highly reliable based on past performance. In addition the system is redundant. Thus, it is considered highly likely that the system will perform in the extended surveillance interval.

3. There has been no significant reduction in the margin of safety.

   As it is considered highly likely that the monitoring system will perform its intended safety function during the extended surveillance interval, the impact upon the margin of safety is minimal.

SAFETY ASSESSMENT

DIESEL DRIVEN FIRE PUMPS

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
INDIAN POINT UNIT NO. 2
DOCKET NO. 50-247
JULY, 1992

DESCRIPTION OF CHANGE

Technical Specification 4.14.A.1.i specifies that the diesel driven pump shall be verified to have a capacity of at least 2500 gpm with a discharge pressure of equal or greater than 109 psig. Currently, the surveillance frequency is every 18 months (+25%). The proposed change in test frequency is to every 24 months (+25%). The proposed change is being made in accordance with the guidance contained in Generic Letter 91-04.

Fire protection and detection systems are provided to protect equipment required for the safe shutdown of the unit. These systems are periodically tested and inspected in accordance with the surveillance program to assure their operability and to identify for corrective action any conditions which could prevent any portion of those systems from performing its intended function. One of these systems is the High Pressure Fire Protection System. This system supplies water for fire protection to main headers which in turn supply high pressure hydrants, sprinklers, hose reels, etc. An essential part of the High Pressure Water Fire Protection System is the diesel driven fire pumps and the two main motor driven fire pumps. The diesel pump starts automatically on a low header pressure signal or a loss of outside power and provides a supply of water to the High Pressure Water Fire Protection System.

Weekly and monthly tests are performed on the diesel driven fire pump to ensure that it is maintained in an operational readiness condition at all times.

Completed test reports since 1/91 were reviewed, and it was found that all results were satisfactory. No deficiencies were found. Additionally, the significant occurrence database was queried for the time period beginning 1/1/86, with only one deficiency found involving the functionality of the diesel driven fire pump.

The High Pressure Water Fire Protection System is a static system which is normally not required to operate. The diesel fire pump is on standby, and normally not operated except for testing. The tests and inspections verify system integrity and continued operability in the unlikely event that it is needed.

BASIS FOR NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The proposed change does not involve a significant hazards consideration since:

1. There is no significant increase in the probability or consequences of an accident.

   Past testing of the diesel driven pumps has established an excellent reliability record. In addition a search of written reports indicates only one deficiency. From a reliability viewpoint, safety will not be compromised by extending the surveillance interval.

2. The possibility of a new or different kind of accident from any previously analyzed has not been created.

   In addition to demonstrated reliability, the system is a static system which is subjected to minimal wear during test periods. Under these circumstances the pump can be relied upon to perform its function for an operating cycle extended to 30 months.

3. There has been no reduction in the margin of safety.

   In addition to the above points monthly testing is conducted which would detect any degradation in the extended operating cycle. If there is a mode of degradation it is expected to be gradual and not catastrophic permitting corrective action prior to unacceptable pump performance.

SAFETY ASSESSMENT

DIESEL FIRE PUMP BATTERIES

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
INDIAN POINT UNIT NO. 2
DOCKET NO. 50-247
JULY, 1992

DESCRIPTION OF CHANGE

Technical Specification 4.14.A.1.1 requires verification that the batteries and battery racks show no visual indication of physical damage or deterioration. Currently, this inspection is performed every 18 months (+25%). The proposed change in test frequency is to every 24 months (+25%). The proposed change is being made in accordance with the guidance in Generic Letter 91-04.

Fire protection and detection systems are provided to protect equipment required for the safe shutdown of the unit. These systems are periodically tested and inspected in accordance with the surveillance program to assure their operability and to identify for corrective action any conditions which could prevent any portion of those systems from performing its intended function. One of these systems is the High Pressure Water Fire Protection System. This system supplies water for fire protection to main headers which in turn supply high pressure hydrants, sprinklers, hose reels, etc. An essential part of the High Pressure Water Fire Protection System is the diesel-driven fire pump and the two main motor driven fire pumps. The diesel pump starts automatically on a low header pressure signal or a loss of outside power and provides a supply of water to the High Pressure Water Fire Protection System.

Weekly and monthly tests are performed on the diesel driven fire pump to ensure that it is maintained in an operational readiness condition at all times. The weekly test starts and operates the diesel fire pump and conducts the weekly surveillance on the diesel fire pump batteries.

Completed test reports from January, 1991 though April, 1992 were reviewed, and it was found that all results were satisfactory. No deficiencies were found. Additionally, the plant database was queried against the test procedure and no deficiencies involving the batteries were found.

The High Pressure Water Fire Protection System is a static system which is normally not required to operate. The diesel fire pump is on standby, and normally not operated except for testing. The tests and inspections verify system integrity and continued operability in the unlikely event that it is needed.

BASIS FOR NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The proposed change does not involve a significant hazards consideration since:

1. There is no significant increase in the probability or consequences of an accident.

   Inspection of the batteries on a weekly, monthly and refueling interval provides adequate assurance that the batteries are maintained in a continuous operable status. Extending the refueling interval inspection for the batteries to 24 months (+25%) is expected to have no impact upon the performance of the batteries.

SAFETY ASSESSMENT

HYDROGEN RECOMBINERS

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
INDIAN POINT UNIT NO. 2
DOCKET NO. 50-247
JULY, 1992

DESCRIPTION OF CHANGE

Technical Specification 4.5.C.1 specifies that a complete recombiner system test shall be performed at each normal reactor refueling on each of two recombiners. Currently, the frequency is every 18 months (+25%). The proposed change in frequency of testing is to every 24 months (+25%). The proposed change is being made in accordance with the guidance contained in Generic Letter 91-04.

Two full rated flame hydrogen recombiner systems are located inside containment for post accident hydrogen control. Each recombiner is capable of maintaining the ambient hydrogen concentration at or below 2 volume percent. Each system consists of an air supply blower, a combustion chamber complete with main hydrogen burner, two igniters (one is a spare), a pilot hydrogen burner, a diluent chamber, and associated monitoring and control instrumentation.

The flame recombiner systems are located on the operating floor in the southeast and southwest quadrants approximately 90 degrees apart. Two control stations are located outside containment in the fan house. Containment air is directed to the recombiners from both the main ventilation ring header and ambient air at the recombiner blower suction. This arrangement ensures a moving, well-mixed air stream at all times to the recombiner blower suction, which delivers the containment air to the combustor.

After installation, the system was tested by operating the combustor. At that time, the damper position and blower differential pressure setpoint were established, combustor temperature confirmed, igniter operation confirmed, and control panel and gas valve stand operation confirmed. An operational test is performed every refueling.

Data from four surveillance tests conducted at refueling intervals was reviewed. In all instances the operability criteria were met.

The post accident containment venting system is a diverse system to the hydrogen recombiners. The technical specifications allow one recombiner to be inoperable for up to thirty days, provided that the other recombiner unit and the post accident containment venting system are operable. In addition to the complete recombiner system test performed every refueling, a fan test is performed every two months and a control system test is performed every six months to provide additional assurance of system operability.

Based on the redundancy of the system, the high reliability of hydrogen recombiners, the existence of a diverse system, and the testing performed between refuelings, extension of the surveillance interval from 18 months to 24 months for this test would have little affect on the ability to dispose of hydrogen after an accident.

BASIS FOR NO SIGNIFICANT HAZARDS CONSIDERATION

The proposed change does not involve a significant hazards consideration since:

1. There is no significant increase in the probability or consequences of an accident.

   Past test data indicates that the Recombiners are highly reliable. Absent an emergency, the Recombiners are in a standby condition with no operational stresses. Extension of the surveillance interval would only lengthen the time spent at standby. Under these circumstances it is considered highly likely that the recombiners would perform their intended function if called upon during the extended standby interval.

2. The possibility of a new or different kind of accident from any previously analyzed.

   In addition to being a proven reliable system, the recombiner system is redundant and provides a diverse means of controlling hydrogen build-up post accident to the Containment Vent System. Thus the extended surveillance interval is considered to have no affect on hydrogen control.

3. There has been no significant reduction in the margin of safety.

   In addition to the above points testing is performed every two months on the fans and six months on controls. This provides added assurance that the recombiner system would function if called upon during the extended interval.

SAFETY ASSESSMENT

FAN COOLER UNITS - CHARCOAL
POST ACCIDENT CONTAINMENT AIR VENT - CHARCOAL

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
INDIAN POINT UNIT NO. 2
DOCKET NO. 50-247
JULY, 1992

DESCRIPTION OF CHANGE

Technical Specification 4.5.D.2.C and 4.5.G.1.C specify the frequency for surveillance on the Containment Air Filtration System Charcoal and for the Post-Accident Containment Vent Charcoal. Currently, the frequency is every 18 months (+25%). The proposed change in surveillance frequency is to every 24 months (+25%). The proposed change is being made in accordance with the guidance contained in Generic Letter 91-04.

Containment Air Filtration System

Adequate heat removal capability for the containment is provided by two separate, full capacity, engineered safety feature systems. These are the containment spray system and the containment air recirculation cooling and filtration system.

The containment air recirculation cooling and filtration system is designed to recirculate and cool the containment atmosphere in the event of a loss-of-coolant accident and thereby ensure that the containment pressure will not exceed its design value of 47 psig at 271°F. Although the water in the core after a loss-of-coolant accident is quickly subcooled by the safety injection system, the containment air recirculation cooling and filtration system is designed on a conservative assumption that the core residual heat is released to the containment as steam.

The air recirculation system consists of five 20 percent capacity air handling units, each including motor, fan, cooling coils, moisture separators, roughing filters and HEPA filters, duct distribution system,, instrumentation, and controls. In addition, each of the five air handling units is equipped with an activated charcoal filter unit, normally isolated from the main air recirculation stream. The air flow (air-steam mixture) is bypassed through the charcoal filter units to remove volatile iodine following an accident.

The charcoal filters are fabricated with stainless steel frames filled with impregnated, activated charcoal. The cell construction ensures compacted carbon beds of uniform density and thickness.

The design flow rate through each carbon filter units is 8000 cfm, at a face velocity of approximately 50 fpm. These units are designed to remove at least 5 percent of the incident radioactive iodine in the form of methyl iodide.

Post Accident Containment Air Vent System

The post accident containment air vent system is part of the hydrogen control system within the containment. The function of the hydrogen control system is to control the hydrogen generated within the containment following a loss of coolant accident.

A flame recombiner system is provided to control the post accident hydrogen concentration in containment. Each combustor-recombiner unit is capable of maintaining the hydrogen concentration at or below 2 percent of containment volume. The post accident containment venting system provides a backup method to containment recombiners for controlling the potential hydrogen accumulation in the containment. This is accomplished by the controlled venting of containment atmosphere to maintain the hydrogen concentration at a safe level. The venting system is designed to limit the hydrogen concentration to 3 vol percent.

The post accident containment venting system consists of a common penetration line that acts as a supply line through which hydrogen free air can be admitted to the containment, and an exhaust line, with parallel valving and piping, through which hydrogen bearing gases from containment may be vented through a filter.

In the exhaust mode, the line penetrates the containment and then is divided into the parallel lines. Each parallel line contains a pressure sensor and all the valves necessary for controlling the venting operation. The two lines then rejoin and the exhaust passes through a flow sensor and a temperature sensor before passing through charcoal and HEPA filters. The exhaust is then directed to the plant vent.

Test results for the fan cooler unit charcoal analyses in four surveillances were reviewed encompassing the years 1986 through 1991. All test results were satisfactory. Test results for the Post Accident Containment Air Vent System Charcoal were reviewed for three surveillances. All test results were acceptable.

BASIS FOR NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The proposed change does not involve a significant hazards consideration since:

1. There is no significant increase in the probability or consequences of an accident.

   There is no significant increase in the probability or consequences of an accident. The primary failure mode of the charcoal is air inleakage over time so that adsorption properties of the charcoal would be reduced to unacceptable levels. The past surveillances indicate that this is not the case. Extending the operating cycle is not expected to change the acceptable results achieved in the past.

2. The possibility of a new or different kind of accident from any previously analyzed has not been created.

   Based on past test results it is expected that the adsorption property will remain above acceptable levels for an operating cycle which is extended several months. In addition, each operating cycle is started with fresh charcoal thus eliminating any degradation which occurred during the previous cycle.

3. There has been no reduction in the margin of safety.

The charcoal absorbers are maintained in standby status. Past test results do not indicate that normal plant operation unduly compromises the absorption capacity of the charcoal. A longer plant operating cycle is not expected to change this conclusion.

SAFETY ASSESSMENT

CONTAINMENT SPRAY CHECK VALVES
CITY WATER SERVICE/CONTAINMENT ISOLATION VALVES

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
INDIAN POINT UNIT NO. 2
DOCKET NO. 50-247
JULY, 1992

DESCRIPTION OF CHANGE

Technical Specification 4.14.A.1.g(ii) requires that those valves in the High Pressure Water Fire Protection System that are not testable with the plant on line and are necessary for proper functioning of any portion of the system required for protection of safe shutdown systems shall be exercised through at least one complete cycle. Currently, the surveillance frequency is every 18 months (+25%). The proposed change in frequency of surveillance is to every 24 months (+25%). The proposed change is being made in accordance with the guidance contained in Generic Letter 91-04.

Fire Protection and detection systems are provided to protect equipment required for the safe shutdown of the unit. These systems are periodically tested and inspected in accordance with the surveillance program to assure their operability and to identify for corrective action any conditions which could prevent any portion of those systems from performing its intended function. One of these systems is the High Pressure Water Fire Protection System. This system supplies water for fire protection to main headers which in turn supply high pressure hydrants, sprinklers, hose reels, etc.

Technical Specifications 3.13.A specifies the operability requirements concerning the High Pressure Water Fire Protection System. Technical Specifications 4.14.A specifies the surveillance requirements concerning this system. Specification 4.14.A.1.g(ii) requires that those valves in the High Pressure Water Fire Protection System that are not testable with the plant on the line and are necessary for proper functioning of any portion of the system required for protection of safe shutdown systems shall be exercised through at least one complete cycle. Since the containment spray system supplies water for fire protection inside the containment, valves 867A and 867B are subject to this Technical Specification. These valves are the containment spray system check valves.

In addition, there is City Water Service to the Containment for fire protection purposes. MW-17 and MW-17-1, which are containment isolation valves, also fall into this category.

Completed procedures were reviewed from the last four refuelings. In all cases, valves 867A and 867B were cycled through one complete cycle. No unsatisfactory conditions related to this cycling were noted. Operability criteria for these tests was met in all cases.

Completed data sheets were reviewed from the last four refuelings; in all cases, MW-17 and MW-17-1 were cycled through one complete cycle. No unsatisfactory conditions related to this cycling were noted.

BASIS FOR NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The proposed change does not involve a significant hazards consideration since:

1. There is no significant increase in the probability or consequences of an accident.

   There is no significant increase in the probability or consequences of an accident. The Containment Spray System and City Water Service to containment are static systems which are in standby during normal operation. Thus the systems are not subjected to the wear and tear of normal operation. Any degradation mechanism is slow acting over time. Exercising of the valves at refueling intervals demonstrates that the valves would change position and function if required. Extension of the normal operating cycle by several months is not expected to influence the operability of these valves.

2. The possibility of a new or different kind of accident from any previously analyzed has not been created.

   The possibility of a new or different kind of accident from any previously analyzed has not been created. Past tests over an 18 month (+25%) cycle has demonstrated that valve operability is essentially insensitive to the duration of the operating cycle. Therefore, it is expected that the valves would perform their intended safety function if called upon during the extended operating cycle.

3. There has been no reduction in the margin of safety.

   For the reasons enumerated above, operability of the valves is not expected to be adversely affected by a longer operating cycle.

SAFETY ASSESSMENT

INTERNAL AND EXTERNAL VISUAL INSPECTION OF CONTAINMENT STRUCTURE AND RELATED COMPONENTS

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
INDIAN POINT UNIT NO. 2
DOCKET NO. 50-247
JULY, 1992

DESCRIPTION OF CHANGE

Technical Specification 4.4.G specifies the surveillance frequency for internal and external inspection of the containment structure and related components. Currently, the frequency is every 18 months (+25%). The proposed change in surveillance inspection is to every 24 months (+25%). The proposed change is being made in accordance with the guidance contained in Generic Letter 91-04.

The reactor containment structure is a reinforced concrete vertical right cylinder with a flat base and hemispherical dome. A welded steel liner with a minimum thickness of 0.25 in. is attached to the inside face of the concrete shell to ensure a high degree of leak tightness. The design objective of the containment structure is to contain all radioactive material which might be released from the core following a loss-of-coolant accident. The structure serves as both a biological shield and a pressure container.

The structure consists of side walls measuring 148 ft. from the liner on the base to the springline of the dome and has an inside diameter of 135 ft. The side walls for the cylinder and the dome are 4 ft. 6 in. and 3 ft. 6 in. thick respectively. The inside radius of the dome is equal to the inside radius of the cylinder so that the discontinuity at the springline due to the change in thickness is on the outer surface. The flat concrete base mat is 9 ft. thick with the bottom liner plate located on top which forms the floor of the containment.

Insulation is provided on the first 45 feet of the containment liner to limit the temperature rise in the liner under accident conditions to 80°F above ambient and thereby avoid excessive liner compressive stress during the accident. The insulation panels are attached to the steel containment liner by means of stainless steel studs welded to the liner. The insulation panels are protected by stainless steel jacketing on the exposed faces and sealed at the joints.

The structural members of the containment have sufficient capacity to accept, without exceeding specified stress limits, a combination of normal operating loads, functional loads due to a loss of coolant accident, and the loadings imposed by the maximum potential earthquake. All components and supporting structures of the reactor containment are designed so that there is no loss of function of such equipment in the event of maximum potential ground acceleration acting in the horizontal and vertical directions simultaneously.

Visual inspections of the accessible interior and exterior surfaces of the containment structure and its components are performed at each refueling shutdown and prior to any integrated leak rate test. Surveillances are conducted to ensure that degradation is detected and repaired long before it becomes significant or affects either the containment structural integrity or leak tightness. The acceptance criteria is much more stringent than that in the Technical Specifications. Problems found are evaluated and documented on a Significant Occurrence Report and repaired under the work order system. Any significant degradation would be documented on the Significant Occurrence Report.

Completed tests were reviewed covering the last three refuelings for PI-A3 and the last four refuelings for PI-A4. This encompassed a total of nine tests. A review was performed on the Work Orders and related reports associated with the tests.

The results of this review indicated that each observation noted was minor in nature related mostly to surface cracking. In each instance the specific observation was evaluated and dispositioned as being not unusual and understood. In no case did an observation affect the structural capability of the containment building nor containment integrity.

The concrete containment structure and the welded steel liner are designed and constructed to ensure durability over the lifetime of the plant. Visual inspections are expected to reveal only minor deterioration. The deterioration rate is expected to be so slow that over a period of years containment integrity would not be affected.

Based on the design and construction of the containment structure and liner, increasing the time interval from 18 months to 24 months between inspections would have no significant affect on safety.

BASIS FOR NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The proposed change does not involve a significant hazards consideration since:

1. There is no significant increase in the probability or consequences of an accident.

   As could be expected minor observations were identified on eight of nine inspections mostly concerning surface cracking as a result of normal service wear. In no instance was an observation identified which has the potential to accelerate in a short period of time to compromise structural or leakage integrity. As noted above this type of deterioration is a normal and expected phenomenon. Over the proposed extended surveillance interval there is no basis to conclude that the Containment would not provide its intended design function.

2. The possibility of a new or different kind of accident from any previously analyzed has not been created.

   As it is concluded that the containment building would continue to perform its intended safety function over a longer operating cycle, the possibility of a new or different type of accident has not been created.

3. There has been no reduction in the margin of safety.

   The nature of the observations noticed in past surveillances have been superficial with respect to structural integrity and containment leakage. A longer operating cycle extended by several months is not expected to change the results of future surveillance.

2. The possibility of a new or different kind of accident from any previously analyzed has not been created.

   Historical data does not indicate any deficiencies related to the diesel batteries. Frequent inspection and operation of the diesel driven fire pump as a system indicates a highly reliable system. Extending the operating cycle is not expected to influence the operability of the batteries.

3. There has been no reduction in the margin of safety.

   Based upon past acceptable inspections as well as the periodic (weekly) inspection of the batteries extending the operating cycle is not expected to compromise the margin of safety.

SAFETY ASSESSMENT

ACOUSTIC MONITOR

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
INDIAN POINT UNIT NO. 2
DOCKET NO. 50-247
JULY, 1992

DESCRIPTION OF CHANGE

Technical Specification Table 4.1-1, Item 34 prescribes the surveillance requirements for the Safety Valve Position Indicator (Acoustic Monitor). Currently, the frequency is at each refueling every 18 months (+25%). The proposed change in surveillance frequency is to every 24 months (+25%). The proposed change is being made in accordance with the guidance contained in Generic Letter 91-04.

Power operated relief valves and code safety valves are provided to protect against pressure that is beyond the pressure limiting capacity of the pressurizer spray. Acoustic sensors installed on the code safety valve discharge lines provide indication in the control room of the "flow" or "no flow" condition of the safety valves. These indicators are tested each refueling.

Completed test procedure were reviewed from the last four refuelings. In all cases, the test results were satisfactory. No deficiencies were noted.

These detectors are static devices with proven reliability. Also, if a detector were to fail, it would not affect the proper operation of the code safety valves. Therefore, extension of the test interval from 18 to 24 months would have little affect on safety.

BASIS FOR NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The proposed change does not involve a significant hazards consideration since:

1. There is no significant increase in the probability or consequences of an accident.

   No failures or deficiencies were observed in the surveillances performed in the last four refuelings indicating a system of high reliability. There were no modes of degradation observed which would be expected to radically change the performance of the acoustic monitors if the operating cycle were extended to 30 months.

2. The possibility of a new or different kind of accident from any previously analyzed has not been created.

   The devices are static and are in a standby condition during a normal operating cycle. Thus the amount of service induced stress is minimized. Under these circumstances it is expected that the monitors would perform acceptably over an operating cycle extended by several months.

3. There has been no reduction in the margin of safety.

   The monitors have a demonstrated reliability and, during normal operation, do not function. Under these circumstances there is expected to be a minimal impact upon safety by extending the normal operating cycle by several months.

SAFETY ASSESSMENT

ACCUMULATOR LEVEL
CCR AND TRANSMITTERS

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
INDIAN POINT UNIT NO. 2
DOCKET NO. 50-247
JULY, 1992

DESCRIPTION OF CHANGE

Technical Specification Table 4.1-1 requires that the Accumulator level be calibrated on a refueling basis. Currently, the calibration frequency is every 18 months (+25%). The proposed change in calibration frequency is to every 24 months (+25%). The proposed change is being made in accordance with the guidance in Generic Letter 91-04.

The Technical Specifications, Section 3.3.A.1.C also require that the Accumulator level be maintained between a minimum level of 787.5 ft^3 and a maximum level of 802.5 ft^3 of water with a boron concentration of at least 2000 ppm. In order to support the proposed change in surveillance interval, it must be demonstrated that this channel can support its intended function within Technical Specification limits.

The evaluation of instrument uncertainties is based on the currently installed hardware as defined by the Consolidated Edison Power Plant Maintenance Information System (PPMIS) Operating Equipment database and loop sketch 1503. Vendor Specifications were used as appropriate, as well as verified Consolidated Edison Engineering calculations.

The current Indian Point Unit 2 procedure governing measure & test equipment (SAO-217) allows for a 1:1 ratio between test equipment and the equipment being calibrated. Therefore, this procedure is used as a basis for determining M&TE uncertainties.

The Accumulator Level Channel was reviewed using the Westinghouse methodology for evaluating channel uncertainties. Each uncertainty term was determined according to the instrument characteristics/specifications, and with specific calculations for process effects. There is insufficient operations data (for the N-E13DM transmitters) to support a statistical drift evaluation. The drift uncertainty used in this analysis is based on engineering judgement. This evaluation included a review of any work order data that may have been taken during a midcycle outage etc. or any modifications to the channels. Also, past M&TE accuracies were reviewed by Consolidated Edison to insure that the M&TE used was of an equivalent accuracy such that it would not have biased the data in a non-conservative direction. Process Measurement Accuracy terms such as density changes, pressure and temperature process effects, and tank tolerances were calculated using the latest methods and applied to the total channel statistical uncertainty.

Because of insufficient "As Left/As Found" data for the Foxboro N-E13MD transmitters identified (initially installed in 1989), the sensor drift value used in this analysis in based on engineering judgement. The vendor specification sheets for this model of transmitter notes a drift value of $\pm$0.25% span/year. Extrapolating this value to 30 months results in an expected drift of $\pm$0.625% span. The value for drift assumed in this evaluation is conservative with respect to vendor specifications, and is assigned a value of $\pm$2.5%. span for 30 months. The applicability of this value must be confirmed as part of the Indian Point Unit 2 trending program.

The results of the channel statistical calculations show that the channel uncertainties exceed those which can be supported by the current technical specification setpoints and safety analysis limits. Therefore, a LOCA evaluation was performed to increase the acceptable operating band associated with the level measurement to include an additional 40 ft3. The new minimum and maximum volumes are 775 ft^3 and 815 ft^3 respectively. Thus to support the proposed change in surveillance interval it is also proposed that Technical Specification 3.3.A.1.C be changed accordingly.

BASIS FOR NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The proposed change does not involve a significant hazards consideration since:

As part of the ongoing efforts associated with the extended Technical Specification Surveillance Interval Extension Program for Indian Point Unit 2, the accumulator level setpoint was evaluated. The evaluation took into account the instrument and channel uncertainties associated with a 30 month calibration interval. Because of the effects on instrument drift and the range of the instrumentation, an acceptable setpoint could not be obtained for 30 months with the current Technical Specification limits. In order to develop an acceptable setpoint for 30 months, the acceptable operating band associated with the level measurement must be increased. The current Technical Specification limits for accumulator volume are a minimum volume of 787.5 ft^3 and a maximum accumulator volume of 802.5 ft^3. To support the proposed change to the Indian Point Unit 2 Technical Specifications, an evaluation of the affect of increasing the accumulator water volume band to a minimum volume of 775 ft^3 and a maximum volume of 815 ft^3 was performed.

The evaluations addressed the impact of assumed minimum and maximum accumulator water volume limits of 775 ft^3 and 815 ft^3 respectively, on the licensing basis LOCA, Non-LOCA, Radiological Consequences, Containment Design, Setpoints, and other safety related areas accident analyses and licensing bases. These evaluations have demonstrated that the results and conclusions which form the licensing basis for operation of the Indian Point Unit 2 remain valid up to these assumed limits (i.e., increasing the accumulator water volume band to a minimum volume of 775 ft^3 and a maximum volume of 815 ft^3). The proposed Technical Specification limit band can be expanded to the limits assumed in the evaluation (minimum and maximum accumulator water volume limits of 775 ft^3 and 815 ft^3 respectively) with no adverse impact on the Indian Point Unit 2 licensing basis analyses. A summary of this conclusion is provided in Table 1 for the related LOCA evaluations.

Conformance of the proposed amendments to the standards for a determination of no significant hazards, as defined in the three factor test of 10 CFR 50.92, is shown in the following:

1. There is no significant increase in the probability or consequences of an accident.

   Large Break LOCA, Small Break LOCA, Blowdown Hydraulic Forcing Functions, Post-LOCA Longterm Core Cooling, Hot Leg Switchover to Prevent Potential Boron Precipitation, Non-LOCA Analyses, Steam Generator Tube Rupture, Radiological Consequences, Containment Design, setpoints, Emergency operating Procedures, and Probabilistic Risk Assessment considerations maintain conformance with the required acceptance criteria regulations. In addition, an assessment of NSSS primary components, including the reactor pressure vessel system, reactor coolant pump, steam generator, pressurizer, control rod drive mechanisms, and RCS piping, as well as Instrumentation and Control Systems and Fluid Systems considerations concluded that the integrity of these components, systems, and considerations will be unaffected by the increase in the accumulator water level band. Therefore, the probability of an accident previously analyzed will not be increased and the consequences of the accidents considered in the Indian Point Unit 2 licensing basis remain unchanged.

2. The possibility of a new or different kind of accident from any previously analyzed has not been created.

   The increase in the accumulator water volume band to a minimum volume of 775 ft^3 and a maximum volume of 815 ft^3 does not significantly change the plant configuration in a manner which introduces a new potential hazard to the Indian Point Unit 2 plant. Since design limitations continued to be met and component integrity is maintained, no new failure mode is expected. Therefore, an accident which is different than any already evaluated in the FSAR will not be created as a result of this change.

3. There has been no reduction in the margin of safety.

   The margin of safety with respect to design basis analyses, licensing basis analyses, setpoints, and pressure boundary components remain in compliance with the codes and standards per the Indian Point Unit 2 licensing basis. Hence, the margin of safety is not reduced as a result of the increase in the accumulator water volume band to a minimum volume of 775 ft^3 and maximum volume of 815 ft^3.

Based on the above, it is concluded that operation of Indian Point Unit 2 in accordance with the proposed amendment does not result in the creation of an unreviewed safety question, does not create the possibly of a new or different kind of accident from any accident previously evaluated, and does not reduce any margins to plant safety. Therefore, the license amendment does not involve a Significant Hazards Consideration as defined in 10 CFR 50.92.

Based on the above, it is concluded that operation of Indian Point Unit 2 in accordance with the proposed amendment does not result in the creation of an unreviewed safety question, does not create the possibly of a new or different kind of accident from any accident previously evaluated, and does not reduce any margins to plant safety. Therefore, the license amendment does not involve a Significant Hazards Consideration as defined in 10 CFR 50.92.

TABLE 1
LOCA EVALUATION SUMMARY

FSAR CHAPTER	ACCIDENT DESCRIPTION	EFFECT ON RESULTS
14.3.3.3	Large Break LOCA	No adverse effect on the FSAR peak cladding temperature calculation, maximum cladding oxidation or maximum hydrogen generation. Compliance with 10 CFR 50.46b(1-3) maintained.
14.3.3.4	Small Break LOCA	No adverse effect on the FSAR peak cladding temperature calculation, maximum cladding oxidation or maximum hydrogen generation. Compliance with 10 CFR 50.46b(1-3) maintained.
14.3.4.3.1.2	Blowdown Hydraulic Forcing Functions	No adverse effect on the Vessel and Loop LOCA hydraulic forcing functions.
	Post-LOCA Longterm Core Cooling	The effect on the post-LOCA Sump boron concentration is insignificant. Compliance with 10 CFR 50.46b(5) maintained.
	Hot Leg Switchover to Prevent Potential Boron Precipitation	Post-LOCA hot leg Switchover time remains bounding.
14.2.4	Steam Generator Tube Rupture	Compliance with 10 CFR 100.11 Offsite radiation does limits are maintained.

SAFETY ASSESSMENT

RECIRCULATION SUMP LEVEL MONITORING (DISCRETE)

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
INDIAN POINT UNIT NO. 2
DOCKET NO. 50-247
JULY, 1992

DESCRIPTION OF CHANGE

Technical Specification Table 4.1-1, Item 21a, requires that the Recirculation Sump Level (Discrete) be calibrated and tested at a refueling interval. It is proposed that the surveillance interval be changed from 18 months (+25%) to 24 months (+25%).

Several sumps are provided inside containment to collect and control water from leakage, spills, or accident conditions. One of these sumps is the recirculation sump. The level in the recirculation sump is detected by one continuous detector (LT-3301) and two discrete detectors (LT-938 and LT-939). The discrete detectors are each comprised of three sequential float operated voltage dividers. Completed test procedures were reviewed from the last four refuelings. These tests spanned a period in excess of five years. In all of the tests, both the operability criteria and the overall acceptance criteria were satisfied.

These float operated voltage dividers and associated circuits are generally reliable devices. Both redundancy and a diverse level indication system exists. Based on the redundancy and the reliability of the system, extension of the surveillance interval from 18 months to 24 months would have little affect on the reliability of the discrete level indication system.

BASIS FOR NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The proposed change does not involve a significant hazards considerations since:

1. There is no increase in the probability or consequences of an accident. Historical data from four surveillances indicates no test failures. Therefore it is concluded that minimal risk is involved in extending the surveillance interval to 24 months (+25%).

2. The possibility of a new or different kind of accident has not been created. Past test data indicates the sump monitoring system to be highly reliable. Operation for the extended surveillance interval is anticipated without problems.

3. There has been no significant reduction in the margin of safety. In addition to being highly reliable, the discrete monitoring system is redundant to a continuous monitoring level monitoring system which contributes to minimizing the risk in extending the surveillance interval.

SAFETY ASSESSMENT

REACTOR COOLANT VENTS

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
INDIAN POINT UNIT NO. 2
DOCKET NO. 50-247
JULY, 1992

DESCRIPTION OF CHANGE

Technical specification 4.20 requires that each reactor coolant system vent be demonstrated operable at refueling intervals by verifying flow through the reactor coolant system vents during cold shutdown. Currently, the refueling interval is 18 months (+25%). It is proposed to change the refueling interval to 24 months (+25%).

The reactor coolant vent system has been designed and installed in accordance with NUREG-0737, item II.B.I to allow for remote manual venting of the gases from the reactor vessel head if they accumulate there. The power operated relief valve system acts as the remotely operated vent system for the pressurizer and as a redundant backup to the vessel head vent system. Data from five surveillances covering five refueling intervals was reviewed. In all instances the operability criteria was met. Based on the redundancy of the system and the fact that no failures have been detected during the last five operating cycles, extension of the surveillance interval as proposed will have minimal affect upon venting of the reactor coolant system.

BASIS FOR NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The proposed change does not involve a significant hazards consideration since:

1. There is no significant increase in the probability or consequences of an accident previously evaluated.

   Past historical test data and a redundant means of venting the RCS contribute to minimizing any risk due to an extended surveillance interval. It is concluded that any increase in the probability or consequence due to an accident from an extended surveillance interval is negligible.

2. The possibility of a new or different kind of accident from any previously analyzed has not been created.

   Venting of the RCS has not been identified as an accident precursor nor is credit taken in the accident analysis. Therefore any uncertainty created by extending the surveillance interval will not contribute to creation of a new or different kind of accident from any previously analyzed.

3. There has been no significant reduction in the margin of safety.

   The basis for establishing this surveillance is ASME Section XI. The proposed surveillance interval is within the testing frequency required by ASME Section XI.

SAFETY ASSESSMENT

CONTAINMENT SUMP PUMPS AND INSTRUMENTATION

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
INDIAN POINT UNIT NO. 2
DOCKET NO. 50-247
JULY, 1992

DESCRIPTION OF CHANGE

Technical Specification Table 4.1-1, Item 21a, requires that the Containment Sump Level (Discrete) be calibrated and tested at a refueling interval. Currently, the frequency is every 18 months (+25%). The proposed change in frequency of surveillance is to every 24 months (+25%). The proposed change is being made in accordance with the guidance contained in Generic Letter 91-04.

Several sumps are provided inside containment to collect the control water from leakage, spills, or accident conditions. One of these sumps is the containment sump. The level in the containment sump is controlled through the action of two containment sump pumps. Three diverse level indication systems are provided, two of which have two redundant, independent channels and the other has a single channel. Two of these systems are continuous level indicating systems, and the other is a discrete system. The discrete system is redundant and uses two thermal probes (LT-940 and LT-941) with 9 wet sensors on each probe for level detection.

Completed test procedures, were reviewed from the last four refuelings. These tests spanned a period in excess of five years. The only deficiency noted in the discrete level indication system was in the test performed in 1989. In this test, one sensor in LT-940 did not function.

These thermal probes and associated circuits are generally reliable devices. Both redundancy and diverse level indication systems exist. The single failure noted over the last five years did not render the level indication system non-operational and it was not dependent on the interval between tests. Test acceptance criteria are often more conservative than operability criteria and are used for purposes in addition to determining operability. Therefore, based on the redundancy and the reliability of the system, extension of the surveillance interval from 18 months to 24 months would have little affect on the reliability of the discrete level indication system.

BASIS FOR NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The proposed change does not involve a significant hazards consideration since:

1. There will be no significant increase in the probability or consequences of an accident. Past test data indicates that the monitoring system is generally reliable with only one instance where test acceptance criteria were not met. However, the system was not inoperable. Due to the previous good test results and redundancy, extension of the surveillance interval will not significantly compromise safety.

2. The possibility of a new or different kind of accident from any previously analyzed has not been created. Due to the generally good test results and design redundancy there is reasonable confidence that the monitoring system will remain operable over the extended surveillance interval.

3. There has been no significant reduction in the margin of safety.

The reasonably good past performance of this system as evidenced by past test data indicates that the margin of safety will not be significantly compromised by an extended operating cycle.

SAFETY ASSESSMENT

CONTROL RODS - FULL LENGTH ROD DROP TIME

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
INDIAN POINT UNIT NO. 2
DOCKET NO. 50-247
JULY, 1992

DESCRIPTION OF CHANGE

Technical Specification Table 4.1-3, item 1, specifies the surveillance interval for testing the full length rod drop time for all control rods. Currently the surveillance frequency is every 18 (+25%) months. The proposed change in frequency is to every 24 (+25%) months. The proposed change is being made in accordance with the guidance contained in Generic Letter 91-04.

Control rods are used to provide rapid insertion of negative reactivity, and control of the core power distribution. Control rods are divided into control banks and shutdown banks. Each bank may be further subdivided into groups to provide for precise reactivity control. The shutdown banks are maintained either in the fully inserted or fully withdrawn position. The control banks are moved in an overlap pattern to control core power distribution.

In the event of a reactor trip, fast negative reactivity insertion is achieved by removing electrical power from the control rod drive mechanisms, and allowing the control rods to fall into the core by gravity. The design trip time from gripper release to dashpot entry is 2.4 seconds, and this drop time is assumed in the accident analyses. During each refueling interval, the rod drop time is verified.

Data from four completed tests, covering all tests performed during the last four refueling intervals, was reviewed. In every test, all control rods met the required drop time of 2.4 seconds. A random sampling using data from Control Bank C-Group 1, Control Bank D-Group 2, Shutdown Bank D-Group 1 and Shutdown Bank A-Group 1 showed no significant time dependence in the recorded drop time from 5/21/86 to 7/10/91.

The intention of the Rod Drop Time test is to detect increasing rod drop time which may result in a drop time in excess of that assumed in the safety analysis, and prior to becoming a "stuck rod". Increasing rod drop time may result from increased friction in the rod channel caused by swelling or movement of the adjacent fuel, which may be time dependent. Mechanically stuck rods are usually detected by rod alignment requirements and by the requirement to move all control rods at least 10 steps on a 31 day interval during critical operations.

BASIS FOR NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The proposed change does not involve a significant hazards consideration since:

1. There is no significant increase in the probability or consequences of an accident.

   Past historical data indicates that the rod drop time limit was met by a large margin. Evaluation of test data indicated no anomalies which could be attributed to a time dependent degradation mechanism which could degrade rod drop times to an unacceptable value if the operating surveillance was extended by several months.

2. The possibility of a new or different kind of accident from any previously analyzed has not been created.

   The degree of success demonstrated by post testing indicates that the control rods will continue to perform their intended function under a longer operating cycle which is extended by several months.

3. There has been no reduction in the margin of safety.

   Past test data indicates that considerable margin exists between acceptance limits and measured data which will not be significantly reduced by extending the operating cycle.

SAFETY ASSESSMENT

DIESEL GENERATOR BUILDING WATER SPRINKLING SYSTEM

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
INDIAN POINT UNIT NO. 2
DOCKET NO. 50-247
JULY, 1992

DESCRIPTION OF CHANGE

Technical Specification 4.14.B.2 specifies the surveillance requirements applicable to this system. Currently, the frequency is every 18 months (+25%). It is roposed to chagne the surveillance frequency to 24 months (+25%). The proposed change is being made in accordance with the guidance contained in Generic Letter 91-04.

Fire protection and detection systems are provided to protect equipment required for the safe shutdown of the unit. These systems are periodically tested and inspected in accordance with the surveillance program to assure their operability and to identify for corrective action any conditions which could prevent any portion of these systems from performing its intended function. One of these systems is the High Pressure Water Fire Protection System. This system supplies water for fire protection to main headers which in turn supply high pressure hydrants, sprinklers, hose reels, etc. This system supplies the EDG Building Water System. As part of the surveillance program, the EDG Building Water System is to be verified to be in acceptable condition.

Three recent tests were reviewed to determine the results of the visual inspection of the spray nozzles. These tests were dated 1/13/86, 10/8/87, and 9/14/90. In the first test, there were 30 deficiencies found in the visual inspections. These were all related to paint on the sensing bulbs; the header was determined to still be operable. The sensing bulbs were changed, and no deficiencies were found in the subsequent two tests.

This system is a static system which is normally not required to operate. The tests and inspections verify system integrity and continued operability in the unlikely event that it is needed. The deficiencies noted in the 1986 test were minor in nature and would have had little effect on actual operation of the sprinkler heads if they had been required to operate. It was not necessary to declare the system inoperable due to these deficiencies. Also, these deficiencies were not subject to further degradation over an extended time interval.

Since the system is static and has proven reliability, and since the deficiencies found in the one inspection are not subject to continued degradation, increasing the time interval between inspections would have little affect on the operability of the system. Therefore, extension of the refueling interval from 18 months to 24 months for this surveillance would have no significant affect on safety.

BASIS FOR NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The proposed change does not involve a significant hazards consideration since:

1. There is no significant increase in the probability or consequences of an accident.

   Past test data is generally positive with some deficiencies noted in the earliest test reviewed which did not relate to operability of the system. Since the system is a static system extension of the operating interval is not expected to impact operability of the system.

2. The possibility of a new or different kind of accident from any previously analyzed has not been created.

   The extension of the surveillance interval is not expected to influence operability of the system. As the system has historically been proven to be reliable, its safety function will not be compromised.

3. There has been no reduction in the margin of safety.

   As operability of the system is not expected to be affected by the longer surveillance interval, the margin of safety represented by this system will not be compromised.

SAFETY ASSESSMENT

PORVS AND BLOCK VALVES

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
INDIAN POINT UNIT NO. 2
DOCKET NO. 50-247
JULY, 1992

DESCRIPTION OF CHANGE

Technical Specification Table 4.1-1, Item 32 and 33, specify the surveillance requirements for the PORV Position Indicator and the PORV Block Valve Position Indicator (Limit Switches), respectively. Currently, these are performed every refueling on an 18 month (+25%) basis. It is proposed to change the surveillance frequency to 24 months (+25%).

The pressurizer is equipped with two types of devices for pressure relief: pressurizer safety valves and power operated relief valves (PORVs). The PORVs are air operated valves that are controlled to open at a specific set pressure when the pressurizer pressure increases and to close when the pressurizer pressure decreases. The PORVs may also be operated manually from the control room.

Block valves, which are normally open, are located between the pressurizer and the PORVs. The block valves are used to isolate the PORVs in case of excessive leakage or a stuck open PORV. Block valve closure is accomplished manually using controls in the control room.

Direct valve position indication for the PORVs and the block valves are provided in the control room. These valve position indicators are functionally tested as part of the Inservice Valve Testing Program.

The data was reviewed for the subject valves. This data covered the time period from 9/84 through 6/91. Not all of the valve summaries covered the entire period, but the minimum time spanned was 3.5 years with 12 tests. All failures were examined, and where necessary, the data sheets were reviewed. Only one problem was noted with limit switches. The limit switch was out of adjustment in the 11/18/87 test of PCV-455C. This problem was corrected. No other indication problems were noted.

These indicators are generally reliable with a low failure rate as evidenced by the historical data. Also, the failure of an indicator would not preclude the proper operation of the system. Therefore, extension of the interval between tests to 24 months would have minimal affect on safety.

BASIS FOR NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The proposed change does not involve a significant hazards consideration since:

1. There is no significant increase in the probability or consequences of an accident.

   Since only one deficiency was noted over the time interval reviewed, the historical data supports the conclusion that safety will not be compromised by extending the interval between surveillances to 24 months with a maximum of 30 months.

2. The possibility of a new or different kind of accident from any previously analyzed has not been created.

   Based upon past historical data the limit switches have a demonstrated reliability. In addition, failure of a limit switch would not preclude operation of the PORVs or block valves.

3. There has been no reduction in the margin of safety.

   Given the demonstrated reliability of the limit switches and the fact that operability of neither the PORVs nor block valves is dependent upon the limit switches, it is concluded that the margin of safety has not been significantly diminished.